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VOL. I. NO. 1.

TORONTO, CANADA, MARCH, 1898.

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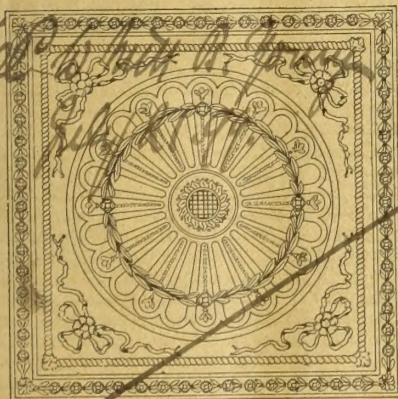


FIG. 535.—ONE OF OUR DESIGNS.

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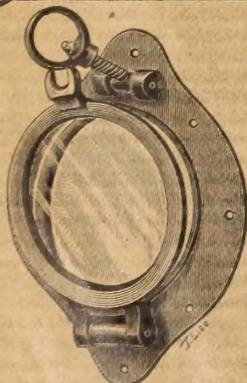
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THE Railway and Shipping World

Devoted to Steam & Electric Railway, Shipping, Express, Telegraph & Telephone Interests.

VOL. I. NO. 1.

TORONTO, CANADA, MARCH, 1898.

\$1 A YEAR.

CANADIAN YUKON RAILWAY.

Report on the Stikine-Teslin Route.

By W. T. Jennings, M. Inst. C.E.

In August last the Minister of the Interior commissioned W. T. Jennings, M. Inst. C.E., of Toronto, to examine the country between Stikine River & Teslin Lake with a view to the construction of a railway line entirely within Canadian territory. Mr. Jennings proceeded to Vancouver, thence up the coast in the Government steamer Quadra, to Wrangel, Alaska, & from there by a small steamer via the Stikine River to Glenora, & on by canoe for 10 miles to Telegraph Creek, at the head of steam navigation, & distant from Wrangel 150 miles, & at an elevation of 540 ft. above sea level. On Sept. 25, Mr. Jennings left overland for Teslin Lake, returning to Telegraph Creek on Oct. 22, after a continuous journey of 350 miles. From Telegraph Creek he returned by canoe, reaching Wrangel Oct. 25. In presenting his report as under, it may be mentioned that this is the first time it has been printed in correct form. When brought down to Parliament as a blue book it was found that it had been hopelessly muddled in the printing, & an order has been given for its reprinting. We wish to acknowledge Mr. Jennings' courtesy in enabling us to give it correctly:

In reporting on the result of my observations for a railway route between Stikine River & Teslin Lake, I would first refer to the means of communication between the sea & a suggested point of debarkation on the river, by mentioning that the Stikine has been navigated by steamers to Glenora & Telegraph Creek, a distance of from 140 to 150 miles from the sea, since the early 70's when the Dease Lake & Cassiar mining excitement was at its height, but while so navigated during the open season, usually between May 1 & Oct. 20, the journey has almost invariably been considered slow, tedious & not without danger, partly owing to the inferior class of steamers used & partly to the fluctuating state of the water. At times the river is too low for speed with a reasonable cargo, or the stream may be very high & the riffles difficult to make headway against, with the additional danger of drift trees or snags getting foul of the steering gear or wheel. The latter danger is most to be feared where the channel is contracted, such as in Little & Klootchman's canyons, where, if any mishap occurred to the vessel's machinery, she would at once be carried against the rugged rock walls by the swift, swirling, disturbed waters, & sunk

by having her planking either torn out or stove in. The 96 miles between Wrangel & Little Canyon can be made by a powerful steamer in 1 day, whereas by reason of the swift & difficult water above it takes 2 days (morning of 2nd day, running in daylight only) more to reach Telegraph Creek, a further distance of only 54 miles, or 150 from the sea; therefore, with these facts before one, it seems reasonable that on a route where safe & speedy transit is contemplated it is advisable to commence the railway well down the valley

eastern termination of the granite spur through which the Little Canyon extends (in a straight cleft) & the mountain side, thence across the Ok-Sa-Ki-ee, a rather formidable mountain stream which will require a pile bridge of at least 100 ft. in length, also protection cribwork; from here to the Klootchman Canyon, some 10 miles from the Little Canyon, the course will be generally over flat lands, & occasional short jagged & sloping points of granite & changed rocks & avoiding as far as practicable by-channels or sloughs, some of

which will require to be closed by the introduction of rough cribwork.

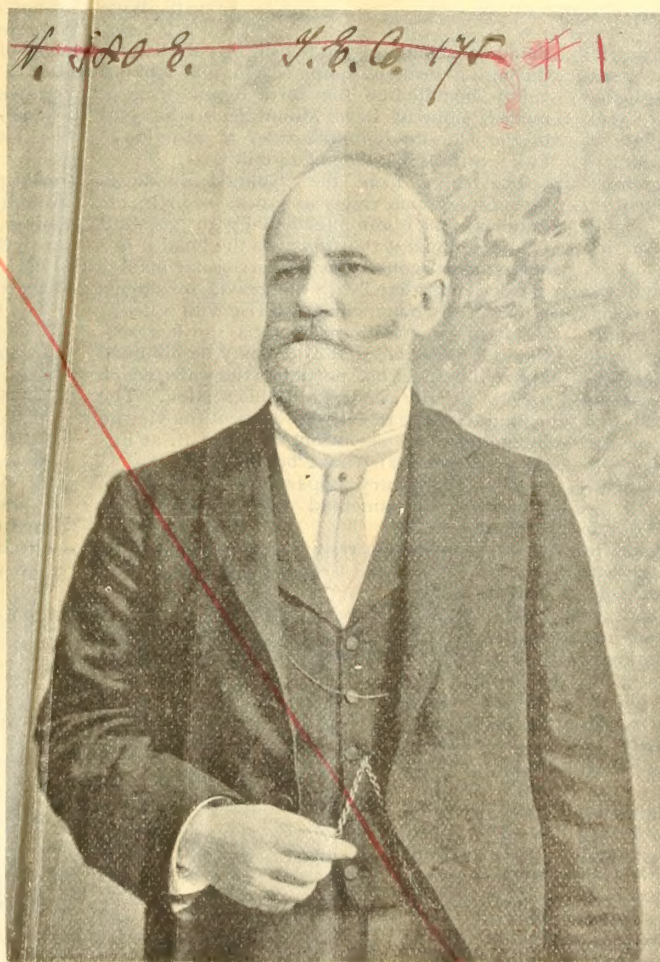
At the Klootchman Canyon it is advisable to carry the line at some what higher level than ordinary to ease the curvature & avoid filling in the water where short, sharp indentations in the short line exist.

From the latter point broken flats & occasional rocky points will have to be crossed to reach the left shore at the Grand Rapid (a particularly swift section of the river), where the foot slope of the last spur of the Coast Range proper comes in close proximity to the river. Here a short, strong shed will be required, as it is evident that snow slides annually; passing this spur, a gravel bench will have to be cut into, thence the line will continue over the Doch-da-on, a stream very similar to the one before referred to, & on over bottom lands and along the river's side of an almost isolated ridge of granitic or altered rock facing the clear-water valley, & thence continuing on gravel benches & short, irregular rocky projections & across several minor streams to a point where the river may be crossed by a bridge about 775 ft. in length, placed at such an elevation as will ensure its safety during high waters periods when the water level is fully 15 ft. above its lowest mark.

Should it be desirable at a later date to continue a railway to the vicinity of Dease Lake or to meet a line from the Skeena or Nasse Rivers the ground ahead is favorable for construction at moderate cost. Again, should a route, now being examined by one of my assistants (via the Clearwater) be found practicable, the Stikine would likely be more advantageously

crossed lower down the river; however, of the Clearwater route I am unable at present to say more than that the valley of that river appears open & easy as viewed from the Stikine River.

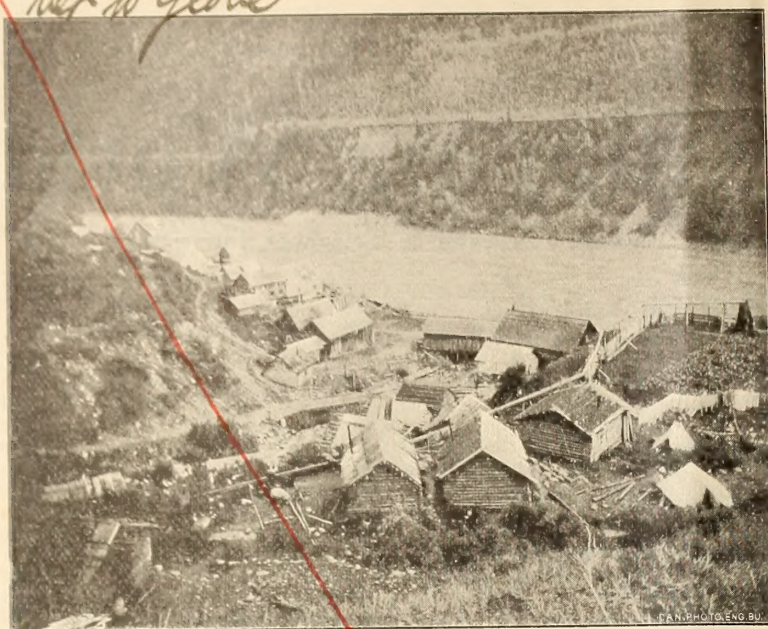
From the crossing of the Stikine to the divide between the Tahltan & the Koketsi streams there is a choice of routes. The first by an immediate & steep ascent along the right slope of the Stikine valley, over rock & gravel formation & through an indentation in the range where Telegraph Creek has



THE HON. A. G. BLAIR, Q.C., M.P., MINISTER OF RAILWAYS AND CANALS.

at a point to be determined on below the Little Canyon & on the left bank of the river 96 miles from the sea.

The route from a point below the Little Canyon, where suitable dock & siding accommodation is to be had, on for 30 miles to a crossing of the river near Shakes Creek, has been laid down on the left side of the river as being the least subject to snow slides owing to the mountain slopes being more distant & less precipitous, & to enable the line to be carried through a depression between the



TELEGRAPH CREEK, STIKINE RIVER.

its rise in a regular glade-like pass at an elevation of 3,100 above the river level (at crossing), & distant 27 miles therefrom; thence down the easy pine-clad slope of Arthur Creek to the South Tahltan & on over flats & light rolling ground to Koketsi divide, 19 miles from the pass or 46 from the crossings. The grades on this section, particularly on the Stikine slope, will be severe, reaching in places to 4% to ensure moderate construction cost.

The 2nd route follows the right slope of the Stikine with a gradual rise over better ground than to be had on the Telegraph Creek route, to the eastern or tongue-like end of the range terminating at the confluence of the Tahltans and Stikine rivers, & where the mountains gradually fall away to high rolling timbered hills. The ascent to this point, some 1,200 ft., would be reached in 30 miles, over moderately inexpensive country with gradients which need not exceed 2%.

From this point the route continues along the right slope of the Tahltans, in places in steep & rocky ground, with only such light undulations in the grade line as local circumstances may economically demand, to near the Forks of the Sh. Tahltan where the stream should be crossed & the line continued on easy clay & gravel slopes & benches to the Koketsi divide, or to the same point as described for the 1st or Telegraph Creek route, a total distance of 59 miles from the Stikine crossing & 12 miles longer than by Telegraph Creek.

I would here point out that route no. 2 although longer has several advantages over the other to which due consideration should be given, viz.: the gradients are lighter, so that with the same engine power in about equal time heavier tonnage could be transported to Koketsi. The work of construction would be less per mile. It would approach 12 miles nearer the Dease Lake Disk & Tooya river basin than that via Telegraph Creek, therefore more favorably situated for future extension eastward to Dease Lake, or to meet a line from that district, or the sea coast, via the Naas or Skeena River valleys.

It is also possible that a route from here to Teslin Lake via the Tooya River is to be found, & as it may be inquired why that country was not fully examined, I would state that the time or means at my disposal was not sufficient to enable me to cover personally, or by assistants available, more country than was examined.

thence descending (200 ft.) slightly for 8 miles through a broken, lumpy & irregular looking valley, bounded on the north by the escarpment & slope of Level Mountain, to the head of the Doo-de-dontooya river at Me-a-de-le Lake, a total distance of 14 miles.

The route from the Koketsi divide is through an open valley as far as seen by me (2 miles), but I am informed by an assistant who examined it that towards the head it is a series of canyons & broken, irregular masses of rock intermixed with the gravel on slopes; however, by commencing to rise with a heavy gradient some distance back on the last section it is probable that a line may be obtained above the "canyon" portion of the walls, which are not usually very high in this section. The summit once reached, the descent (as viewed by me from an elevation of 4,000 ft. at Egnalls Mountains) would be made through a section of country apparently composed of broken & disconnected hills as above described.

No. 2, or the alternative route, would be 15 miles from Koketsi to the head of the east branch of Egnalls Creek, with a rise of 1,400 ft., thence in 7 miles a descent of, say 150 ft. to Me-a-de-le Lake, in all 22 miles from Koketsi, or 8 miles longer than no. 1 by the North Fork.

It is evident that with a distance of 15 miles in which to make the rise of 1,400 ft. a much easier grade can be had than by way of the North Fork, but I cannot advise such a course unless the whole of route no. 2 be adopted, when it would be an

At Koketsi (1,700 ft. above the Stikine crossing) there apparently occurs another choice of route for a short distance, & of which I again refer as nos. 1 & 2. No. 1 extends from Koketsi up the valley of the north fork of the Tahltan River to its head, distant say 6 miles, in Level Mountain (a vast basaltic & gravel covered plateau extending north to the Nahlin River 70 miles) & at an altitude of about 1,600 ft. above Koketsi,

object to incur the expenditure for additional mileage for the sake of obtaining easier gradients; again, within the limits of this part of the route are several alternative plans.

1st. To keep on easy ground, to the right of the Tahltan to Koketsi divide, thence along the southern margin of the lakes of same name, & crossing the stream at Profile rock, & there commencing an ascent of 9 miles along the side hill to the summit of Egnalls Creek, with a 3% grade, easy curvature & comparatively light work, thence from this point descending to Me-a-de-le Lake over the ground before referred to. 2nd. A line should be tried through a high depression north of Profile rock by commencing the ascent east of the North Fork crossing. 3rd. A minute examination should be made up Quartz Creek ravine, as it appears open to the north.

Only by an instrumental survey, with measured distances, can the proper route in this vicinity be determined, & the base of operations should be established by running up the North Fork & over the summit to Me-a-de-le Lake & returning by Egnalls Creek & the Koketsi to place of beginning.

From Me-a-de-le Lake, for the next 118 miles a line is common to both routes, & extends northward in a very direct course for 57 miles to the Nahlin river over flats, glades & gentle slopes in the valley near the base of the western shed of Level Mountain with a small percentage of curvature, easy gradients & light work. For a considerable proportion of the distance the country is timbered with a small growth of spruce, pine, scrub willow & alder, the spruce, however, predominating. The surface of the ground through the whole valley is covered with a deep growth of moss, & in places brush & coarse tufted grass. The soil consists of light clay, sand & gravel, with drift boulders & occasional masses of basalt & limestone.

The 7 or 8 streams passing over are small & unimportant, a short pile trestle being sufficient for each, the names of the largest being the Doo-de-dontooya, Massazooya-Ka-a, Tooya & Ka-hak.

The Nahlin River where crossed on the trail is at least 150 x 6, with 1% fall at flood, & runs in a valley, & is about 1,200 feet wide, 5 ft. deep, with 1-2 to 1 slope, but where the line is projected, at a point some 4 miles above the trail crossing, it runs in a much contracted V-shaped trough about 100 deep & 50 wide.



FIRST CANYON ON STIKINE RIVER ABOVE TELEGRAPH CREEK.

At the Nahlin River, Level Mountain or plateau terminates, but the high ground continues northward in a more elevated, irregular & mountainous form; & it is at the foot of its western slope & bordering the eastern edge of an extensive marsh & lake district called Grand Valley that the line is projected in a northerly course to a regular, easy rolling bench area reaching from the Cascades of White Swan River to & along the margin of Teslin Lake. On the section of 67 miles between the Nahlin & Teslin Lake several streams are crossed, but none of such importance as to require more than an ordinary pile structure. The soil is principally of a sandy gravel nature & very little rock will be met with on the location line.

From the Cascades & to the end of a river (which I have named White Swan) flowing into the extreme South of Teslin Lake, northward for many miles the slightly undulating gravel bench land covered with small spruce, etc., continues; therefore the point for a terminus need not now be defined, beyond the statement that it should be situated north of the shallow narrows & on the open portion of Teslin Lake at least 10 miles beyond where White Swan River enters its estuary-like southern end, thereby ensuring a longer season of navigation, as the shallow, contracted portion doubtless freezes over some weeks before the lake. As Teslin Lake & its outflowing river of same name will form the subject of another section of this report, I will only say that both lake & river are favorable during the open season for navigation by steam & other craft.

Should the Clearwater Valley prove favorable for railway or road construction, a very considerable saving in distance will be effected to Egnalls Mount, where the line may be united with any one of the routes above described, or it can be carried down the Sheslay River, some 10 miles, & through a gap near the north end of Hearts Mountains to the Doo-de-dontooya River, thence to a junction with the first line.

Provided all arrangements are made & the location determined upon by April, 1898, the line of railway by either route shown on the plan can be completed & in operation by September, 1898, at a cost of \$4,000,000, that portion situated on the Stikine River below the crossing, including the bridge, costing \$746,000 of the total amount.

Estimates.

PERMANENT WAY, MATERIALS, &C., REQUIRED FOR 1 MILE OF RAILWAY TRACK, &C., IN POSITION ON FORMATION.

Steel rails, 56 lb. a 1. yd., 88 tons, \$30.....	\$2,640 00
Angle plates, 2 ft. long, 18 lbs. each, 176 joints, 4 bolt holes, 704 plates @ 18 lbs., 12,600 lbs. @ 2 cts.....	252 00
Bolts, 3/4 in., round, oval neck, 1 lb. each, 1,408 lbs. @ 3 1/2 cts.....	49 28
Spikes, 5 1/2 x 9-16 in., 6,000 lbs. @ 2 1/2 cts....	150 00
Ties, spaced, 2 ft., centre to centre, 3 ft. 6 in. by 8 in. face, 2,640 @ 25 cts.....	660 00
Washers, rubber.....	25 00
	\$3,776 28
Tracklaying per mile.....	\$250 00
Ballasting per mile, 2,000 cubic yds. @ 40 cts.....	800 00
	1,050 00
Total.....	\$4,826 28
Steel rails, 70 lbs., 110 tons @ \$30.....	\$3,300 00
Angle plates, 30 lbs., 704 plates, 21,120 lbs. @ 2 cts.....	422 40
Bolts (6 bolts) 1 lb. each, 2,108 lbs. @ 3 1/2 cts....	73 98
Spikes, 5 1/2 x 9-16 in., 6,500 lbs. @ 2 1/2 cts....	162 50
Ties, 2,640 @ 25 cts.....	660 00
Washers.....	25 00
	\$4,643 88
Tracklaying per mile.....	\$250 00
Ballasting, 2,000 cubic yds. @ 40 cts.....	800 00
	1,050 00
Total.....	\$5,693 88

COST OF CONSTRUCTING ONE MILE OF ROADBED.

LIGHT WORK.	
Clearing 9 acres @ \$25.....	\$225 00
Close cutting 2 acres @ \$35.....	70 00
Grubbing 2 acres @ \$50.....	100 00
Earthwork, 15,000 yds. @ 25 cts.....	3,750 00
Rockwork, 1,000 yds. @ \$1.....	1,000 00
Structures.....	800 00
Engineering, \$600; stations, &c., \$150; water supply, \$150; telegraph line, \$110.....	1,010 00
Sidings.....	350 00
	\$7,305 00
Contingencies 10 per cent.....	730 50
	\$8,035 50
Permanent way: Light rails, 56 lbs.....	4,826 28
Total.....	\$12,861 78
HEAVY WORK.	
Clearing 9 acres @ \$20.....	\$180 00
Close cutting 3 acres @ \$30.....	60 00
Grubbing 1/2 acre @ \$50.....	25 00
Earthwork, 20,000 cubic yards at 25 cts.....	5,000 00
Rockwork, 20,000.....	20,000 00
Structures.....	1,000 00
Engineering, \$700; telegraphing, \$110; stations, &c., \$150; water supply, \$150.....	1,110 00
Sidings.....	400 00
	\$27,775 00
Contingencies 10 per cent.....	2,777 50
	\$30,552 50
Permanent way, heavy rails, 70 lbs.....	5,093 50
Total.....	\$36,246 00
MEDIUM WORK.	
Clearing 9 acres @ \$25.....	\$225 00
Close cutting, 3 acres @ \$35.....	105 00
Grubbing, 2 acres @ \$60.....	120 00
Earthwork: 4 ft. bank, 15 ft. base, 3,000 ft., 9,330 ft. @ 25c.....	2,332 50
Rockwork: 5 ft. cut, 22 ft. base by 1/4 to 1 slope, 1,300 ft., 10,350 ft. @ \$1.....	10,350 00
Structures.....	1,000 00
Engineering, \$700; telegraph lines, \$110; stations, &c., \$150; water supply, \$150.....	1,110 00
Sidings.....	400 00
	\$15,642 50
Contingencies, 10 per cent.....	1,564 25
	\$17,206 75
Permanent way, light rails, 56 lbs.....	4,826 28
Total.....	\$22,033 03

STIKINE RIVER SECTION—30 MILES, CLASSED AS MEDIUM.	
30 miles of railway line complete @ \$22,000.....	\$660,000 00
Dock, sidings and freight house.....	6,000 00
Bridge over river.....	80,000 00
Total.....	\$746,000 00
WHOLE SECTION, STIKINE RIVER TO TESLIN LAKE.	
30 miles as above.....	\$746,000 00
125 miles, light, @ \$13,000.....	1,625,000 00
30 miles, heavy, @ \$36,000.....	1,080,000 00
23 miles, medium, @ \$22,000.....	506,000 00
208 miles, say \$19,000 a mile—	
Grand total.....	\$3,957,000 00

STIKINE RIVER AND TESLIN LAKE ELECTRIC RAILWAY. LENGTH—165 MILES.	
Five power stations complete with hydraulic plant, &c.....	
Twenty large cars fitted with 4 motors each	
Railway line fitted with feed and other wires, etc.....	\$2,850,000 00
Dynamoes and boosters.....	
Railway line-light rail.....	
Wharf at each end and also freight houses	
Two construction engines and 40 cars.....	

ANNUAL COST OF OPERATION.	
For 6 months.....	\$ 55,000 00
Interest and depreciation on cost \$2,850,000 at 10%.....	285,000 00
Total.....	\$340,000 00

Say 3 steamers ply on Stikine, bringing on average 100 prospectors a day for 4 months—12,000 passengers—165 miles rail haul at 5c. a mile—\$8.25.....	\$ 99,000 00
And 1/4 of a ton of freight per man—9,000 tons at \$50 a ton.....	450,000 00
Expenses as above.....	\$ 549,000 00
Profit and loss.....	\$ 340,000 00
	\$ 209,000 00

Then follows a report on a track survey & examination of Teslin Lake & Hootalinqua River, by A. St. Cyr, D.L.S., for which we have not room in this issue.

Mr. Jennings also reports on 4 other railway routes as follows:—1. From Chilkat or Dyea Inlets to the Yukon River via Norden-skiold River, 245 miles, the cost of which, with all appliances for business, he estimates at \$5,635,000 or \$23,000 a mile.

2. From Dyea via Chilkoot Pass to Tagish Lake and thence to Hootalinqua River, 111 miles. Estimated cost \$3,030,000 or \$27,318 a mile.

3. From Skaguay via White Pass to Tagish Lake, thence to the Hootalinqua River, 123 miles. Estimated cost \$3,236,000 or \$28,309 a mile.

4. Via Taku Inlet and Nakinka River to Teslin Lake, 145 miles. Estimated cost \$3,485,000 or \$24,034 a mile.

Mr. Jennings also reports on a route for a trail from the Stikine River to Teslin Lake, & gives a lot of valuable information in regard to freighting.

The Contract with Mackenzie & Mann.

On Jan. 25 the Dominion Government, represented by the Ministers of Railways & Canals & of the Interior, entered into a contract with Wm. Mackenzie, of Toronto, & D. D. Mann, of Montreal, for the construction of a railway from the Stikine River to Teslin Lake. Following is a copy of the contract divested of a little of its legal verbiage:—

1. The contractors to lay out, construct, equip & fully complete a railway with proper terminal facilities from the navigable waters of the Stikine River in B.C., at or near the mouth of Telegraph Creek, Glenora, or the mouth of Clear Water River, northward to the navigable waters of Teslin Lake, a distance of about 150 miles, on or before September 1, 1898, the railway when fully completed to be of the general standard & gauge of the Kaslo & Slocan Ry. in B.C., & according to specifications to be approved by the Minister of Railways.

The railway shall be the property of the contractors but shall be subject to inspection & approval by an engineer to be named by the Minister of Railways before being accepted as complete by the Government.

For the purposes of the season of 1898 & of complying with the requirements of this contract in respect to the completion of the line on or before September 1, it shall be sufficient if, on or before that date, the contractors have the rails laid in such a manner as will permit of regular & efficient operation of the railway, although the whole work be not fully completed, & if the railway be sufficiently equipped for such operation. The location of the railway between the points mentioned shall be such as the contractors may decide upon without filing plans thereof prior to completion, provided that the grant of land hereby contracted for shall not be made upon a larger mileage than the Minister of Railways considers reasonably necessary for traversing the distance between the terminal points.

2. The Government shall submit to Parliament at its next ensuing session a measure for the necessary Act confirming this agreement & authorizing the Government & the contractors to carry it out, also incorporating the contractors & such others as may become shareholders into a company under the name of the Canadian Yukon Ry. Co. or other name approved by the contractors, with power to acquire & carry out this agreement, & with all necessary powers to build & operate the railway & an extension thereof northward to Dawson City or thereabouts & an extension southward to a point in B.C. to be designated by the Government & capable of being made an ocean port, also a railway from the waters of Lynn Canal to Port Selkirk or thereabouts,

by way of Chilkat Pass, also branch lines of railway from any points on the Co's railways to any property owned by the Co., also lines of railway from any navigable waters to any property owned by the Co.: Provided that the power to build the line from Lynn Canal to

line of railway shall be authorized by Parliament to be constructed from Lynn Canal or thereabouts or from any point at or near the International Boundary between Canada & Alaska into the Yukon District, & for five years from said date no aid in land or money shall be granted to any person or company other than the contractors & the contractors' Co. to assist in building any such railway.

5. The contractors & the contractors' Co. shall be entitled to receive in preference to any other person or company during 10 years from September 1, 1898, such aid or assistance in land or money as the Government may be authorized & may see fit to grant in aid of a line of railway from the Stikine River to an ocean port in B.C., provided that the contractors or contractors' Co. are willing to undertake construction of same at once & completion thereof within a reasonable time upon receiving notice from the Government.

6. The tolls to be collected by the contractors or contractors' Co. upon the railway between Stikine River & Teslin Lake shall be 1st fixed by the Governor General in Council, & shall not be liable to reduction until the railway has been in operation for 4 years, but the tolls shall be reduced by the Governor in Council by 25% from & after such 4 years, & after the railway has been in operation 7 years they shall be reduced by 25% off the tolls as previously reduced, but after the railway has been 10 years in operation the tolls shall be subject to the general railway laws of Canada in that behalf.

7. The land granted to the contractors or contractors' Co. hereunder shall be free from taxation for 10 years from the granting thereof, except municipal taxation by an incorporated city, town or village within the Yukon Provisional District.

8. The contractors shall immediately construct a practicable sleigh road from the mouth of Stikine River to Teslin Lake & shall provide suitable shelters or stopping places for travellers at intervals of not more than 25 miles along the road, the road & stopping places to be available for use at the earliest possible moment & in any event not later than 6 weeks from the execution of this agreement.

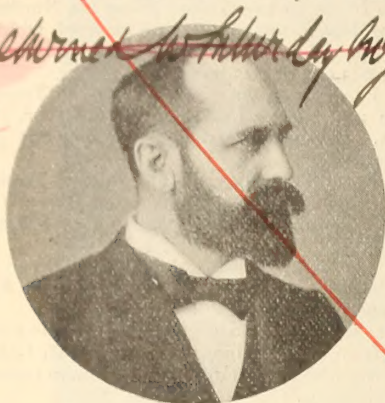
9. The contractors or contractors' Co. shall provide or arrange with others to provide steamboat transport of freight & passengers between the terminus of the railway on Teslin Lake or other terminus northerly thereof and Dawson City to & fro.

10. The contractors shall within 10 days

after the execution hereof deposit with the Government in cash or approved cash security \$250,000 as security that the railway from Stikine River to Teslin Lake will be completed & equipped in accordance with the terms hereof, & on the railway being completed & equipped & accepted the security shall be returned to the contractors, & if it be deposited in cash, interest at the rate of 3 per cent. per annum thereon shall be paid for the time it has been deposited.

11. In aid of the construction of the railway from Stikine River to Teslin Lake the Government shall grant to the contractors for each mile of railway 25,000 acres of land to be selected as hereinafter mentioned from the Yukon Provisional District & from that part of the Northwest Territories of Canada lying west of the Mackenzie River and Liard River & north of the 60th parallel of latitude, such land to be vested in the contractors upon the railway being completed and accepted as complete by the Government & upon the land being selected as hereinafter set forth.

12. The lands shall be selected by the contractors along base lines & the base lines may be of two kinds: 1st. The contractors may take as a base line a line which will correspond with the general course of any lake, river, stream or watercourse, such line to be determined by survey or approximate survey



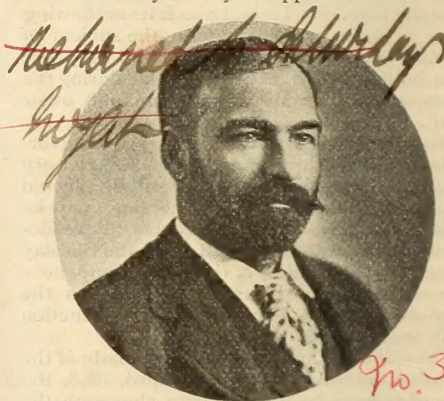
MR. WILLIAM MACKENZIE.

Port Selkirk & the branch lines & lines from navigable waters shall not be exercised without the consent of the Governor-General-in-Council.

The Act of Incorporation to give the Co. sufficient powers to build & otherwise acquire & operate docks, wharves & lines of steam & other vessels in connection with its railways & property, also telegraph & telephone lines, also to carry on mining and smelting operations & such other powers as may be necessary to operate & conduct all business connected with & incidental to the development & working of the lands (to be granted by the Government as hereinafter provided) & the minerals therein, including power to issue land grant bonds & bonds secured by the Co's undertakings.

3. Upon the incorporation of the Co. & upon the assignment by the contractors to such Co. of this agreement & upon the Co. covenanting with the Government to carry out the same, & upon the railway from Stikine River to Teslin Lake being completed & accepted, the contractors shall be relieved from personal responsibility hereunder & the Co. shall be thereafter deemed to be the parties of the second part hereto in lieu of the contractors & shall be bound as such, & be entitled to their rights hereunder.

4. For 5 years from September 1, 1898, no



MR. D. D. MANN.

to the satisfaction of the authorized agent of the Minister of the Interior, & to follow the general course of the lake, river, stream or watercourse for the required distance. The contractors may take as a base line a line commencing at any point located by them &

Pillow & Hersey Mfg. Co., MONTREAL, QUE.

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Merchant Bar Iron (Rounds, Flats and Squares,) Link and Pin Iron, Hot Pressed Square and Hexagon Nuts (both Manufacturers and Whitworth Standard), Railway Spikes, Ordinary and "Goldie" Points, Pressed Spikes, Coach and Lag Screws, Machine Bolts, Cut and Wire Nails, Washers, Boiler and other Rivets. ❖ ❖

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We also Manufacture Carriage, Tire, Sleigh, Shoe and other Bolts, Bolt Ends, Rods for Bridge Building, Tacks, Brads, &c., &c., of every description.

Please write us when requiring any of above goods.

OFFICE: Rooms 518, 519 and 520 Board of Trade Building.

Mr. Jennings' estimates, on page 3, are for a standard gauge railway, equal to that required of bonused railways by the Government, & as if done under a manager of construction for the Government.

The Construction of the Line.

Directly the contract with the Government was signed, Messrs. Mackenzie & Mann made all construction arrangements with characteristic promptness. Mr. Mann at once left for the Pacific coast, establishing his headquarters at Vancouver, & was followed a day or two later by T. H. White, C.E., of St. Thomas, Ont., well known in connection with C.P.R. construction work, particularly that of the Pasqua branch in Assiniboia. J. H. Kennedy, C.E., and E. E. Weldon accompanying him as assistants.

One of Mr. Mann's first moves was to charter R. Dunsmuir & Sons' steamer Joan to transport men & supplies from Vancouver to Wrangel, & to secure a Canadian island north of the entrance of the Portland Canal for a point of transhipment.

Mr. Mann started to press representatives that the first thing to be done was the construction of a sleigh road through to Teslin Lake. The first party to go north consisted of some 200 or 300 men & 50 or more teams to establish camps at regular intervals of 25 miles. It is the intention to make this road a permanent winter route, & at these camps accommodation will be furnished for travelers and horses similar to that provided at any ordinary stage route hotel. Arrangements were at once made for an exploratory survey of the country, to locate the line & get timber.

According to Mr. Mann, by the time navigation on the Stikine River opens, which will probably be before May 1, a portion of the line will be graded & ready for the rails, & these & the rolling stock, which have been ordered in the East, will be taken up. The force of men will be increased as soon as a larger number can be worked to advantage, & by the time construction work is well started at least 4,000 men will be employed. "As you are aware," said Mr. Mann, "we have to complete the line according to the terms of our contract with the Government by September 1, & shall thus have to do some speedy work. In fact, it will probably be the quickest job in railway construction ever carried out on this continent. We will pay our men good wages and will employ as many local men as possible, but owing to the short

time allowed for the work & the number of hands required we shall have to get men from outside places as well. Taking May 1 as the date of the opening of navigation, we will have 120 days in which to lay between 140 & 150 miles of railway. According to the contract we have to furnish transportation from the mouth of the Stikine River to Dawson City, & shall thus run steamers on both the Stikine and Teslin Lake and Hootalinqua River. These are now being built in the East and will be brought out in sections and put together here. Of course, a large amount of supplies will be needed, & these will be principally bought in Vancouver & Victoria,

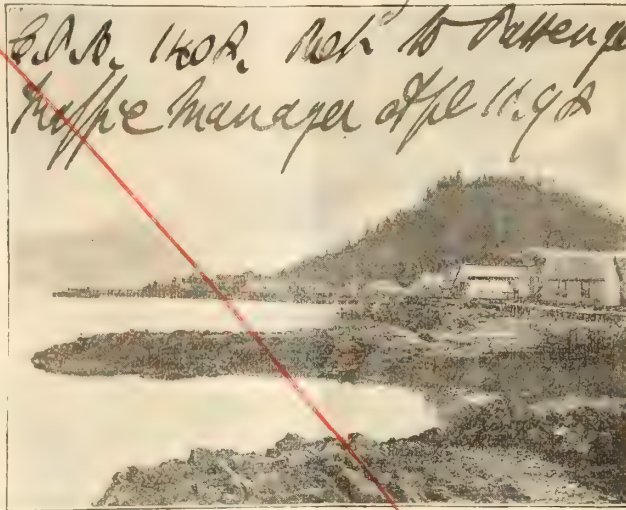
"I believe," said Mr. Mackenzie recently, referring to hostile United States legislation, "that everything will be arranged amicably. In any event, Canadians have a right to navigate the Stikine River, & steamboats can ply on it for 5 months of the year. We have three outfits already and the line is being located. Until this work is completed there is no necessity for rushing men north. We begin track-laying operation in April. At least 4,000 men will be employed. It is probable that the Government will eventually extend the projected Teslin Lake road southward to a point on the Canadian seaboard, for instance, to a point on the Alice Arm, or on the Portland Canal."

Act to Confirm the Contract.

Within a few days after the opening of Parliament last month the Minister of Railways introduced a bill to confirm the contract & to incorporate W. Mackenzie, D. D. Mann & Roderrick J. Mackenzie, & such others as may become shareholders, as The Canadian Yukon Railway Co., with head office in Toronto, or such other place in Canada as the directors may select & with a capital stock of \$10,000,000, in \$100 shares, subject to increase under certain circumstances. When not inconsistent with the provisions of the bill, the Railway Act and amendments to apply to the Co.'s railways, but section 57 of that Act is not to apply to Mackenzie, Mann & Mackenzie, or to their executors or administrators. The directors are authorized to create preference stock. Section 89 of the Railway Act, which prohibits companies dealing in the shares & securities of

other companies, is not to apply to this Co. Powers are given as to owning & operating steamers, docks, elevators, or to acquire & operate mines, make & supply electric light, heat & power, & construct & operate telegraph & telephone lines. Bonds, etc., not exceeding \$25,000 a mile may be issued & additional issues may be made, secured by mortgage on lands.

The bill gave rise to a long debate, in which the contract was vigorously denounced by all the Conservative speakers with one exception, and an amendment protesting against it was moved. At the time of writing (Mar. 5) the debate is still in progress.



WRANGEL AS IT WAS.

in both of which places we shall open offices."

Mackenzie & Mann have purchased from the Great Falls & Canada Ry. 80 miles of narrow-gauge rails, 4 locomotives and a number of cars, to be used in the construction & operation of the new road.

The men constructing the sleigh road to Teslin Lake are under the superintendence of Neil Keith, a well-known western contractor. As soon as the railway line is located 1,000 more men will be sent in to grade, & it is expected 4,000 men will be employed altogether. The contractors expect to put through some 250,000 or 300,000 tons of supplies this year.

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VICTORIA JUBILEE BRIDGE.

The Grand Trunk's New Structure at Montreal.

On May 4 last work was begun on the replacing of the famous tubular Victoria bridge over the St. Lawrence River at Montreal, by truss spans, to be known as the Victoria Jubilee Bridge. Work has proceeded so satisfactorily that the masonry of the abutments & 18 piers has been completed. One span of the superstructure at the west end of the bridge is in place & the larger part of the material for the remaining spans is manufactured and ready for erection.

It has been popularly supposed that Robert Stephenson, the famous English engineer, designed the Victoria bridge, but the late Myles Pennington, in his "Railways & Other Ways," says that while Stephenson was the consulting engineer, to Alex. M. Ross must be given the credit of being the suggester, plan-

ner & designer of the structure. Mr. Ross had been connected with many railways & public works in Great Britain before he visited Canada. He came here on behalf of English capitalists in 1852. John Young, Commissioner of Public Works for Quebec, pointed out to Mr. Ross the importance of bridging the St. Lawrence. Mr. Ross, after inspecting the locality, suggested the construction of an iron tubular bridge, & returned to England in the fall, carrying with him soundings & plans of the bridge as designed & located by him. In August, 1853, a complimentary dinner was given to Robert Stephenson at Montreal, when he acknowledged that an abundance of information had been brought to him in England by his esteemed friend Ross, & that he was able to get a good idea of what the bridge was to be before he came to Canada. He added that it was one of the proudest days of his life when he was called to confer with the engineers of the G.T.R. on bridging the St. Lawrence.

The construction of the bridge was an undertaking of great engineering & practical difficulties, but money, perseverance & skill overcame them all. Mr. Pennington gives some idea of the discouragements which were met with. The contractors had to contend with a roaring rapid 2 miles wide, shoves of ice from 3 to 7 ft. in thickness & from 15 to 20 square miles in extent, coming along slowly but surely, with a pressure of millions of tons. Before building a cofferdam wherein to erect a stone pier it was necessary to put down above the site mooring cribs to hold barges & steamboats in position while the building of the cofferdam was in progress. One winter a large staff was employed cutting holes in the ice & putting down wooden cribs which were weighted with heavy blocks of stone. This was done to save time in spring, but when the ice shove came it cleared away all the cribs & carried the stone into the very spot where the cofferdam was to be erected. Thus the whole winter's work, instead of being of any advantage, was attended with very much loss, both in time & money, for in the spring new cribs had to be put down,

been largely augmented by the cost of alterations & repairs.

The tubular form of bridge, then already in use for the railway bridge over the Menai Straits in Wales, was adopted. The tubes were constructed of boiler iron & were 16x20 ft. in sectional area, with a simple plate floor & roof, instead of the cellular construction adopted in the Menai Bridge. The bridge is 9,144 ft. long, the total length of the ironwork being 6,592 ft. There are 24 piers & 2 abutments, containing 100,000 cu. yds. of masonry, the thickness of the piers at the water line being 18 ft., except for the 2 piers of the channel span, which are 28 ft. wide. There are 25 spans, 24 of these ranging from 242 to 247 ft. in length, and the centre or channel one having a length of 330 ft. The height from the water to the bottom of this tube is 60 ft., & the bridge has a grade of 1 in 130 from each end to this span. The total weight of iron in the tubes is 9,044 tons, & the area for painting in each coat was 32 acres. The greatest depth of water is 22 ft., & the average rate of the



FIG. 1.—THE VICTORIA TUBULAR BRIDGE.

ner & designer of the structure. Mr. Ross had been connected with many railways & public works in Great Britain before he visited Canada. He came here on behalf of English capitalists in 1852. John Young, Commissioner of Public Works for Quebec, pointed out to Mr. Ross the importance of bridging the St. Lawrence. Mr. Ross, after inspecting the locality, suggested the construction of an iron tubular bridge, & returned to England in the fall, carrying with him soundings & plans of the bridge as designed & located by him. In August, 1853, a complimentary dinner was given to Robert Stephenson at Montreal, when he acknowledged that an abundance of information had been brought to him in England by his esteemed friend Ross, & that he was able to get a good idea of what the bridge was to be before he came to Canada. He added that it was one of the proudest days of his life when he was called to confer with the engineers of the G.T.R. on bridging the St. Lawrence.

The construction of the bridge was an undertaking of great engineering & practical

& the stones strewn over the bottom of the river had to be fished up one by one before the building of the cofferdam could be commenced. The stone for the first pier was laid July 22, 1854, by Sir Cusack Roney. On November 24, 1859, Vice-President Blackwell of the G.T.R., Attorney-General Cartier, of Quebec; Jas. Hodges, Superintendent of the bridge construction; A. M. Ross, Engineer; W. Shanley, Major Campbell, Messrs. Gzowski, Macpherson, Forsyth, Captain Rhodes & others were the first to cross the St. Lawrence by the new bridge. Mr. Blackwell was on his way to England to attend the Grand Trunk meeting, & was able to report himself as coming via Victoria Bridge. On August 25, 1860, the last stone was laid & the last rivet driven by the young Prince of Wales, on which occasion a grand banquet was given near the bridge, at which addresses were delivered by the Prince, the Duke of Newcastle & others. To commemorate the event Mr. Blackwell presented a gold medal to the Prince & bronze medals to the officers of the G.T.R. The bridge cost \$7,000,000, which sum has

current is 7 miles an hour. The contractors for the bridge were Peto, Brassey & Betts. Fig. 1 is a general view of the bridge. Fig. 2 shows in more detail some of the end spans, with the iron casings of the ends of the tubes, which form refuges for the trackmen. It also shows the side openings for ventilation.

The smoke and gases from the locomotives in this long iron tunnel made the atmosphere very foul, and within recent years a strip of the plating along the centre of the roof was removed, the roof being reinforced by riveting angle irons along each side of the opening. Rust & corrosion (from the products of combustion, damp, & the drippings of brine from refrigerator cars) have made inroads upon the ironwork, & while these did not reach such an extent as to impair the safety of the structure, yet they, in connection with the incapacity of the single track bridge to provide properly for all the traffic, led the Company to decide upon erecting a new superstructure, which has been designed under the direction of the Company's Chief Engineer, Jos. Hobson, to whom THE RAILWAY & SHIPPING

WORLD is indebted for much of the information contained in this article.

THE NEW BRIDGE.

The masonry of the piers is being extended on the upstream side, to meet the requirements of the enlarged superstructure, but this addition is only above the water table of the cutwaters of the piers, as the present foundations are ample for the new work. The extension varies from 21 to 25 ft. On the downstream side the piers are being extended upward in line with the old masonry so as to give the additional width required for the new bridge. The masonry is of limestone ashlar, & the contractor for the extension of the piers is Wm. Gibson, M.P., of Beamsville, Ont., who has done a great deal of bridge & culvert work for the G.T.R., as well as the approaches to the Sarnia tunnel. A part of the walls and portals of the abutments of the bridge had to be taken down, & the upper portions of the piers (at their south ends) are also being taken down to such an extent as to admit of lengthening the piers as above described. Examination of the masonry showed that the material removed would be unsuitable for use for the external masonry, & it was thought it might be employed for the backing, but when it was removed it was found to be quite unsuitable, as it crumbled under slight pressure. Each course of the new masonry is to be of the same depth as the course of the old masonry of which it becomes an extension, & all the masonry will be built of dimension stone, all faces being pick or hammer dressed. The vertical joints in each course must overlap those in the course below by at least 12 ins. The backing will be of squared or dimension stone, of the same thickness as the face stones. Following is an abstract from the specifications for the masonry work:

The face of the stones forming the ice breakers shall have a 2-in. margin draft all round, & shall be dressed off between to a uniform surface with a point or pick. All these face stones are to be clamped together, both vertically & horizontally, with iron. The horizontal clamps to be $2\frac{1}{2}$ ins. wide, $\frac{1}{2}$ -in. thick, 24 ins. long; these are to be turned down $2\frac{1}{2}$

ins. at each end, & embedded their whole length and thickness in the stone. The vertical bolts are all to be 1 in. diameter, & to pass through the horizontal clamps & the vertical joints of the stones, to be let into the course below at least 9 ins. and to be secured thereto by fox-tail wedging.

Coping stones of piers & bridge-seats of abutments shall not be less than 5 ft. in length, nor less than 30 ins. in width. The top & face of each stone to have a 2-in. tooled margin draft, & to be neatly bush-hammered between. String courses & pedestals to be dressed in the same way as copings. The sides and ends shall be dressed so that vertical joints shall not exceed $\frac{1}{4}$ -in. in width.



FIG. 2. END SPANS, VICTORIA TUBULAR BRIDGE.

The ends will be fastened together, on top, by clamps 12 ins. long, 2 ins. wide & $\frac{3}{4}$ -in. thick, let 3 ins. into each stone, two to a joint, & to be placed where directed, the whole of these stones to be set in full Portland cement mortar, made in the proportion of 1 part cement to 1 of sand.

Every stone of the masonry must be set in a full bed of mortar & beaten with a heavy wooden maul until a solid bearing has been secured, the vertical joints must be fully flushed and filled up, using for the purpose "swords" or rammers, & where necessary to insure perfect filling, grouting must be resorted to. Each course must be properly levelled throughout its whole extent.

The mortar must be composed of the best Portland cement, & clean, sharp, coarse & properly screened sand, thoroughly mixed in approved proportions; these will be generally 2 parts of sand to 1 of cement, but they may be varied at the option of the engineer, according to the quality of the material. The cement & sand must be well mixed in a dry state; then enough water must be added to make mortar of a consistency that can be properly handled by a trowel. Mortar must be made in small quantities & only as required. Re-tempering of mortar that has partly set will not be permitted.

The face joints of the masonry must be raked out to a depth of 1 1-2 ins. & pointed with pure cement mortar.

Mr. Gibson is allowed the use of the company's rails on the top of the bridge covering, on which a repair car had formerly been run, & as a consequence the work is being carried on in a manner astonishing in its simplicity.

The stone is reduced to its proper dimensions at Mr. Gibson's quarry at Crookston, near Madoc, Hastings County, & is transported on flat cars to the Point St. Charles end of the bridge, where a powerful steam derrick picks it up block by block & places it upon the car on top of the bridge covering. The car is moved by steam power to a point directly over the pier upon which the masons are at work. Here a travelling derrick takes the stone from the car & lowers it over the side of the bridge to the position that it is destined to occupy in the masonry, & its adjustment follows. One unacquainted with the method that has been adopted might picture to himself a huge pile of false work & scaffolding or a flotilla of barges as the necessary accessories of an undertaking so great. To the visitor the absence of anything of the kind is as much of a surprise as the simplicity of the plan that has been adopted. The bridge is supported by 24 piers & 2 abutments. The piers vary in height from 30 feet at the ends of the bridge to 60 feet on either side of the central span, the increased altitude being necessary to allow of the passage of vessels up & down the river.

THE SUPERSTRUCTURE will consist of 24 spans of pin-connected,

DOMINION BRIDGE CO. (LIMITED)

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ROLLED STEEL BEAMS, JOISTS, GIRDERS, CHANNELS, ANGLES, TIES, Z BARS AND PLATES ALWAYS ON HAND in lengths to thirty-five feet.

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through steel trusses, each 254 ft. long, c. to c. of end pins, & one of 348 ft. over the steamboat channel. The trusses will carry two railway tracks to be used by ordinary steam railway trains, as well as by electric railway cars, & the floor beam system will be extended beyond the trusses sufficiently to carry a 10 ft. roadway & a 5½ ft. sidewalk on either side.

The details of one of the 254 ft. spans are shown in fig. 4. It has parallel chords & inclined end posts, & is divided into two panels of 25 ft. 4¾ ins. c. to c. of pins, the depth of truss is 40 ft., c. to c. of pins, & the width between trusses is 31 ft. 2 ins. c. to c. The top chord is of trough section, 28 ins. deep, having four web plates, a top cover plate & eight flange angles. The pins in this chord are 6, 7 & 7 1-2 ins. diameter. The posts are of I-beams & built-up sections, & the diagonals are eye-bars, with turnbuckles on the counters in the two middle panels. The bottom chord is composed of 8 in. eye-bars, with 7 1-2 in. pins, the thickness & number of bars varying with each panel. The end pins are

a guard timber outside each rail. On each cantilever end of the floor beams will be two lines of 20 in. I-beams for the roadway, & a 15 in. channel on the end of the beam. These carry the roadway timbers, which will be similar to the track ties, but 12 ins. apart. Upon these timbers will be laid a flooring of 4 in. plank for the roadway & sidewalk.

Across each end of each masonry pier (parallel with the bridge) will be laid seven 24 in. I-beams (100 lbs. per foot), 19 ft. long, the ends of which will be riveted to the end floor beams. On each set of I-beams will be 2 wall plates 4×5 ft., 1 1-2 ins. thick, upon which will rest the shoes of the trusses. The shoes at the expansion end will have nine rockers, 4 ft. 3 in. long, 3¾ ins. wide, & 7 ins. high, the top & bottom having curved faces. A variation in temperature to the extent of 150° is provided for in the expansion bearings. Between the floor beams, carried by the I-beams on the piers, are 15 in. I-beams which support the floor system across the pier.

The channel span of 348 ft. will have curved

weighing 284,000 lbs. on a length of roadway of 54 ft., followed by a uniformly distributed train load weighing 4,000 lbs. per lin. ft. The distribution of the engine loads is shown in one of the accompanying illustrations.

4. A moving load in either direction on each of the roadways of 1,100 lbs. per lin. ft.

5. A live load on each footwalk of 200 lbs. per lin. ft.

To provide for wind strains and vibrations in the 254 ft. spans, the bottom lateral bracing is proportioned to resist a lateral force of 450 lbs. per lin. ft. of span, 300 lbs. of this being considered as a moving load & as acting on a train of cars at a line 8 ft. 6 ins. above the base of the rail. The top lateral bracing is proportioned to resist a lateral force of 150 lbs. per lin. ft. of span. For wind strains in the 348 ft. span, 35 lbs. are added in each of the above cases.

Following are some extracts from the specifications:

Bed plates (on masonry) for the trusses are to be made of cast-steel. These castings shall be free from blow-holes, true to pattern

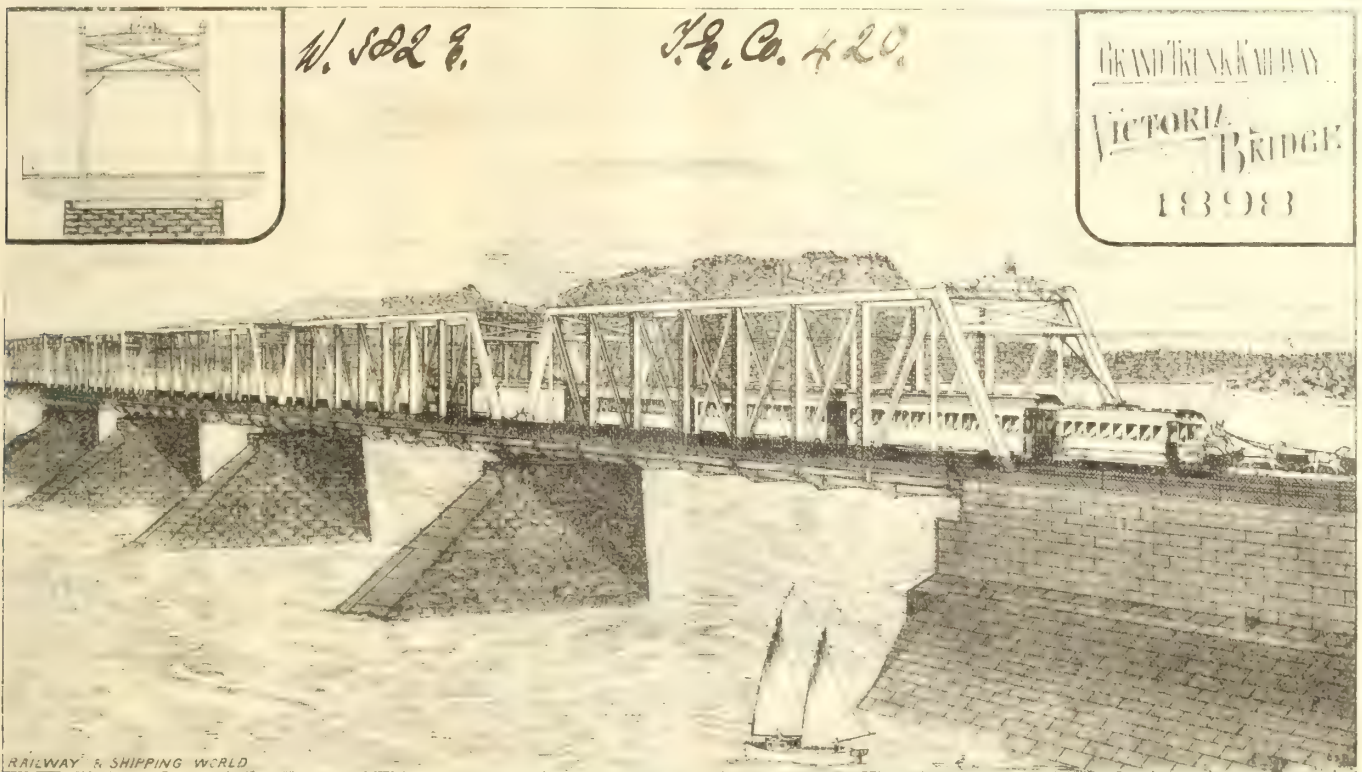


FIG. 3.—ABUTMENT AND END SPANS] VICTORIA JUBILEE BRIDGE.

8 1-2 ins. diameter. The floor beams are plate girders 66 ft. 3 ins. long, suspended from the pins by I-beam hangers, the girders extending beyond the trusses to carry the roadways & sidewalks. The girders are connected by longitudinal & diagonal bracing. The trusses will be connected by transverse struts between the top chords, & between the posts, the latter struts being 15 ft. 1 in. below the top chords, giving a clear headway of 23 ft. 1 1-2 ins. from base of rail to the lower struts of the overhead lateral bracing. There will also be the usual horizontal & vertical lateral bracing, as shown in the plan & cross section, fig. 3.

Upon the central portion of these floor beams are carried 8 lines of stringers of 24 in. I-beams, 4 under each track, 2 ft. 5 1-2 ins. c. to c., the inner lines being connected by vertical diagonal bracing. Across these beams are laid pitch pine ties, 10 x 10 ins., 4 in. apart in the clear, these ties being long enough to carry both tracks. There will be two tracks of standard gauge, 13 ft. c. to c., with

top chords to the main trusses, but the plans of this span have not yet been finally adopted.

The railway tracks will be used not only for ordinary trains, but also for electric cars, thus affording a more frequent service between Montreal & several small towns on the south shore. These cars will be run between the times of the regular trains, & interlocking switch & signal plants will be installed at each end of the bridge at the junction of the electric railway with the bridge tracks.

The trusses are designed for the following loads:

1. The total weight of metal in them, amounting to 5,910 lbs. per lin. ft. of span.
2. The weight of the wooden floor beams, planking, sidewalks, guard timbers, railings, rails & fastenings, etc., amounting, in the aggregate, to 2,800 lbs. per lin. ft. This, with the weight of metal, gives the assumed dead load of 8,710 lbs. per lin. ft. of span.
3. A moving load in either direction on each of the two tracks, consisting of two consolidation engines & tenders coupled, each

& of a workmanlike finish. When tested in specimens not more than 2 ins. long, & of at least 1-2 in. uniform sectional area, it must give the undermentioned results:

Ultimate strength.....	67,000 lbs.
Elastic limit.....	34,000 "
Elongation in 2 ins.....	20%

All steel must be made by the open-hearth process, & shall contain not more than 0.08% of phosphorus in acid steel, or 0.04% in basic steel, & each kind must be of uniform quality.

All tests for tensile strength, limit of elasticity & ductility shall be made on samples cut from the finished material after rolling, & shall be at least 12 ins. long, & shall have a uniform sectional area of not less than ½-sq. in. All broken samples must show a silky fracture of uniform color.

When material is to be annealed or otherwise treated before use, the specimen representing such material is to be similarly treated before testing.

The heads of eye-bars & enlarged ends of rods shall be made by upsetting or forging into shape. Welds in the body of the bar will

C.P.R. ANNUAL REPORT.

A Gratifying & Interesting Statement.

The 17th annual report of the directors for the year ended Dec. 31, 1897, was issued Feb. 26, over the signature of the President, Sir Wm. C. Van Horne, & reads as follows:

A balance sheet of the affairs of the Co. at Dec. 31, 1897, together with the usual statements and schedules are herewith submitted.

The gross earnings for the year were \$24,049,534.05
The working expenses were 13,745,758.76

And the net earnings were \$10,303,775.89

Add interest earned on deposits and loans \$74,001.48

Add interest due from Duluth, South Shore & Atlantic Ry. Co. on consolidated bonds held by your Co. against debenture stock issued. \$601,390.00

Less advanced by your Co. 442,065.00

159,325.00

Add interest from Minneapolis, St. Paul & Sault Ste. Marie Ry. Co. on bonds held by your Co. against debenture stock issued. 107,380.00

340,700.48

\$10,044,482.37

Deduct Fixed Charges accrued during the year, including interest on land bonds. 6,783,367.26

The surplus for the year was. \$3,861,115.11

From this there has been charged off the 1/2 yearly dividend on preference stock; 2/2 paid Oct. 1, 1897. \$167,413.33

And 1/2 yearly dividend on ordinary stock; 1 1/2% paid Oct. 1, 1897. 975,000.00

1,142,413.33

Leaving balance. \$2,718,701.78

From this there has been declared a 1/2 yearly dividend on preference stock of 2/2 payable April 1, 1898. \$196,613.33

And a dividend on common stock for the last 1/2 year of 2/2 payable April 1, 1898. \$1,625,000.00

\$1,625,000.00

The working expenses for the year amounted to 57.16 % of the gross earnings, & the net earnings to 42.84%, as compared with 60.80 & 39.20% respectively in 1896. The earnings per passenger per mile were 1.82c. & per ton of freight per mile 0.78c., as against 1.83, & 0.75c. respectively in 1896. Following is a statement of the results of working by months:

Month. Earnings. Expenses. Net Earnings.

Jan. 1,312,024.09 939,580.99 372,443.10

Feb. 1,272,094.42 887,271.11 384,823.08

Mar. 1,528,944.61 1,008,731.77 520,212.84

April. 1,067,850.11 699,716.80 368,133.31

May. 1,090,213.12 1,104,725.28 87,487.84

June. 2,000,576.58 1,111,149.28 886,127.30

July. 2,107,002.22 1,192,043.35 914,358.87

Aug. 2,023,114.08 1,227,707.87 795,406.21

Sept. 2,314,529.07 1,284,638.03 1,029,891.04

Oct. 2,799,001.37 1,375,000.00 1,424,001.37

Nov. 2,390,150.00 1,350,718.01 1,039,431.99

Dec. 2,322,742.44 1,269,287.95 1,053,454.49

Notwithstanding the unfavorable results of the last 13 months of the year the directors are able to report a substantial increase in the earnings & profits of the Co. The improvement in the traffic of the Co. is due in large measure to the mining development in British Columbia; the mining development in the Lake of the Woods district also contributed in no small degree. The discovery of extraordinary deposits of gold in the Canadian Yukon Territory has contributed appreciably to the general improvement, & is likely to contribute vastly more in the immediate future, for the movement in that direction can hardly be said to have commenced until within the past few weeks.

Under the arrangement given by the shareholders at the last meeting, the directors entered into an arrangement with the Dominion Government providing for the immediate construction of a railway from Lethbridge, Alberta, through the Crow's Nest Pass to a connection with your line at Nelson, B.C., 340 miles. This line has been completed to within 12 miles of the Crow's Nest Pass, at the summit of the Rocky Mountains, & the work beyond is well advanced. It is expected it will be completed to Kootenay Lake before the end of August. On reaching Kootenay Lake a temporary connection will be made with Nelson by means of a train ferry, whereby a through train service may be established, pending the completion of the railway along the shore of the lake to that point 60 miles distant. The Dominion Government has entered into an agreement with the Co. to assist the undertaking to the extent of \$11,000 a mile, & the balance required will form part of your capital expenditure. This agreement will be submitted for your confirmation. It is worthy of remark that the maximum gradients on the Crow's Nest line through the Rocky and Selkirk ranges of mountains are only 1 ft. in 100 (with compensation for curvature), or barely 1/2 the maximum of any other railway crossing either of these ranges. This much-needed Canadian outlet for the Kootenay mining district, afforded by the Crow's Nest Ry., will give a decided impetus to mining and smelting, & is certain to add largely to the earnings of the Co.; but that the fullest advantage may be derived from it, & that the interests of your Co. may be protected in Southern B.C., it is necessary to move on westward from the Columbia River at Robson, the western end of your line, so as to reach the Boundary Creek District—about 100 miles—during the present year, & your authority in this regard will be asked. The opening of mines in the Boundary Creek district has been retarded by the lack of transportation facilities, but the mineral deposits have been proven to an extent sufficient to justify the belief that this is the richest district yet discovered in the Province. As a preliminary step towards the construction of the Crow's Nest line, the shareholders at their meeting on May 10, 1893, authorized the purchase of the section of the Alberta Railway between Dunmore, on your main line, & Lethbridge—109 miles—for \$976,590. This purchase was consummated early in January last. The section of the Crow's Nest line west of the summit of the Rocky Mountains is being constructed under the charter of the B.C. Southern Railway Co., the acquisition of which, for an almost nominal consideration, you will be asked to approve. The work is being carried on by the officers of your Co. & on its completion the railway will become the property of your Co. at the actual cost of construction. Through the B.C. Southern Ry. your Co. acquires about 3,350,000 acres of land granted to that Co. by the Province of B.C., & also acquires 6 square miles of valuable coal lands near the Crow's Nest Pass—an amount of coal lands quite sufficient for the protection of the public as well as the Co., if need be, against unduly high prices. The lands first mentioned are all adjacent to the railway as it is laid out between the Crow's Nest Pass & Kootenay Lake. They have not as yet been examined in detail, but will no doubt prove a valuable asset. The lands are not taxable until leased or alienated. The coal deposits made accessible by the Crow's Nest Ry. are of great extent and extraordinary character. The aggregate thickness of the beds in the immediate vicinity of the railway exceeds 125 ft., and the coals are of excellent quality and make superior coke, the latter being of especial consequence as affecting the smelting of ores; & in this connection it is worthy of remark that the mining districts of southern B.C. are exceptionally fortunate in possessing an abundance of coal, a boundless supply of lumber, numerous water-powers, a healthy climate, & close at hand, agricultural districts, affording cheap and plentiful food.

Arrangements have been completed, subject to the approval of the Dominion Parliament, whereby your Co. may acquire the Columbia & Western Ry., extending from Robson to Rossland, 33 miles, for \$800,000. With this property will be acquired the smelting works at Trail Creek, & about 270,000 acres of land in the vicinity, these being included in the purchase price named. Rossland having become the principal mining centre in B.C., it was necessary either to build an independent line to that place or acquire the Columbia & Western Ry., & the latter was clearly the wiser course. Your authority for the acquisition of this property will be asked, & you will be asked to approve the construction of a line 32 miles in length, connecting the Columbia & Kootenay Ry. with Slocan Lake, which was demanded by the Slocan mining district & which your directors felt obliged to carry out last year, anticipating your authority.

You will be asked to approve a lease of the St. Stephen & Milltown Ry. 4 1/8 miles in length at a rental of \$2,050 a year. This line affords access to a number of saw mills & manufacturing in the vicinity of St. Stephen, N.B.

The Montreal & Ottawa Ry. is now practically completed to the city limits of Ottawa, & is expected to be in readiness for traffic at the beginning of the coming summer.

The results of the purchase of the Columbia & Kootenay steamers, as authorized by the shareholders a year ago, have been most gratifying. Additions have already been made to this fleet & more boats are required.

The directors have anticipated your authority in purchasing 2 ocean steamships for the new trade of the Canadian Yukon (Klondike) district. These steamships are intended to ply from Vancouver & Victoria, & are far superior to any now engaged in the trade, & should secure to your Co. a large share of it. Your directors have also caused to be put under contract 11 steamboats, costing approximately \$350,000, for the lakes & rivers in the Southern B.C. mining districts, & for river service in the Canadian Yukon trade.

Your railway has been maintained in excellent condition & has enjoyed its usual immunity from serious accident. Two hundred & forty-seven miles of the principal lines of the Company were relaid with heavy rails (70 & 80 lbs. a yard) during the year. The sudden increase of traffic, subsequent to the last annual meeting, made necessary considerable expenditures on capital account for rolling stock, grain elevators & for terminal & station facilities, mining spurs, sidings & spurs for new industries, &c., which were not anticipated at that time, & the directors will ask your approval of these expenditures. They will also ask you to authorize them to make liberal provision for rolling stock, improvements of roadway, additional repair shops & various other matters, in order that your railway may be well prepared for the large traffic ahead, which now seems assured.

The rapid increase of traffic on the line between Montreal & Toronto makes it necessary to take steps towards the double tracking of that section of the Co.'s line, the traffic having now practically reached the limit of the capacity of a single track line. Your authority to proceed with this work as it may be conveniently & economically done will be asked.

Two hundred & fifteen timber bridges aggregating 5.7 miles were replaced with permanent work—masonry, steel or embankments—during the year.

A grain elevator of 1,000,000 bus. capacity was erected at Owen Sound & another, built of steel, & having a capacity of 1,500,000 bus., at Port William.

Since the close of the year your Co.'s shares in the Pacific Postal Telegraph-Cable Co. have been sold to an operator in the hands of the Commercial Cable Co., & your directors propose, with your approval, to expend a considerable part of the proceeds of this sale in

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the extension & perfection of the Co.'s telegraph system in Canada—extensions & improvements which will add to your already handsome profits from this source. In connection with this sale your interests have been secured by a contract for the interchange of business with the same telegraph system for 20 years.

Your Co. has acquired the individual holdings of shares in the Chateau Frontenac Co., amounting to \$80,000, & now holds all of the stock representing this hotel at Quebec—a property which is not alone profitable in itself, but brings a large amount of passenger traffic to the railway.

The Co.'s telegraph, express, grain elevators, sleeping-cars & lake steamers all afforded increased net earnings, & these, with the profits from the Pacific Steamships, **exceeded the interest on the whole of the consolidated debenture stock of the Co.**

Your Co. had nothing to pay on its guaranty in respect of the Minneapolis, St. Paul & Sault Ste. Marie Ry., but the improved conditions in the Western States did not begin to be felt by the Duluth, South Shore & Atlantic Ry. until late in the year, & the deficit of that Co. was \$442,065, as already stated.

During the year \$151,000 of the 4% consolidated mortgage bonds of the Minneapolis, St. Paul & Sault Ste. Marie Ry., \$131,000 of the 4% consolidated mortgage bonds of the Duluth, South Shore & Atlantic Ry., & \$518,750 of the 5% first mortgage bonds of the Montreal & Ottawa Ry.—all guaranteed by your Co.—were purchased with the proceeds of £145,875 4% consolidated debenture stock, a considerable saving in interest being thereby effected.

During the year your directors contracted for the sale of one million pounds 4% preference stock to apply on capital expenditures already authorized, including a portion of the Crows Nest Ry. construction, & the portion of the proceeds received before the end of the year was so applied.

Arrangements permanently assuring the traffic interests of the Duluth, South Shore & Atlantic Ry. west of Duluth having been made, the amount advanced to that Co. for the acquisition of the Duluth & Winnipeg Ry. has been returned to your treasury.

The land sales for the year were 199,482 acres for \$665,740, an increase over 1896 of 111,604 acres, or 127%, & an increase in the amount realized of \$356,812, or 112%. The net amount realized from town sites was \$100,267, as against a deficit of \$7,860 in 1896.

The recovery in the prices of farm products,

& especially of wheat, has given vigor to agricultural development in the Canadian Northwest, & the directors anticipate a much larger increase in the land sales of the new year. The fact that a great majority of the established farmers in that part of the country realized from their crops & cattle in 1897 more than their lands & improvements had cost them, must result in a new & large movement of settlers in that direction. The business of Canada seems to have returned to its normal condition & prosperity is the rule in nearly all sections of the country.

EARNINGS FOR THE YEAR 1897.

From Passengers.....	\$ 5,796,115.12
“ Freight.....	15,257,896.94
“ Mails.....	603,210.49
“ Express.....	530,749.65
“ Parlor & Sleeping Cars..	361,777.38
“ Telegraph, Grain Elevators & miscellaneous, including profit on Pacific Steamships..	1,499,785.07
	\$24,049,534.65

WORKING EXPENSES FOR THE YEAR 1897.

Conducting Transportation....	\$3,434,755.39
Maintenance of Ways & Structures.....	3,018,748.90
Motive Power.....	4,211,586.61
Maintenance of Cars.....	955,013.12
Parlor & Sleeping Car Expenses.....	78,673.90
Expense of Lake & River Steamers.....	333,381.68
General Expenses.....	1,336,022.47
Commercial Telegraph.....	377,576.69
	\$13,745,758.76

EQUIPMENT AT DECEMBER 31, 1897.

Locomotives.....	598
First & 2nd class passenger cars, baggage cars, & colonist sleeping cars.....	588
First-class sleeping & dining cars.....	99
Parlor cars, official & paymasters' cars.....	30
Freight & cattle cars (all kinds).....	15,544
Conductors' vans.....	312
Board, tool & auxiliary cars & steam shovels.....	575
Pacific Steamships—Empress of China, Empress of Japan, Empress of India.	
Pacific Coast Steamships—Athenian, Tartar.	
Lake Steamers—Alberta, Athabasca, Manitoba.	

Ferry Steamers—Ontario, Michigan.
River Steamers—Kootenay District—Kootenay, Rossland, Lytton, Kokanee, Slocan, Illicilliweat, Aberdeen, Trail, Nelson, Columbia.

Index to the Railway Act.

An index to the Railway Act of Canada, & its various amending acts, has been issued by J. Leslie, of the Department of Justice, Ottawa, & R. R. Cromarty, Manager of the Canada Law Journal, Toronto. The index was prepared by W. Vaughan, barrister, who was for a number of years Secretary to Chief Solicitor Clarke, of the C.P.R., & will undoubtedly be found very useful not only to lawyers, but to every railway man who wants to consult the statutes relating to railways. It is published by the Canada Law Journal Co., Toronto. Price, \$1.

THE CANADIAN PACIFIC RAILWAY COMPANY.

Dividends for the half-year ending December 31st, 1897, have been declared as follows:

On the Preference Stock, 2 per cent.
On the Common Stock, 2½ per cent.
Warrants for the common stock dividend will be mailed on or about April 1st to shareholders of record at the closing of the books in New York and London respectively.

The preference stock dividend will be paid on Friday, April 1st, to shareholders of record at the closing of the books at the Company's London Office, 1 Queen Victoria Street, London, E.C.

The common stock transfer books will close in London at 3 p.m. on Friday, February 25th, and in Montreal and New York on Tuesday, March 8th. The preference stock books will close at 3 p.m. on Tuesday, March 8th. All books will be re-opened on Thursday, 7th April.

By order of the Board.

CHARLES DRINKWATER.

Montreal, Feb. 14th, 1898.

Secretary.

CANADIAN PACIFIC RAILWAY CO'Y.

Notice to Shareholders.

The seventeenth Annual Meeting of the shareholders of this Company, for the election of Directors and the transaction of business generally will be held on Wednesday the 6th day of April next, at the principal office of the Company at Montreal, at 12 o'clock noon.

The common stock transfer books will close in London at 3 p.m. on Friday, February 25th, and in Montreal and New York on Tuesday, March 8th. The preference stock books will close at 3 p.m. on Tuesday, March 8th.

All books will be re-opened on Thursday, April 7th.

By order of the Board.

CHARLES DRINKWATER.

Montreal, Feb. 14th, 1898.

Secretary.

Drummond, McCall & Co.

Iron, Steel and Metal Merchants

and Importers

Montreal.

PIG IRON.

Buffalo Furnace Co.: "Buffalo Scotch,"
"Summerlee" "Calder."

"C.I.F." Three Rivers Charcoal.
Ferro-Silicon. Ferro-Manganese.
Speigeleisen.

"U. S." Iron for Stay Bolts.
Seeborn & Dieckstahl's "Self-Hardening" Steel.

"Snow" Steam Pumps.

Cast Iron Water Pipes.

"Ludlow" Valves and Hydrants.

Railway Car Wheels.

Iron and Steel Plates, Sheets and Bars, General Metals.

The Hall Signals at Montreal.

The Canadian Pacific Railway has recently completed the installation of a system of automatic electric block signals between Windsor Street station, Montreal, & Montreal Junction, a distance of about 5 miles of double track road. The system was installed by the Hall Signal Company, of 44 Broad Street, New York City. The signals are of the disc type & are placed on wooden posts, located to the right of the track they govern, & consist of a home & distant signal on each post; home signal, red, governs first block; distant signal, green, governs second block; one above the other, with the exception of the last east-bound signal at Montreal, & the last west-bound signal at Montreal Junction, which are arranged for special movements of trains.

The home or top signal (red) governs the block immediately in advance of the signal. The bottom or caution signal (green) indicates the position of the next signal in advance, or of the second block ahead. If an engineer upon approaching a signal finds both at clear, he knows that the track is clear for two blocks ahead. If he finds the home signal at clear, & the caution signal displayed, he knows that the second block ahead is occupied & he must be prepared to stop before passing the next home signal. If he finds both the home & distant signal displayed, he will of course come to a stop before entering the block.

The road is divided into sections or blocks of about one mile each, the signals being located at the entrance to the block. They are operated by the rail circuit on what is called the "Normal Danger Plan." That is, all signals show danger or stop, except when a train is approaching, in which case they will show clear, providing the track they govern is clear of trains, & there are no open switches or broken rails, & if the apparatus is in complete working order. The signals are controlled directly by a track circuit, which consists of a battery placed at one end of the block, & an electrical instrument, or relay, at the other end of the block near the signal. Normally the current flows from one pole of the track battery to one rail of the track, along this rail to & through the relay located at the signal, & back to battery by means of the other rail, making a complete circuit holding the relay closed. The signals themselves are operated from a local battery, the circuit of

which is controlled by the relay referred to above. Therefore, a signal can only be cleared when its relay is closed.

The ends of the rails are electrically separated from each other at the entrance to and the end of each block. Therefore, each track section has its own track circuit. When a train passes a signal, the current from the track battery which had been passing through the relay at the entrance of the block, is shunted through the wheels & axles of the train, causing the relay to open, breaking the signal circuit, causing the signal to go to the danger position by gravity.

The local circuit which operates the signals is conducted by means of weatherproof copper wire, strung on the telegraph poles by the side of the road in the usual manner. The batteries are all placed underground, away from the frost, and are of the gravity type for track circuits, & Gordon-Burnham type for signal circuits, each signal being provided with a separate battery.

In addition to the signals for the information of the engineers, there are small miniature signals or indicators placed at each switch, & so arranged that they will show danger (red) when a train on the main line approaches the distant signal which is connected with said switch. When it is necessary to open a switch leading to the main line, the switchman must first look at the indicator. If this shows clear, he knows that there is no train approaching, in which case he will open the switch, which will at once set to danger the home signal protecting the block in which the switch is located, and the distant signal in the next block back.

In the case of a cross-over, the opening of either switch would immediately block both tracks. At Windsor Street yard special arrangement has been provided in order to govern the entrance to the yard, as it is sometimes necessary to run trains a short distance against traffic.

Distant bells are also provided so that the switchman is informed when a train is approaching the yard, & indicators located in switch-house advise him the position of the signals.

This system of automatic block signals is believed to be the first application of this character that has been introduced into Canada, although the Hall Signal Company has installed a large number of them in the United States.

In response to an inquiry as to how the signals are working, Manager Tait, of the C.P.R. Eastern Lines, writes THE RAILWAY & SHIPPING WORLD: "We are having very satisfactory results with the Hall automatic electric block signals on our track between Montreal & Montreal Junction, as you will see from the enclosed working statement from Oct. 17, '97 to Feb. 17, '98: No of days in operation, 123; approximate no. of trains daily, 40; no. of



FIG. 3.

signals, 14; approximate no. of operations, 68,880; no. of failures, 11; percentage of failures to operations, .00012.

DETAILS OF FAILURES.

	No. of train or engine.	CAUSE.	Minutes Delay.	Signal No.
Oct. 29	101	Broken line wire.....	8	2
Nov. 10	101	Open switch spring at cross over	8	4
Dec. 2	E. 18	Locking gear of signal instrument failing to work.	8	4
" 5	Spcl.	" " " " " "	8	4
" 4	"	" " " " " "	8	4
" 18	"	" " " " " "	8	4
" 28	11	Open switch spring	8	2
Jan. 4	12	" " " " " "	8	13
" 25	624	" " " " " "	8	2
" 28	101	Locking gear of signal instrument failing to work.....	8	7

Delay of 2 minutes to each failure as per rules.

General Superintendent Leonard, of the Ontario & Quebec Division, writes: "These signals are giving the best of satisfaction, notwithstanding the very severe weather we have had, and I have no doubt they will prove eminently satisfactory."

The record above given is certainly a very good showing, in view of the unusually severe weather experienced in Montreal this winter. Among the causes of failure are a number of cases where the locking-gear failed to work in the signal instrument. It should be explained that any failure of this lock, or in fact any part of the apparatus, produces a danger signal, causing an unnecessary stop. The system does not display a safety signal when the apparatus is out of order. The locks have been readjusted & it is not expected any more trouble will be caused on that account, & that the next quarterly report will most likely be even better than the last.

In the accompanying illustrations fig. 1 shows the signals on post, the two discs on the top signal being colored red, & those in the bottom signal green. Figs. 2 & 3 give interior views of the signal case, fig. 2 showing "danger" position of signal (by gravity), & fig. 3 "safety" position of signal (by electro-magnetism).

Last September the despatching office for the Manitoba division of the Northern Pacific was removed from Winnipeg to Grand Forks, North Dakota. Superintendent Vanderslice now says the removal, which was thought to be only temporary, is likely to be permanent.

A Prince Albert, Sask., paper is authority for the statement that on a recent day night a horse & vehicle were carried nine miles on the cow-catcher of a locomotive on the C.P.R.'s Prince Albert branch. The horse had started home without its owner, & was picked up en route by the locomotive.

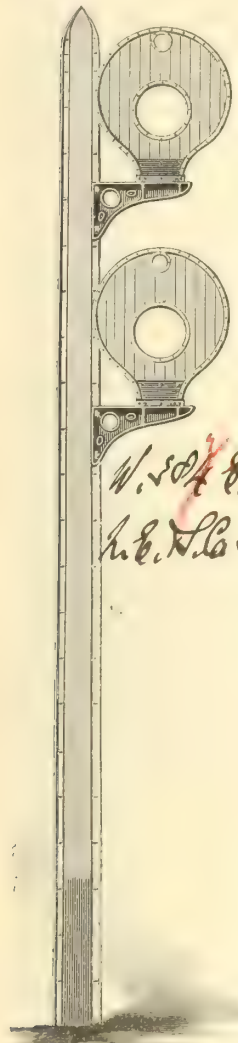


FIG. 1.

the rail circuit on what is called the "Normal Danger Plan." That is, all signals show danger or stop, except when a train is approaching, in which case they will show clear, providing the track they govern is clear of trains, & there are no open switches or broken rails, & if the apparatus is in complete working order. The signals are controlled directly by a track circuit, which consists of a battery placed at one end of the block, & an electrical instrument, or relay, at the other end of the block near the signal. Normally the current flows from one pole of the track battery to one rail of the track, along this rail to & through the relay located at the signal, & back to battery by means of the other rail, making a complete circuit holding the relay closed. The signals themselves are operated from a local battery, the circuit of

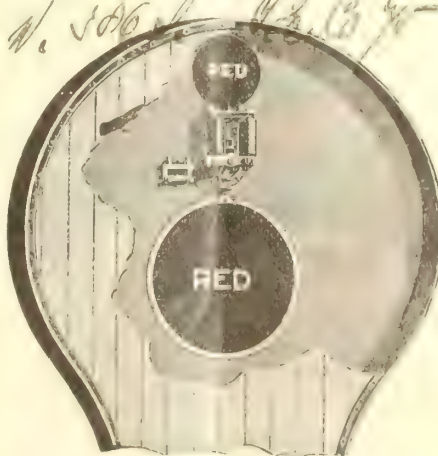


FIG. 2.

THE RAILWAY & SHIPPING WORLD.

AN ILLUSTRATED PERIODICAL DEVOTED TO STEAM & ELECTRIC RAILWAY SHIPPING, EXPRESS, TELEGRAPH & TELEPHONE INTERESTS.

THE RAILWAY & SHIPPING WORLD CO., PUBLISHERS,
11, MELBURN STREET, TORONTO, CANADA.

SUBSCRIPTION PRICE, postage prepaid, to Canada & the United States, Six Months, to Great Britain & other countries by the Postal Union, Sixteen shillings sterling. The Post & Shipping World is sent by express or post office, Canada, by air to Toronto.

ADVERTISING RATES furnished on application to the publishers.

TORONTO, CANADA, MARCH, 1898.

PUBLISHERS' ANNOUNCEMENT.

THE RAILWAY & SHIPPING WORLD takes its place to-day in the field of periodicals for the purpose of representing the transportation interests of Canada—steam & electric railways and shipping—and the allied express, telegraph & telephone interests.

It is not entering into competition with any existing publication, as while the field of what is known as trade journalism is well filled in regard to almost every other industry & interest, there is no other publication in Canada devoted to the transportation interests.

Hitherto the officials of Canadian transportation companies have had to depend on foreign publications for their "trade" reading, & careful enquiry among them shows that only a small minority get any periodical devoted to their business. Necessarily the space devoted by foreign publications to Canadian matters is limited, & of secondary importance. THE RAILWAY AND SHIPPING WORLD will endeavor to give a full & accurate record of everything transpiring in Canada relating to the interests enumerated above, supplemented by technical & other articles of interest & value to the class of readers to which it addresses itself. Its publishers believe in performances rather than promises, & will content themselves with saying that no effort will be spared to make the publication a thoroughly up to date one, editorially, typographically, & in every other respect. Illustrations will be freely used whenever they can be made to serve a practical purpose.

In political affairs, as such, THE RAILWAY AND SHIPPING WORLD has no interest, & is absolutely independent of either party, but this does not imply neutrality, & it will not hesitate to freely criticise whenever public interests so demand.

It is also absolutely independent of any railway or other corporation, & while being entirely impartial in giving the facts in regard to the operations of all these corporations, it will never forget that it is a Canadian publication first, last & all the time, & that it is its duty to do everything possible to assist in the development of transportation as far as possible within Canadian territory & to Canadian ports.

The St. Clair Tunnel Co. is contemplating converting the motive power for the tunnel from steam to electricity. Ever since the casualty of Nov. 28, the officers of the Co. have given the subject of electrical propulsion considerable attention, & it is reported they have now about decided to equip the tunnel with electrical power.

TO ADVERTISERS.

For the past six months diligent work has been done in building up a subscription list, so that while a new periodical, THE RAILWAY & SHIPPING WORLD has to-day a circulation that it would have taken considerable time to secure, had nothing been done in advance of publication.

Its publishers make the statement, & guarantee its reliability as a basis of all advertising contracts, that THE RAILWAY & SHIPPING WORLD reaches:

Every official of every steam railway in Canada, in the executive, purchasing, operating, transportation, mechanical, freight, passenger, engineering, financial, accounting & legal departments.

Every official of every electric railway in Canada.

Every manager of a steamboat line in Canada, & every manager or owner of every steamboat carrying passengers & freight for hire in Canadian waters.

Every official of every express, telegraph & telephone company in Canada.

Hitherto manufacturers & other advertisers have been unable to reach the above mentioned purchasers by using any one publication. It does not pay Canadian advertisers to use United States transportation periodicals, as no single one of them has a general circulation throughout Canada, the comparatively limited number of their subscribers in Canada being divided up among a score or more of them. On the other hand United States advertisers wishing to reach Canadian purchasers are unable to do so through any single publication on their side of the line, & even if they advertise in all the U. S. transportation papers, it must be borne in mind that these papers are taken by a very limited number in Canada.

THE RAILWAY & SHIPPING WORLD simply presents these facts for the consideration of advertisers, to whom its publishers will be happy to quote rates on application.

PRESSURE ON SPACE.

Instead of having a dearth of matter for publication, THE RAILWAY & SHIPPING WORLD finds itself in the position of having far more than can be accommodated within the limits which have been fixed on for the present. So much space has necessarily had to be devoted to the Canadian Yukon Railway, the Victoria Jubilee Bridge, the ocean & river navigation to the Yukon, & the C.P.R. annual report, that a considerable amount of matter relating to other railways has had to be held over, & it has been found impossible to give any space to the electric railway, express & telephone interests in this issue. These departments will be commenced in the next issue, & will form important & regular features of the publication.

The Council of the Quebec Board of Trade has adopted a resolution calling on the Dominion Government, in case it removes the western terminus of the Intercolonial R'y to Montreal, to give such aid as will ensure the construction of the Quebec bridge, & also to establish the workshops of the Intercolonial at Quebec.

The Minister of Railways and Canals.

Considering the magnitude of modern railway enterprise & the growing importance of transportation as a subject of pre-eminent interest to the public, there could scarcely be a more responsible position in any cabinet than that held by the minister of railways & canals. This is especially true of Canada, with her vast areas, destined to support an empire, & as the country becomes more thickly populated, the solution of the problem of adequate transportation will tax the ablest minds. Naturally, the Dominion Minister of Railways & Canals, the Hon. A. G. Blair, presiding over one of the most important departments of public affairs, occupies a large place in the minds of all Canadians.

Of Scotch descent, the Hon. Andrew George Blair was born in Fredericton, N.B., March 7, 1844. He was educated at the Collegiate School of that place, & entering the profession of law, was called to the bar in 1866. In October of the same year he married Annie, eldest daughter of George Thompson, of the Educational Department, Fredericton.

For twelve years he practised his profession most successfully, gaining a reputation for ability & integrity. His political career began in 1878, when he was Liberal candidate in the County of York, N.B. He was victorious in this contest, but, on a petition being filed against his return, he resigned, again contested the constituency & was elected. His ability was quickly recognized in the House of Assembly, & in 1879 he was chosen leader of the Provincial Opposition, a little body consisting of only six members in a House of 41. By 1882 he had 17 followers, & in March, 1883, he defeated the Harrington Ministry & was called to form a cabinet. In the ministry he occupied the office of Attorney-General. The public verdict remained in his favor during the successive contests of 1886 & 1890; but in 1892 he was defeated for York & elected for Queen's, on the resignation of the member-elect, Mr. Hetherington. For 13 years he was Premier of New Brunswick; & in 1896 resigned the premiership & his seat in the House of Assembly to enter a wider field. When promotion from the Provincial to the Federal arena called him to Ottawa, it was the unanimous opinion of his party that the right man had been called from New Brunswick. In July, 1896, he was sworn in as member of the Privy Council, and appointed Minister of Railways & Canals in the Cabinet of Sir Wilfrid Laurier. He was elected for a seat in the Commons on Aug. 25, 1896. Already his department has been called on to deal with two of the most important transportation questions that have arisen within the last decade, the opening of the Kootenay districts of B.C. by the construction of the Crow's Nest Pass Railway, & the connection of the Yukon gold fields by means of an all-Canadian route; & the whole Dominion has watched with intense interest the Government's railway policy regarding the two western gold fields.

Mr. Price, Private Secretary to General Superintendent McGuigan, of the G.T.R., has been appointed chief clerk in the office of M. C. Sturtevant, Car Service Agent at Montreal.

Carlos Warfield, Private Secretary to F. A. Heinze, has, according to the Anaconda, Montana, Standard, been romancing about the price paid by the C.P.R. for the Columbia & Western Ry., claiming that Mr. Heinze got what he first asked, \$1,250,000, & retained important holdings in the district. As a matter of fact the C.P.R. never entertained any idea of paying that figure. The purchase price for the railway from Robson to Rossland, 33 miles, for the smelting works at Trail Creek, & half the C. & W. Co.'s land grant, about 270,000 acres, was \$800,000.

THE CROW'S NEST.

Progress on the C. P. R. Line to the Kootenay.

The line is now located from the eastern terminus at Lethbridge, Alberta, to the crossing of the Kootenay River at the upper end of Kootenay Lake, a distance of, say, 287 miles, & preliminary surveys have been made to Nelson, B.C.

For the first 80 miles the line passes over what is called a prairie country, but very heavy grading is encountered, as well as the heaviest bridge work on the line. This is owing to the necessity of crossing St. Mary's River, Belly River, Pincher Creek & South Fork Old Man River, & the many coulees met with in order to reach these crossings. Following is a list of the principal structures on the 1st 80 miles:

Mileage.	Total Length.	Maximum Height.	Truss Spans.
3.2	405 feet	110 feet	
7	420 "	105 "	
7.1	390 "	98 "	
7.8	450 "	75 "	
8.0	660 "	65 "	
8.3	490 "	130 "	1X150 D.H.T.
8.5	400 "	95 "	1X100 D.H.T.
8.8	400 "	90 "	
9	500 "	75 "	
9.6	200 "	90 "	1X150 D.H.T.
10	300 "	55 "	1X100 D.H.T.
10.3	400 "	55 "	
10.6 St. Mary's River	2750 "	65 "	2X150 D.H.T.
12.2	660 "	120 "	1X150 D.H.T.
14.4	450 "	75 "	
14.7	500 "	135 "	1X100 D.H.T.
15	300 "	50 "	
16	630 "	130 "	1X100 D.H.T.
26.5 Belly River	495 "	30 "	
58.3 Pincher Creek	710 "	110 "	1X150 D.H.T.
69	240 "	60 "	
67.1	375 "	70 "	
70 S. Fk Old Man Riv.	935 "	135 "	2X150 D.H.T.
79.3 M. "	190 "	20 "	1X150 T.H.T.

From mileage 80 to 105.8, where the line reaches the summit of the Rocky Mountains, the work is heavy, with a considerable amount of rock excavation. From the summit westward for 16 miles the work is also heavy, & involves the use of 2 tunnels & some 6 bridges from 60 to 200 ft. each in length.

The next 37 miles, following down the valley of the Elk River to the crossing of that stream, consists of earth & rock work with very heavy clearing & 2 bridges of 100 ft. span each. Elk River is crossed by 3 spans of 150 ft. each, & from there to the crossing of the East Kootenay River at Wardner, about 23½ miles, the earth work is heavy, & there are 3 bridges of, say, 80 ft. span each. It is proposed to cross the Kootenay River near Wardner by 3 spans of 150 ft. each, 1 span of 130 ft., & a swing span with a clear opening of 60 ft. From Wardner to Cranbrook, 23½ miles, the line passes through a park-like country, with the exception of about 5 miles through what is known as Isidore Canyon, where there is a considerable amount of rock excavation. From Cranbrook to the head of Moyie Lake, 12.7 miles, the earth work is moderately heavy. The line follows the east shore of Moyie Lake for about 8 miles, & the work is heavy, being almost entirely rock, with 1 tunnel of 500 ft. in length.

After crossing the Moyie River, 1 mile below the lake, the line follows the west side of the valley 21 miles, then turning to the westward & following up the valley of a small stream for 3 miles it reaches the summit between the Moyie & Goat River waters, in doing which the work is heavy. From this summit to the head of Kootenay Lake, 35 miles, the work is heavy, with a considerable amount of rock excavation & trestle bridging.

The maximum grade used in either direction is 1 ft. per 100 or 52.8 ft. per mile, & the sharpest curvature 12 degrees 47.8 ft. radius, but curves as sharp as this have only been used in a few places & compensation for same allowed.

The grading was commenced July 14 last, & has been completed from Lethbridge to the summit, & the bridging well advanced, track

being laid on 63 miles. The grading westward from the summit is now being proceeded with rapidly, & the entire work is covered by contractors.

Station buildings & water tanks are being erected at average distances of about 18 miles. These vary in design according to the requirements of the locality. The track is being laid with 60 lbs. steel, though 72 lb. rails will be used on a large portion of the B.C. section.

A very large proportion of the line from the summit of the Rocky Mountains westward passes through a densely wooded country, on a portion of which fire has destroyed a large amount of what would now have been valuable timber, but there are still considerable tracts of land on or in the vicinity of the line where excellent fir, spruce, larch & cedar, can be procured. Valuable coal deposits are found close to the line in many places for 35 miles on either side of the summit, & rich veins of galena and silver are being opened up in the vicinity of Moyie Lake. The country passed through in Alberta is an excellent grazing one, & ranching on both large & small scales has been successfully carried on for a number of years. There are also considerable tracts where land suitable for mixed farming can be met with, especially in the vicinity of Pincher Creek & in the valleys of the Old Man & Belly Rivers & their tributaries, and these could be greatly increased by irrigation. West of the summit considerable tracts of land suitable for either grazing or farming are met with in the valleys of the Elk, Kootenay, Moyie & Goat Rivers; & between the Elk & Moyie Rivers the country passed through, consisting of bench lands with glades of timber & occasional sloughs, is especially suitable for stock raising.

The Manager of Construction for the C. P. R. Co. is M. J. Haney, of Toronto, whose headquarters are at Macleod. The Chief Engineer is Hugh D. Lumsden, C.E., of Toronto, by whom the foregoing particulars have been prepared. The following facts gleaned from other sources may be added:

The line has been ballasted as far as Pincher Creek, & is in splendid condition for traffic. West of the summit of the Rockies between 40 & 50 contractors, & between 3,000 and 4,000 men, are at work, & Mr. Haney expresses confidence that the line will be completed as far as the coal mines in May & to Kootenay Lake by October next. This will give the company a 60-mile stretch of deep water to Nelson, but the location of this last section of road is now being revised, & the work will be carried forward with as much energy as the eastern sections.

Two seams of coal are being opened, each about 6 feet thick, on the north & south sides of Coal Creek. By the time the railway reaches the mines, probably 8,000 or 10,000 tons of coal will have been mined & awaiting shipment. The capacity of the mines from then on will be from 500 to 1,000 tons a day.

A correspondent of the Calgary Herald who recently went over the route, contributes the following: From Goat River Landing, on Kootenay Lake, the present western terminus of the Crow's Nest branch, to Macleod, the eastern terminus, is one crowded panoramic scene of busy men, horses & machinery, engaged in pushing forward construction. At Macleod are situated the headquarters from where all operations are directed. At this point between 300 & 400 men are continually at work—in the offices, stores, yards, machine shops, saw mill, & constructing new buildings. At least one construction train a day leaves Macleod for the end of the steel. A siding is constructed here, where mountains of hay & foothills of oats, & great warehouses of provisions and clothing for the thousands of men & teams employed are stored until they are freighted to the different camps. By the assistance of powerful headlights, night shifts work on the bridges as well as day shifts,

and the timbers are sent from the mill numbered & ready to be put into position, so that 125 men with the assistance of chutes, hoists & other modern machinery can handle 150,000 ft. of bridge timber every 24 hours.

The system of freighting is worthy of mention. To get the supplies into the various camps is a large undertaking, as from 3,000 to 4,000 men & the enormous number of horses consume an immense quantity of provisions. For freighting purposes the distance has been divided into 2 divisions, with Wardner as the centre point. The western division is supplied from headquarters on Goat River, & the eastern division from the Macleod headquarters. Porter Bros. have the contract for freighting from the west, & Strevel & Buchanan from the east. There are over 200 teams engaged in freighting & the demand is not supplied. This number will need to be doubled, as most of the supplies for the spring & summer must be freighted in before the road breaks up. To facilitate freighting operations the company has erected large warehouses at 40 mile distances from the end of the steel to Goat River Landing, which will be filled with supplies, & the different contractors can obtain what they want from these distributing points.

Several towns are springing up along the line, principal among which are the temporary western terminus where connection will be made with Nelson & West Kootenay by steam boat; Moyie City, which is situated on Moyie Lake, & near which is the St. Eugene mine, & several other valuable & promising mining properties; Cranbrook, the market for 25,000 acres of farming land & a C.P.R. divisional point; Wardner, the present centre of activities, & Coal Creek, which is situated in the centre of the coal mining district.

There is great variety of climate in the 287 miles distance. At the western terminus & for about 12 miles east there was no snow & very little frost, but a good deal of wet weather. From the snow line east until the summit was reached there was snow enough for sleighing & the weather was calm & cold, but not severe. When the summit was left behind the atmosphere was noticed to be disturbed with a gradually increasing wind until Crow's Nest Lake was reached, when the wind became almost a hurricane. The mercury dropped as suddenly as the wind rose. This windy weather continued until Macleod was reached.

The route of the Crow's Nest Branch is shown on the C.P.R. map opposite the last page of this issue.

A telegram from Wardner, B.C. announced the arrival there on Feb. 23 of the commissioners appointed by the Dominion Government to enquire into the alleged grievances of men employed on the Crow's Nest Pass branch construction. The general grievances appeared to be cost of transportation from eastern points, owing to alleged misrepresentation of employment agents, insufficient medical attendance, & the low rate of wages. Not a single complaint was made by any of the men in Egan & Co.'s camps, & many of the grievances from other parts of the line were, on investigation, found to be groundless.

The Westinghouse Air Brake.

One of the most important manufacturing industries which has gone into operation during the past year in the Dominion, is that of the Westinghouse Manufacturing Co., Limited, which has established itself permanently in Hamilton, Ont. This company has the sole & absolute control of all the privileges connected with the manufacturing & sale of the Westinghouse Air Brake in Canada.

The fact that strenuous efforts are being made by both the governments of Canada & the United States to compel railway companies to apply proper safety appliances &

...this, such as have been demonstrated to be of sufficient use, dress & merit, in the production of the & primary, to all rolling stock, including locomotives, passenger cars, & freight cars, makes the fact of the Westinghouse works having been established here of great & special importance to the railway companies of the Dominion. From the fact of the Westinghouse Air Brake having become a recognized standard, not only of the American continent, but of the world, and that it has already been applied to more than 550,000 freight cars in Canada & the United States, in addition to all the passenger cars & the majority of the locomotives, it becomes almost imperative that the same system must be generally adopted in this country, as the successful operation & maintenance of an apparatus of this character can only be secured by having it absolutely uniform & interchangeable. It is an undoubted fact that the reason why the railways of the Dominion have been somewhat tardy in regard to the general adoption & application of air brakes to their rolling stock, has resulted from the other fact that the apparatus was not manufactured in Canada, & that to import it meant to them, on account of the customs duty on this class of material, an increase in cost over that paid by the railways in the United States of 30 per cent., or practically \$12 a car. This obstacle has been entirely removed by the Westinghouse Co. establishing its works in Canada, & in addition to this, the Co. is furnishing employment to a large number of Canadian artisans.

The original Westinghouse Air Brake Co. was organized in Pennsylvania in 1869, & its early patents contained all the elements of novelty & real merit, of what is now known as a science, & which enabled it to secure the patents which then formed, & which are

now, in some modified form, better adapted to present requirements, & contain all the elements that go to make up a satisfactory & efficient air brake apparatus.

The development of the air brake business has been most carefully pursued, & additions & improvements have been made from time to time, until it would almost appear as though the acme of perfection had now been arrived at, & that we have to-day, in the Westinghouse Air Brake, one of the best & most important mechanical safety devices of the age.

The air brake business is not by any means confined to America, but has extended to England, France & Germany, in each of which countries there have been established for some years large works for its production, the markets of China, Japan, Russia & South America, being supplied with the apparatus by the home company in Pittsburg, Pa.

Occasionally is seen here and there some paragraph emanating from persons badly informed upon the subject, that the Westinghouse Co. is more or less of a monopoly. Assertions of this kind, however, cannot be well sustained, from the fact that whenever the question to its title to the rights which it now enjoys has been presented before the courts in any matter of litigation, the Company has invariably been sustained; & in addition to this it might be well to note that, without in any way being coerced by competition, it has constantly, on account of its improved methods & special machinery, been enabled to reduce the price of the apparatus to about one-half of that which it originally cost the railroad companies. Every care is being exercised by the Company to maintain & care for the general efficiency of the apparatus, & it annually spends large sums of money for the instruction of trainmen in the proper care & manipulation of the brake apparatus, & by

furnishing inspectors at its own expense, the services of whom are, at all times, at the disposal of any railway company, for such purposes as they may be required.

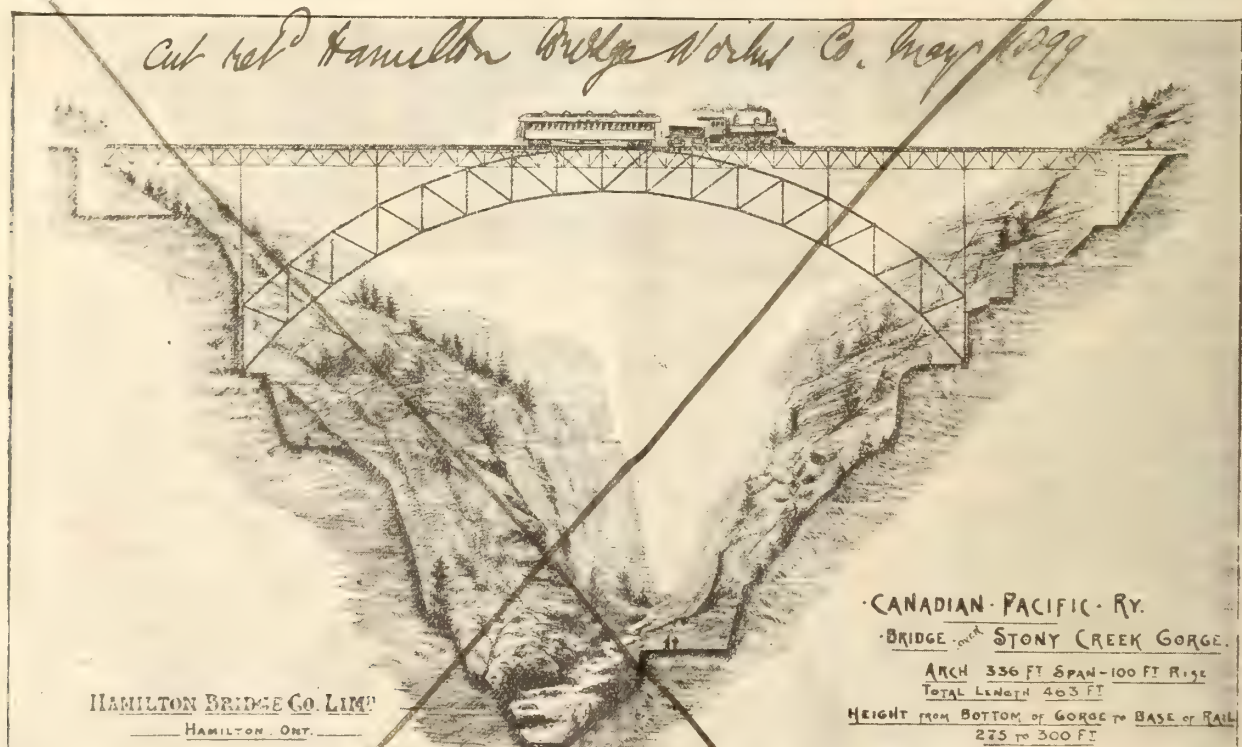
The more important business of the air brake companies at present is, & for some time in the future will be, the equipping of freight cars. Recent statistics show that some 550,000 cars have been equipped in Canada & the United States, which is probably about 35 or 40 per cent. of all the available cars at present in use in North America.

The increased weight of the modern locomotive & car has made it absolutely necessary that a power brake should be used to control them, & the fact of their being so controlled practically increases the capacity of the railways which have their rolling stock so equipped. It is well known that the old time schedule for freight trains was from 15 to 20 miles an hour, whereas, at the present day, it is not at all unusual to run heavy through freight trains on comparatively passenger schedule. This fact can only be attributed to the other fact, that these through trains are air-braked throughout, thus placing their control entirely in the hands of the engineer, & the entire handling of the train is similar in every respect to that of the ordinary passenger train equipped in the same way, with which most readers are quite familiar.

The capacity of the Hamilton works is quite equal to all the requirements of the railways in the Dominion, & they are kept actively engaged by the trunk lines, including the Grand Trunk, Intercolonial & Canadian Pacific, in the manufacture of freight brakes, & other apparatus of a similar character; it being the intention of these companies to have their entire rolling stock equipped as fast as possible.

The Hamilton Works, as a manufactory, is quite a model machine shop. The machinery,

The HAMILTON BRIDGE WORKS CO., Limited, * Hamilton, Canada.



STEEL BRIDGES FOR RAILWAYS AND HIGHWAYS.

Steel Structural Work, Steel Piers and Trestles, Steel Water Towers and Tanks, Steel Turntables, Roofs, Buoys, Caissons, Steel Beams, Channels, Angles and Plates, always on hand.

Estimates Furnished on Application.....

Every Facility for the Construction and Launching of Steel and Iron Ships.

which is most modern, & in the majority of cases of special design, is well arranged, & the buildings, which are well lighted, & cleanly in every respect, have been adapted in every particular to the requirements of the Company, not only with a view to facilitating its own interest, but also with due regard for the comfort & health of its employes. The works are situated in the eastern part of the city, & in close touch with the Grand Trunk, Canadian Pacific, & Michigan Central railways.

Efforts are being made to establish, in various parts of the Dominion, works for the manufacture of automatic couplers for freight trains. This is another safety appliance which has received the attention of the governments of the several countries as being of absolute necessity, more especially in the protection which they afford to men who handle cars in the capacity of brakemen. Several large companies are engaged in the manufacture of this material in the United States, & the product of each of these manufacturers has some special features which recommend them to the railway companies. Much time has been given to the subject of couplers by the master car builders of Canada & the United States, with a view to having the different makes of couplers sufficiently uniform in such particulars as to allow of more or less the necessary character of interchangeability; & certain rules have been established by these parties to which all couplers must conform, the most important of which is known as the vertical plane principle, & standards have been adopted which control the height of the coupler from the rail, & other detail connected with its application.

The recent act of the United States Congress in regard to the application of safety devices to all rolling stock, the limit of which would have expired in January, 1898, has been extended for two years; but there is little doubt that the railway corporations having become convinced of the importance of this subject, without any regard for the extension of time, will continue to use their best efforts to have their rolling stock equipped with these appliances at as early a date as their finances, & the facility for handling their cars for this purpose, will allow.

The Wabash in Canada.

Over a year ago arrangements were made between the Grand Trunk & Wabash Ry. Co.'s by which the latter used the former's tracks for passenger service between Windsor & Niagara Falls, by way of Glencoe Jct., Komoka, London, Woodstock, Paris, Hamilton & St. Catharines. Under a new arrangement which went into effect Mar. 1, the Wabash has secured facilities for a passenger & freight service from Windsor to Buffalo & Suspension Bridge, as explained in the following circular issued Feb. 23, signed by General Manager Hays, of the G.T., & Vice-President & General Manager Ramsey, of the Wabash:

"TO ALL OFFICERS, AGENTS & EMPLOYEES OF SOUTHERN DIVISION: The G.T.R. having leased the Wabash Ry. Co. trackage rights over that portion of the G.T. extending from Windsor, Ont., to Black Rock Station (Buffalo), N.Y., via Glencoe Jct., St. Thomas, Welland Jct. & Ft. Erie, also from Welland Jct., via Allanburg Jct., to Suspension Bridge, N.Y., that line will hereafter be used jointly by the two companies, & will be designated as the SOUTHERN DIVISION. Effective Mar. 1, 1898, G. C. Jones is appointed Joint Superintendent of the Southern Division, with headquarters at St. Thomas, Ont. He will have the appointment of, & full control over, all subordinate officers, agents and employes of the Southern Division, & of the operation, maintenance & care of the joint section, & will have control of all trainmen, engine-men & other employes of both the G.T. & the

Wabash, while engaged in the handling of trains, cars, or engines thereon. Officers, agents & employes of the Southern Division will be governed by the rules & regulations prescribed by the G.T. for the guidance & conduct of its own employes, & such other special rules as may from time to time be issued by the Joint Superintendent. The Joint Superintendent, operators, dispatchers, agents & all others employed upon the repairs & maintenance, & in the operation of the Southern Division, are in the joint employ of the G.T. & Wabash Co.'s, & shall render to each Co. such services as they may be called upon to render within the scope of their position or employment, & shall be subject to dismissal if they decline, neglect or refuse to render such assistance or service to either Co. as such employes are usually called upon to render."

The freight traffic under the new arrangement has already commenced, but the Wabash passenger trains are still running via London & Hamilton, & probably will for two or three months, until the track east of Glencoe Jct. is improved so as to fit it for fast service.

The expense of maintenance & operation of the Southern Division will be borne jointly by the 2 roads, each of which will use it on an independent basis, in so far as the securing of business is concerned. Each will have its freight & passenger agents in the field, as though they were rival roads side by side. The usual amount will be paid by the Wabash road for the use of the tracks, based on the number of cars hauled & the amount of traffic carried. Stories that earnings are to be pooled by the 2 roads are denied by Messrs. Hays & Ramsey.

The Wabash also has the right to use the Erie belt line from the International Bridge at Fort Erie, around the city to the local freight houses, yards & tracks of the Wabash in Buffalo. The Wabash also has full rights in the use of this property equally with the Grand Trunk, & with the Erie from Suspension Bridge to Buffalo. It can take passenger, freight, mail or express traffic, local or through. Interchanges with G.T. lines are to be made at Black Rock, Suspension Bridge & Buffalo instead of at Detroit. Canada transit freight will be in bond. The Wabash has an equal & joint right with the G.T. in the use of the 2 ferry transfer boats between Windsor & Detroit.

By this arrangement the Wabash parallels the Michigan Central from Windsor to Buffalo & Suspension Bridge. Its mileage is 226.6 miles from Detroit to Suspension Bridge, as against 227.4 via Michigan Central, & 230 via the G.T., by way of London & Hamilton. From Chicago to Buffalo it has a much shorter line than either the Michigan Central or the Lake Shore, the mileage of the direct lines being as follows: Wabash, via Fort Erie, 512; Michigan Central, via Fort Erie, 520; Nickel Plate, 523; Wabash, via Niagara Falls & Suspension Bridge, 523; Michigan Central, via Suspension Bridge & Niagara Falls, 535; Lake Shore, 540; Grand Trunk, via Suspension Bridge, 541. From St. Louis to Buffalo the Wabash mileage, via Fort Erie, is 722; Wabash via Toledo & Lake Shore, 722; Big Four 731. The Wabash short line from Kansas City, via Hannibal & Decatur, to Buffalo is 949 miles, while the shortest line from Kansas City, via Chicago, is 981, & the shortest line, via St. Louis & the Big Four, is 1,008.

A prominent railway man in Detroit, speaking of the deal, said: "It is certainly a profitable one for the G.T., which has 3 lines between Detroit & the Niagara River, & it certainly cannot make them all pay. Mr. Hays plan to induce the Wabash to take one was wise, & if he can dispose of the other in a similar manner he will do a great thing for his road. It is all right for the Wabash, too, for it can now get the long-looked-for outlet from the West & at the same time greatly assist the G.T. by turning freight over to it."

An official of the Wabash, said in an interview: "There will be a great change in the passenger arrangements between Chicago & Buffalo before long. The branch from Glencoe east has not been used very much lately, but it will now be greatly improved, & miles of the old track will be replaced with 80-lb. rails. After the road is fully repaired there will be an opportunity for good time between Chicago & Buffalo, and even New York. Our line will be the shortest from Chicago to Buffalo, & as the Erie road is making better time than the Empire State Express, between New York & Buffalo, it will be possible to make a connection with that road that will clip a slice from the time now made between New York, Buffalo, Detroit & Chicago."

Mr. Jones, who up to the date of his appointment as above, was Asst. Supt. of the Middle Division of the G. T. at London, is a former Wabash man. He took with him from London Chief Dispatcher Wm. Armstrong to be Chief Dispatcher of the new division, also dispatchers A. B. Munson, G. Clarke & F. Arnum. S. S. Russell, Secretary to Superintendent Fitzhugh, of the Middle Division, has gone as Mr. Jones' chief clerk. H. Ferguson, General Roadmaster of the Middle Division at London, & who also acts as General Roadmaster of the Southern Division, has appointed R. Bagnall Roadmaster between Windsor & St. Thomas, with office at Chatham; & W. G. Smith, Roadmaster between St. Thomas & Niagara Falls, & Welland Jct. & Black Rock, with office at St. Thomas.

G. R. Layher is appointed Local Freight Agent of the Wabash at Buffalo. He was formerly connected with that line at St. Louis, & for the past year has been agent for the G.T.R. at Buffalo & Black Rock.

T. J. Costello is appointed Trainmaster of the Wabash's Buffalo Division, office at Buffalo.

It is said the Rome, Watertown & Ogdensburg, Ontario Despatch, Lehigh & Wabash & Hoosac Tunnel freight lines will operate with the Wabash over the Southern Division. The Wabash will now send over the G.T. all freight that was hitherto turned over to the Nickel Plate, Lake Shore, B. & O. & M.C.R. Ten Wabash engines & 9 cabooses with the necessary tools were brought from Detroit to Windsor on Feb. 26, for the new line; the duty on them amounted to nearly \$13,000.

The G.T.R. has been ferrying an average of 250 cars a day between Detroit & Windsor, & it is expected the 2 ferry boats will now have to carry as many or more for the Wabash.

Under the will of the late D. A. Stewart, C.E., engineer of the C.P.R. Western Division, the Winnipeg Free Kindergarten gets a bequest of \$100.

C. B. Cumpston, chief train dispatcher at Fort William, Ont., has been appointed assistant to C.P.R. Superintendent Niblock, of Medicine Hat, Assa. Mr. Cumpston is stationed at Calgary.

J. B. Lambkin, the newly-appointed passenger agent in Montreal (on the International R'y.), was the hero of an interesting incident during the Fenian raid. He was then a trumpeter in the Ottawa Field Battery, & when the Battery was ordered to Prescott on active service he was considered too small to ride a horse, & was consequently under orders to stop at home. With this state of things, however, he was far from content, & smuggling his uniform out of the house, he dressed himself in the old St. Lawrence Ottawa Railway Station, afterwards stowing himself away in a freight car & was this way taken to Prescott, where he joined the Battery. Whilst a member of Princess Louise Dragoon's (180th Regt.), Mr. Lambkin was a herald to H.R.H. Princess Louise.

TRAFFIC & FINANCE.

C.P.R. Earnings & Expenses.

For 1897, 1898.

	1897.	1898.	Increase.
7th to 14th...	\$3,000	\$3,000	\$0
14th to 21st...	52,000	52,000	0
21st to 28th...	70,000	70,000	0
Total	\$127,000	\$127,000	\$0

The earnings for the 1898 earnings were:

C.P.R. Land Sales.

The great improvement in Manitoba & the Northwest Territories is emphatically shown by the following figures:

	Acres.	Amount.	1897.	1898.
Jan.	22,044	9,943	87,000	\$14,872
Feb.	1,000	1,000	25,000	27,873

Grand Trunk Finances.

The Grand Trunk statement for the half-year ended Dec. 31, 1897, shows net earnings of \$3,936,600. The surplus, after payment of all fixed charges is \$1,336,500. This makes the total surplus for the year \$1,349,622. The deficiency of \$1,301,022, which was accumulated in the years preceding 1897, is thus cleared off, and about \$50,000 remains to the good. This is rather better than was looked for.

The Canadian Gazette, London, Eng., says: The directors of the G.T.R. have issued a statement much more favorable than any put before the shareholders since 1893. In 1894, 1895 and 1896 there was a debit to revenue after providing for debenture interest, & at the end of 1896 it had got to £267,000. But so successful was 1897 that the whole of this adverse balance has been cleared off, & there is £10,200 to be carried forward. The guaranteed stock amounts to £5,219,000, & ranks for 4%, so that but for the debit to revenue brought forward the full rate could have been paid, & as much left over as equals about 2% on the 1st preference.

The earnings for January & February were:

	1897.	1898.	Increase.
Jan.	\$1,916,332	\$1,639,614	\$276,718
Feb.	272,410	272,410	0
Total	\$2,188,742	\$1,912,024	\$276,718

The net earnings of the Quebec Central Ry. for '97 were \$159,995, as against \$128,311 for '96.

The Yukon & Stickeen River Trading & Transportation Co., Ltd., was registered in England, Feb. 8, with a capital of £50,000 in £1 shares.

The net earnings of the Minneapolis, St. Paul & Sault Ste. Marie Ry. for the 11 months to the end of Nov., '97, were \$1,565,329, as against \$1,397,098 for the corresponding period of '96.

The accounts of the Buffalo & Lake Huron Ry. Co. for the half-year ended December 31, show a disposable balance, after providing for interest on the bonded debt, of £14,210, which admits of the payment of a dividend of 5s. 3d. a share, leaving £425 undivided. This line is leased in perpetuity to the Grand Trunk for a rental of £70,000 a year. The annual dividends for the past 31 years have been the same, 5s. 3d. a share. The £10 shares are quoted at 13½ to 14, & the 1st. & 2nd. mortgage 5½ per cent. bonds, both of which are irredeemable, at 142 to 145.

OFFICIAL RAILWAY CIRCULARS.

Canada Atlantic.

CANADA ATLANTIC TRANSIT CO., Operated by C.A.R. Co. OTTAWA, Jan. 15., Geo. J. Harris is appointed General Western Agent of these Companies, with office in Chicago, Ill., Wheeler Building, No. 6 Sherman Street, Room 35. C. J. Smith, General Freight Agent; Approved, E. J. Chamberlin, General Manager.

CANADA ATLANTIC TRANSIT CO., Operated by C.A.R. Co. OTTAWA, Jan. 25. The following appointments take effect Feb. 1; Jas. Ritchie, General Eastern Agent; C. H. Hurlburt, New England Travelling Agent; D. A. Kimball, Contracting Agent; with office at 196 Washington Street, Boston, Mass. C. J. Smith, General Freight Agent; Approved, E. J. Chamberlin, General Manager.

CANADA ATLANTIC FAST FREIGHT LINE, OTTAWA, Jan. 25. Jas. Ritchie is appointed General Eastern Agent, effective Feb. 1, vice Royal Whiton, resigned. Commencing at once, all traffic in bond for export via Boston should be consigned in care of Mr. Ritchie, 196 Washington Street, Boston, Mass., to whom all communications respecting export traffic, also copies of way-bills & through bills of lading should be addressed. G.T.R. circular 817, of Sep. 16, 1895, & C. A. F. F. Line east bound billing list No. L. 1 should be amended accordingly. C. J. Smith, Line Manager.

Canadian Government.

MONTREAL, Jan. 22. The jurisdiction of the General Freight & General Passenger Agents of the Intercolonial R'y is extended over the Prince Edward Island R'y. Effective Feb. 1. A. H. Harris, General Traffic Manager.

MONTREAL, Jan. 22. J. Campbell is appointed Car Accountant of the System, with headquarters at Moncton, N.B. Effective Feb. 1. A. H. Harris, General Traffic Manager.

MONCTON, N.B., Jan. 22. Jas. B. Lambkin is appointed District Passenger Agent, with headquarters at Montreal, in charge of all passenger matters West of Dalhousie, N.B., in-

clusive. H. A. Price is appointed District Passenger Agent, with headquarters at 132 Hollis Street, Halifax, N.S., in charge of all passenger matters East of Dalhousie, N.B. Effective Feb. 1. Jno. M. Lyons, Gen. Pass. & Ticket Agent. Approved: A. H. Harris, General Traffic Manager.

MONCTON, N.B., Jan. 22. A. W. Morrison is appointed General Baggage Agent of the System, with headquarters at Moncton, N.B. Effective Feb. 1. Jno. M. Lyons, Gen. Pass. & Ticket Agent. Approved: A. H. Harris, General Traffic Manager.

MONCTON, N.B., Jan. 22. Jas. Hardwell is appointed Division Freight Agent, with headquarters at Board of Trade Building, Montreal, in charge of freight matters in connection with the System West of & including Dalhousie, N.B. He will also act as Foreign Freight Agent. Wm. Robinson is appointed Division Freight Agent, with headquarters at St. John,

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N.B. in charge of the System St. John to Moncton inclusive, & North of Moncton to & including Eel River, N.B., also Point du Chene Branch & the Prince Edward Island Ry. Agents East of Moncton will continue to report direct to, & receive their instructions from, this office as heretofore. Effective Feb. 1. J. J. Wallace, General Freight Agent. Approved: A. H. Harris, General Traffic Manager.

MONCTON, N.B., Jan. 22. Owen Cameron is appointed Freight Claim Agent of the System, with headquarters at Moncton, N.B. All communications as to claims for loss, damage, overcharges, etc., should be addressed to him. Effective Feb. 1. J. J. Wallace, General Freight Agent. Approved: A. H. Harris, General Traffic Manager.

MONCTON, N.B., Jan. 22. H. H. Schaeffer is appointed Weighing Inspector, and J. F. Nelles, Assistant Weighing Inspector, with headquarters at Moncton, N.B. Effective Feb. 1. J. J. Wallace, General Freight Agent. Approved: A. H. Harris, General Traffic Manager.

Grand Trunk.

WESTERN DIVISION, DETROIT, MICH., Jan. 17. The following changes take effect this date: A. R. McIntyre, Asst. Superintendent in charge of train, car & telegraph service on all districts; office, Battle Creek. F. L. Corwin is appointed Trainmaster 27th, 28th and 29th districts, including also C. S. & M. portion of 25th district; office, Detroit. V. A. Cooper has been assigned to other duties. A. B. Atwater, Supt.; Approved, F. H. McGuigan, Genl. Supt.

MONTREAL, Feb. 15. Marshall C. Sturtevant is appointed Car Service Agent, headquarters at Montreal, with full charge of distribution & use of all passenger & freight car equipment of this System, & of foreign cars upon this Co.'s lines, including the prompt loading, unloading & forwarding of cars, giving special attention to movement of manifest or time freight, & trains carrying the same. He will also order all foreign cars required, & officers of other roads are requested to communicate with him when in want of G. T. System equipment. Division officers will comply with his instructions relative to movement & distribution of cars, & movement of time freight. All reports relative to car mileage & accounts will be sent, as heretofore, to W. H. Rosevear, General Car Accountant, Montreal. Effective Feb. 15. F. H. McGuigan, Gen'l Supt.; Approved, Chas. M. Hays, Gen'l Manager.

TO ALL CONNECTIONS. MONTREAL, Feb. 23. The G.T.R. having leased to the Wabash Ry. Co. for a long term of years the joint use of that portion of its railway between Windsor, Ont., and Black Rock station (Buffalo), N.Y., via Glencoe, St. Thomas, Welland Jct. and Fort Erie, also between Welland Jct. (via Allanburg Jct.) & Suspension Bridge, N.Y., the Wabash Co. will, on & after March 1, be entitled to the revenues accruing in connection with the operation of its own trains over the joint section specified—which will thereafter be known as the "Southern Division" of the G.T.R. All communications in connection with the business of the Wabash Ry., over the line referred to, should be addressed direct to the officers of that Co. at St. Louis, Mo. The above arrangements will make no change in the relations now existing between the G.T.R. and its connections, except as they may be hereafter advised. Chas. M. Hays, Genl. Mgr.

MIDDLE DIVISION, TORONTO, Feb. 28. The following changes and appointments are effective Mar. 1:

L. J. Ferritor, Asst. Supt., vice G. C. Jones, promoted. Office, London.

C. S. Cunningham, Trainmaster. Toronto to Hamilton; Burlington Jct. to Hamilton; Niagara Falls to Sarnia Tunnel; Komoka to Kingscourt Jct. via Glencoe; Welland Branch; Harrisburg to Tilsonburg Jct.; Petrolia Branch; & Middle Division crews running over joint track—Southern Division. Office, London.

A. S. Begg, Trainmaster. Toronto to Sarnia Tunnel via Stratford; Galt & Elmira Branches; London & St. Mary's Branch; Buffalo to Goderich; Hamilton to Port Dover; Port Dover to Tavistock Jct.; Port Rowan Branch. Office, Stratford.

H. E. Whittenberger, Trainmaster. Harrisburg to Southampton; Harriston to Owen Sound; Parkhead Jct. to Wiarton; Stratford to Palmerston; Listowel to Kincardine; Palmerston to Durham; Hyde Park to Wingham Jct. Office, Stratford.

J. A. McLardy, Chief Train Despatcher. Toronto to Hamilton; Burlington Jct. to Hamilton; Niagara Falls to Sarnia Tunnel; Komoka to Kingscourt Jct. via Glencoe; Welland Branch; Harrisburg to Tilsonburg Jct.; Petrolia Branch. Office, London.

Joseph Baxter, Chief Train Despatcher. Toronto to Sarnia Tunnel via Stratford; Galt & Elmira Branches; London & St. Mary's Branch; Buffalo to Goderich; Hamilton to Port Dover; Port Dover to Tavistock Jct.; Port Rowan Branch; Harrisburg to Southampton; Harriston to Owen Sound; Parkhead Jct. to Wiarton; Stratford to Palmerston; Listowel to Kincardine; Palmerston to Durham; Hyde Park to Wingham Jct. Office, Stratford.

E. H. Fitzhugh, Supt. Approved, F. H. McGuigan, Genl. Supt.

MIDDLE DIVISION, LONDON, Feb. 28. Roadmasters T. Turner & P. Nelson having resigned, & R. Bagnall & W. G. Smith being transferred, the following changes & appointments are effective Mar. 1:

A. Bruce, Roadmaster, Stratford. North Parkdale to Sarnia Tunnel; Galt & Elmira Branches; London & St. Mary's Branch.

J. Piper, Roadmaster, Toronto. York to Hamilton; Burlington Jct. to Hamilton; Stoney Creek Cut-off; Hamilton to Port Dover.

J. Carey, Roadmaster, Hamilton. Suspension Bridge to London; Welland Branch.

W. Young, Roadmaster, Sarnia. London to Sarnia Tunnel; Komoka to Kingscourt Jct., via Glencoe; Petrolia Branch; Point Edward Branch.

W. McGar, Roadmaster, Stratford. Buffalo to Goderich; Stratford to Listowel.

T. Lockhart, Roadmaster, Palmerston. Guelph Jct. to Southampton; Harriston to Owen Sound; Parkhead Jct. to Wiarton.

P. Earle, Acting-Roadmaster, Brantford. Tavistock Jct. to Port Dover; Port Rowan Branch; Tilsonburg Jct. to Harrisburg; Harrisburg to Guelph Jct.

C. Dallas, Roadmaster, Wingham. Palmerston to Durham; Palmerston to Kincardine; Hyde Park to Wingham Jct.

H. Ferguson, Genl. Roadmaster. Approved, E. H. Fitzhugh, Supt.

Wabash.

BUFFALO DIVISION. BUFFALO, N.Y., Feb. 21. T. J. Costello is appointed Trainmaster of Buffalo Division, office Buffalo, N.Y. Effective Mar. 1. A. E. Robbins, Supt.; approved, H. L. Magee, Genl. Supt.

BUFFALO DIVISION. BUFFALO, N.Y., Mar. 1, effective this date. J. E. Muhlfeld is appointed General Foreman of Machinery & Car Department, office at St. Thomas, Ont. A. E. Robbins, Supt.; approved, H. L. Magee, Genl. Supt.; J. B. Barnes, Supt. Motive Power & Machinery.

GENERAL CLAIM DEPARTMENT. ST. LOUIS MO., Mar. 1. J. L. Head, Assistant Claim Agent, Peru, Ind., will have charge of settlement of Wabash stock & fire claims on Buffalo

Division of this Co.'s lines. All reports of stock struck & fires set out along right-of-way by Wabash trains will be sent to him at Peru, through the offices of the Master Mechanic & General Roadmaster respectively. Henry A. Lloyd, Genl. Claim Agt.; approved, J. Ramsey, Jr., Vice-Pres. & Genl. Mgr.

PERSONAL MENTION.

R. A. Corbett, C.P.R. station agent at Fort William, Ont., has been appointed that company's ticket agent at Skagway, Yukon district. A. J. Boreham, of the C.P.R.'s Winnipeg ticket office, succeeds him at Fort William.

Heretofore the C.P.R. has had three city freight canvassing agents in Toronto, C. W. & H. C. McMullen & W. Bain. Under date of Jan. 24, General Freight Agent Tiffin announced the appointment of C. W. McMullen as city freight agent, in charge of all city canvassing, with office at room 208, Union Station. The other two canvassers are retained & will report to him.

Mrs. W. R. Tiffin, wife of the G.T.R. Superintendent at Allandale, Ont., died suddenly on Feb. 21, during her husband's absence from home. She was about to retire for the night, when she fell, dying almost immediately. She was 50 years of age, & leaves 3 sons. The funeral took place at London, a special train conveying the body, mourners & a number of friends from Allandale, Barrie & Toronto.

The Hamilton Bridge Works Company.

These works, under the management of Henry Szlapka, Chief Engineer, have a decidedly business-like appearance these days. The shops, which are running to their utmost capacity, are under the supervision of A. Phoenix, Superintendent, whose energy keeps things humming. The Co. has been most successful in obtaining large contracts for heavy railway bridges for the C.P. & G.T.R., & other railway corporations. The Queen St. subway, Toronto, was lately built by this Co. The centre girder for the Grand Trunk double track crossing alone weighed 80,000 lbs., length 96 ft. overall, & 10 ft. 6 in. deep, shipped from the works in one piece. The most important & difficult contract ever undertaken by this Co., was the building & erecting of the Stoney Creek arch for the C.P.R. in the Selkirk Mountains, a stupendous task. As for highway bridges wood has been nearly entirely superseded by steel. Steel highway bridges are thoroughly in evidence in these works. Structural work, in which steel has also taken so prominent a place of late, forms a large item in its output, & the Simpson building in Toronto bears testimony to this statement. The Co. does a large business outside of bridge building. It is now busy with an extensive steel roof for the Western Departmental block at Ottawa to replace the wooden roof which was burnt off. The metal work for the Soulanges Canal lock gates is also another large Government contract. The Co. also has a contract for the feeder pipes, about 8 ft. in diameter, & for the power house of the Cataract Power Co., of Hamilton, which proposes to bring electric power from St. Catharines to Hamilton. A large assortment of exceedingly heavy steel bridges on the C.P.R. Crow's Nest Pass Branch have recently been turned out. There are under way a number of other miscellaneous structures. The steel bridge on the C.P.R. at Colborne, built at the Hamilton Bridge Works. The Co. is under the control of the Messrs. Henderson, whose name is prominent in many large undertakings is well known.

TELEGRAPHS & CABLES.

Vancouver Island Cables.

The first telegraph connection with Vancouver Island belonged to the Western Union Telegraph Co., consisting of a cable 10 miles in length between the then territory of Washington, via San Juan Island, & Vancouver Island. It was removed after the laying of the Dominion Government cables as mentioned below.

The present cables were laid by the Dominion Government in 1881, & were taken over by the C.P.R. Co. in 1886. The route of the present line from Vancouver to Victoria is as follows: Pole line through the woods from Vancouver to Point Grey, 12 miles; 24 miles of cable from there to Valdez Island; pole line along that island through the woods for about 3 miles; cross over to Gabriola Island by a long aerial span; pole line for 6 miles along a roadway on the island; 1 mile of cable to Vancouver Island, landing at a point about 10 miles south-east of Nanaimo; pole line through the woods to Nanaimo, & thence along the E. & N. Ry. to Victoria. The conductor in these cables is composed of 7 strands of copper wire, weighing 107 lbs. per knot; insulator, 150 lbs.; & a sheathing, over an adequate serving, of 12 No. 8 or 9 galvanized iron wires.

Between Gabriola & Valdez Islands the currents are so swift & the bottom so rocky that a cable cannot be used, & recourse was had to a long aerial span, supported on trees about 200 ft. in height, with the branches & tops cut off so as to present a small surface to the wind. An extra span on two other trees is maintained, so that, in case of the one in use breaking, communication can be quickly regained. The repair of these spans is carried on under great difficulty. The wire can only be carried across at slack water, which lasts only a few minutes at turn of tide, & it must be raised free of the water before the tide turns or it will be either broken or carried away. Sometimes a week is spent before the wire can be successfully erected. The land line stretches between Vancouver & Nanaimo have been subject to considerable interruption from falling trees, etc., & owing to their great height, it is out of the question to cut a trail wide enough to be free from this annoyance. To have repairs made as quickly as possible, line men are stationed at Vancouver, Valdez Island, Nanaimo, & latterly on Gabriola Island.

To avoid the difficulty & danger of frequent interruptions, the C.P.R. Co. concluded last year to lay a cable the whole way from Vancouver city to Nanaimo, a distance of 40 miles. The old cable had only one conductor, which was sufficient to carry all the business of Vancouver Island, but looking forward to the large increase expected by the people of Victoria, owing to the Yukon excitement, & the development of the mineral resources of the island, it was decided to lay a three conductor cable. One of these conductors will connect at Nanaimo with a through wire to Victoria, & will be quadruplexed, so that four messages can be simultaneously transmitted over the one circuit. The second cable conductor will be connected with a second wire through to Victoria, giving communication with all intermediate offices, & in case the quadruplex cannot carry the entire business of Victoria, this will furnish a fifth circuit. The third cable conductor will, for a time at least, be used for Nanaimo business with the Mainland, but if necessary will be carried to Victoria with a third wire & quadruplexed.

The cable has been made by the Telegraph Construction & Maintenance Co., London, Eng. It was originally intended to bring it by steamship from London to Halifax, & then across the continent by rail. To accomplish this, the cable would have had to be coiled in a tank on the steamship so that each turn

would average the same length as when coiled on the cars after being transhipped at Halifax, so as to avoid kinks. It weighs about 220 tons, & would require a train of 13 or 14 cars to transport it. This was quite a proposition, as any accident happening to the train would perhaps ruin the cable. However, the C.P.R. recently purchased two steamships in England for use on the Yukon route, & as they were to leave London about the time the cable would be finished, the original shipping instructions were cancelled, & arrangements made to transport the cable by SS. Tartar direct from London to Vancouver, & it is now on the way.

Although actually only 40 miles of cable are required for the work, 45 miles have been secured. The cable will be laid almost immediately on its arrival. The following is a portion of the specifications for the manufacture of the cable: Each of the 3 conductors to be composed of 7 strands of copper wire twisted together, containing not less than 98 per cent. of pure copper, & weighing 100 lbs. per nautical mile. Each conductor is then insulated with gutta-percha weighing 100 lbs. per nautical mile, & then served spirally with a saturated tape. The 3 insulated conductors are then twisted together & served with the best tanned jute, free from knots, & with 14 best extra galvanized iron wires, .203 of an inch in diameter, each sheathing wire to be treated with bituminous compound, & the sheathed cable to be covered with two coatings of tape, laid on in opposite directions, & saturated with compound. The insulation resistance of each conductor to be not less than 4,000 megohms per nautical mile.

THE WESTERN UNION TELEGRAPH CO.,

with which the Great North Western Telegraph Co. connects, is extending its wires from Seattle, Wash., to Victoria, B.C. The work between Seattle & Port Angeles is proceeding as rapidly as possible. The cable, which will be laid from Port Angeles to Victoria, has been ordered, & it is expected that communication will be had with that place by this new route in the course of a few weeks.

C.P.R. Telegraph Improvements.

Not many years ago it was quite a feat to work a telegraph wire for a greater distance than, for instance, Montreal to Toronto; & in bad weather it was difficult to work even half that distance. Better construction improved this, & the invention of automatic repeaters still further extended the working distance. It was found that circuits requiring more than two automatic repeaters were unsatisfactory. To lengthen out the different sections recourse was had to larger wires (iron), the size being increased by steps from 300 to 570 lbs. a mile.

Copper is only about one-sixth of the length (electrically) of iron; but its use was for a long time prevented by the much greater cost of the material, & the fact that, owing to its delicate nature, it had to be handled with extreme care; & the cost of stringing it is nearly double that of iron. The telegraph business has increased so enormously of late years between important centers that many more wires have had to be erected, & stringing heavy iron wires had to be discontinued & light copper wires became a necessity. The size has been gradually increased.

The Yukon excitement, & the greater prosperity now prevailing throughout Canada, has resulted in an enormous increase of the telegraph business between the far West & Eastern Canada, & the present facilities of the Canadian Pacific Railway Co.'s Telegraph will probably be insufficient to carry it during the coming summer, therefore the Co. has decided to largely increase them. In addition to numbers of new wires connecting interme-

diate points, a through wire from Montreal to Vancouver is to be erected immediately. In order to get the greatest amount of work out of this wire it is to be composed of copper, weighing 300 lbs. a mile. It is being manufactured by the Dominion Wire Manufacturing Co. at Lachine, according to specifications drawn up for the highest grade that can be obtained, & will be subjected to severe mechanical & electrical tests before shipment. When completed the wire will cost in the neighborhood of a quarter of a million dollars, the total weight of copper being about 440 tons.

It will be used only for business between the east & the Pacific Coast, Montreal working direct with Vancouver, with automatic repeaters at Fort William, Ont., & Swift Current, Assa. This wire will be worked duplex, i.e., two messages transmitted at the same time in opposite directions. At present Montreal works direct with Winnipeg, with repeaters at Sudbury and Fort William, & all messages are received & re-transmitted at Winnipeg; but with the new wire Vancouver will be brought as close, practically, to Montreal as Ottawa is.

It is expected that between 200 & 250 men, divided into gangs of 20 each, will be engaged on this work.

Telegraph Office Changes.

GREAT NORTHWESTERN.

Offices opened: St. Michel Station, Que.; Cascades Point, Que.

Offices closed: St. David's, Ont.; Winthrop, Ont.; Osnabruck Centre, Ont.; Rosebank, Man.

CANADIAN PACIFIC.

Offices opened: Comaplix, B.C.; Esquimalt, B.C.; Harrison, B.C.; Notch Hill, B.C.; Lear Springs, B.C.; Seventh Siding, Crow's Nest Pass Ry., Alta.; Anson, Ont.

Offices closed: Bird's Hill, Man.; Caron, Alta.; Cheney, Ont.; Dinorwick, Hoard's Station, Ont.; Kenilworth, Ont.; Deschambault Station, Que.; Vaucluse, Que.

Cow Bay, N.S., has been changed to Port Morien.

At Qu'Appelle, Assa., recently, Hartley Gisborne, for the past 16 years District Superintendent of Government telegraph lines in the Northwest Territories, was presented with an address & silver tea-set by the employees of the service, on his leaving it in consequence of J. S. Macdonald, of Moose Jaw, having been appointed in his stead. Mr. Gisborne is removing to Winnipeg.

J. Galt, W. Hespeler, R. J. Campbell, F. A. Drummond & F. W. Heubach give notice of their intention to apply for incorporation under the Manitoba statutes, under the name of the Manitoba District Telegraph & Delivery Co., to maintain & lease electric call boxes, to supply messengers, to deliver parcels, collect accounts, post bills & distribute handbills, & to print & publish the same. The head office is to be at Winnipeg; capital stock \$10,000.

The Commercial Cable Co's report for 1897 gives the revenue from operating the cables, after deducting all expenses & reserving \$11,750 to meet depreciation of spare cable, as \$1,200,155.53, as compared with \$1,123,653.46 for 1896, an increase of \$76,502.07. The revenue from the land lines, after deducting all operating expenses & setting aside \$60,000 to a land lines depreciation reserve account, amounted to \$645,185.59. The net revenue of the combined systems was \$1,845,341.12, out of which has been met the interest on the 1st mortgage bonds & debenture stock amounting to \$640,000, & dividends of 7% & bonus of 1% on the capital stock, absorbing \$800,000, a total of \$1,440,000, and leaving the balance of net revenue for the year \$405,341.12.

NOTICES TO MARINERS.

Dominion Department of Marine and Fisheries.

All bearings, unless otherwise noted, are magnetic & are given from seaward; miles are nautical miles; heights are above high water, & all depths are at mean low water.

No. 8, Feb. 1, Wreck of Gerona.—The position of the steamer Gerona which sank on Jan. 1 last, between Seal Island & Cape Sable Island, off the S.W. coast of Nova Scotia, has been fixed by the Master of the Dominion steamer Newfield. The wreck lies in 20 fathoms water with Bon Portage light bearing N. E. by E, $\frac{1}{4}$ E., distant $5\frac{1}{2}$ miles. Sealing Island light bearing W. by N. $\frac{3}{4}$ N., distant 8 miles. Cape Sable light bearing E. by S. $\frac{1}{4}$ S., distant 9 miles. When the wreck was examined the 2 top-mast heads of the vessel showed about 11 feet above water at low tide. It is proposed to moor a green iron can buoy about 50 yds. S.S.W. from the wreck. This affects Admiralty chart 335.

No. 9, Feb. 15—1. Beacon Rock beacon, Nanaimo, destroyed.—The beacon on Beacon Rock, in Nanaimo harbor, Vancouver Island, B.C., was destroyed by collision with the steamer Willapa on the night of January 26th. A platform buoy, with cage, has been moored on the rock pending the re-erection of the beacon. This affects Admiralty charts 573 & 2512, & B.C. pilot, 1888, pg. 145.

2. Red sector in Cape Beale light.—The revolving white light shown from Cape Beale light station, at the entrance to Baynes Sound, Pacific coast of Vancouver Island, has heretofore been obscured to the northward of an east bearing, so that vessels losing the light were warned that they were approaching foul ground. From & after May 1 next the light will be rearranged so as to show revolving red into Barclay Sound, between the bearings of east & approximately S. S. E. Vessels are warned that within the sector of the red light there are numerous dangers. The sector of white light will remain as heretofore. This affects Admiralty charts 584, 592, 1911, 1917 & 2531, B.C. pilot, 1888, pg. 274, and Canadian list of lights & fog signals, no. 1161.

No. 10, Feb. 16—1. Increased Height of Palmers wharf light.—The mast light established in 1894 on Palmers wharf, Crapaud harbor, was last year raised 10 ft. in height, & is now elevated 20 ft. above high water mark. The mast carrying the lantern from which the light is shown is 18 ft. high, from the wharf to its top. This affects Admiralty charts 1651, 2000 & 2034 & Canadian list of lights & fog signals, 1887, no. 375.

2. Height of mast, Wrights range.—The mast on which the lantern of Wright's front range light, in the same harbor, is hoisted is 11 ft. high from its base to the top of the slatwork. This affects Canadian list of lights & fog signals, 1887, no. 373.

3. Change in illuminating apparatus, St. Peters Island light.—Referring to notice to mariners no. 2 of 1897, mariners are advised that on the opening of navigation in the spring of 1898 the fixed red light heretofore shown from the lighthouse on St. Peters Island, Hillsborough Bay, will be replaced by an occulting white light, giving an occultation of 6 seconds every $\frac{1}{2}$ minute. The illuminating apparatus will be dioptric of the 6th order. The light should be visible 14 miles from all points of approach, except where obstructed by the high ground of St. Peters Island. This affects Admiralty charts 1651, 1738, 2034 & 2516 & Canadian list of lights, 1897, no. 370.

No. 11, Feb. 24—Port Elgin Range Lights.—The information given in notice no. 5 of 1898 with regard to the Port Elgin range lights having been found to be incomplete, & in some respects inaccurate, it is cancelled,

& replaced by the following: Instead of the single light at Port Elgin, on the east shore of Lake Huron, described in list of lights, 1897, under the no. 993, there are now 2 pairs of range lights, arranged to lead into the port through the deepest channel. All 4 lights are shown from lanterns hoisted on masts, with sheds at their bases. Before the opening of navigation in 1898 the masts & sheds will be painted white. The front mast of the south range stands upon the shore line about 1,500 ft. southwardly from the south end of the Government landing wharf. Approximate position, taken from Admiralty chart no. 519: Lat. N. $44^{\circ} 26' 15''$, Long. W. $81^{\circ} 23' 30''$. The mast is 14 ft. high. The light is a fixed white light, elevated 16 ft. above the ordinary level of the lake, & should be visible 4 miles in the line of range. The illuminating apparatus consists of a pressed glass lens. This light was established in 1895. The back mast of the south range stands 70 ft. E.S.E. from the front one. It is 18 ft. high. The light is a fixed red light, elevated 20 ft. above the lake & should be visible 4 miles in the line of range. The illuminating apparatus consists of a pressed glass lens. This light was established in 1895. The front mast of the east range stands on the Government landing wharf, near its north-east extremity. It is 14 ft. high. The light is a fixed white light, elevated 23 ft. above the lake, & should be visible 9 miles from all points of approach by water. The illuminating apparatus is dioptric of the 7th order. This light was established in 1884, but has since been moved. The back mast of the east range stands on the shore on the east side of the harbour, 680 ft. N.E. from the front mast, & is 16 ft. high. The light is fixed red, elevated 25 ft. above the lake, & should be visible 4 miles in the line of range. The illuminating apparatus consists of a pressed glass lens. This light was established in 1895. Vessels entering Port Elgin should bring the south range lights in one, & stand in on the range until the east range lights are brought in one, & then follow the east range into the dredged harbour between the breakwater & the landing wharf, leaving the front light on the starboard hand, to clear the wharf. This notice affects Admiralty charts 519 & 678, & the substance of it should be entered in the Canadian list of lights & fog signals instead of no. 993.

British Columbia Inland Steamers

The C.P.R. Co's fleet on the inland waters of B.C. has already assumed pretty extensive proportions. On the Columbia River & Arrow Lakes, between Arrowhead & Trail, the Co. has the following:—The Lytton, taken over from the Columbia & Kootenay Navigation Co., 150 ft. long, capacity about 50 passengers & 100 tons freight. Her sister boat, the Nakusp, was burned last fall, & will be replaced by the Co. at an early date. The Kootenay, built at Nakusp last year, length, 180 ft., accommodation for about 130 passengers and 300 tons freight. The Rossland, recently completed at Nakusp, length 180 ft., with accommodation for about 75 passengers. She is intended for passengers, mails & express only & will make fast time. The Trail, a freight boat, about 170 ft. long, capacity about 300 tons freight. The tug-boat Columbia tows the transfer scow from Arrowhead to Nakusp, where connection is made with the Kaslo & Slocan Ry. without breaking bulk. The transfer scow carries 8 cars. There are also 12 scows which carry bulk freight between Arrowhead, Robson & Trail.

On Kootenay Lake are 2 steamers, the Nelson & Kookanee, each about 160 ft. long, with capacity for about 75 passengers each & about 200 tons of freight. The Kookanee is a pretty fast boat. There are also a number of scows. The Co. is now building at Nelson a tug, & a transfer barge with a

capacity of 100 tons, for temporary terminus of the Crow's Nest Branch, at the southeast end of Kootenay Lake & Nelson, where connection will be made with the Co's Columbia & Kootenay branch.

On Slocan Lake the Slocan, length about 150 ft., long, capacity about 50 passengers, boat, with limited sleeping accommodation, say for from 25 to 30 people. She runs between Rosbery, on the Nicola River, & Slocan City, the terminus of the Slocan Lake branch of the Columbia & Kootenay Ry. There is also a small boat, the Wm. Hunter, & a car barge.

On Okanagan Lake is the Slocan, a steamer, running between Okanagan Landing & Penticton.

The Pelson Iron Works.

This Toronto firm has a lot of marine & other work on hand. The principal contract is for a flat-bottomed stern-wheel steamboat for the C.P.R. for use on the Stikine River, & one for another company for the Stewart River, reference to which appears on another page of this issue. The firm is also building machinery to be put in another Stikine River boat, which the C.P.R. is building at Vancouver.

The following marine work is also under construction: Fore & aft compound surface condensing engine for Capt. French, New Westminster, B.C.; fore & aft compound surface condensing engine for Capt. Mahers, New Westminster, B.C.; fore & aft compound jet condensing engine for the Brockville, Ont., Navigation Co.; large marine boiler for H. West, New Westminster, B.C.; composite steam launch for T. Eaton, Toronto, for use in the Muskoka Lakes, to make a speed of 16 miles an hour.

Among its general work under way is the following: 250 H.P. high speed engine & 2 large locomotive boilers for the Crow's Nest Pass Coal Co.; power plant for the Stewart, Hartshorn Co.; window shade roller manufacturers, Toronto; three Heine safety boilers, 250 H.P. each, for the Toronto Electric Light Co.; one Heine safety boiler, 250 H.P., for the Gutta Percha Rubber Co., Toronto, and 1 of 150 H.P. for the T. Eaton Co., Toronto.

Canadian Pacific Navigation Co.

The C.P.N. Co. is arranging for the shipment of goods direct to Dawson City without touching at a U. S. port, the object being to avoid bonding privileges or other customs arrangements. The navigation of the Stikine River, through the strip of Alaska at the mouth, is by virtue of treaty rights, free to Canadians as to United Statesers. Taking advantage of this, the C.P.N. Co. intends to run a line of small steamers from Port Simpson up the Stikine River. Connection will be made with these steamers by the Co's vessels from Vancouver & Victoria, & Wrangell will not be touched at all. The new steamer being built up there will thus be partially diverted to Port Simpson.

It is recalled that several years ago a steamer, the Western Slope, ran from Port Simpson right up the Stikine to the Canadian line, & in 1878, when the U. S. Government began to show a somewhat similar spirit to what it is doing now, of trying to prevent Canadian vessels doing any of the carrying trade, the steamer, being on the Stikine for some seasons, the C.P.N. intends to utilize include the R. P. Rithet, Yosemite & some others.

The C.P.R. Co's R.M.S. Empress of India, passed through a heavy snow storm in the second week of February. Her bridge was wrecked & library stove in, but \$500 has repaired all

Marine Notes of Interest.

The S. S. Algonquin is being repaired at Toronto, under the supervision of Captains McLaughlin & Craig.

Mrs. Thomas Donnelly, wife of the Government Steamboat Inspector at Kingston, Ont., died suddenly Mar. 2, aged 40.

The Department of Public Works has asked tenders for constructing a wharf & approach at Honora Bay, Manitoulin Island, Ont.

Dr. R. S. McMan, of Winnipeg, has been appointed ship-surgeon on the R. M. S. Warimoo, sailing between Vancouver & Australia.

Troop & Son, St. John, N.B., have placed an order in England for building a steel steamer, 300 ft. long, 45 ft. beam, to be named the Canada.

A steamer is being built at Fort Frances, Ont., by Coates & Mosher to ply on Rainy Lake between Mine Centre, Rainy Lake City and Bell City.

A. J. Corriveau, of Montreal, and others are making application to the Dominion Parliament to incorporate the Montreal & Lake Champlain Canal Co.

The Donnelly Dredging & Salvage Co., of Kingston, has ordered 2 new 10 in. centrifugal pumps from London, Eng., each having a capacity of 3,500 gallons a minute.

The Kingston, Ont., Locomotive Works recently launched a steel barge, the Coburg, 180 ft. long, 35 ft. beam, & to carry 50,000 bushels of grain on a draft of 11 ft.

The Dominion Government, in view of the greatly increased fleet now on the Pacific, is taking measures to ensure much more rigid inspection of ships sailing from B.C. ports.

Chief Engineer Black, last season in the Steamer Hamilton, has been transferred to the steamer now building for the Richelieu & Ontario Navigation Co., & is superintending the construction of the machinery.

The Hudson's Bay Co.'s business between Hudson's Bay & England is done by the Erik, which leaves London about the end of May & goes to Fort Churchill by way of the Labrador coast & Hudson's Straits, for the Co.'s business only.

The Propeller Persia has been acquired by W. A. Geddes of Toronto & Jacques of Montreal, Capt. Crangle & J. H. G. Hagarty, of Toronto, having sold their interest. The Persia, under command of Capt. Scott, will run on the Montreal-Toronto route with the Ocean.

The customs statistics at Fort William, Ont. for 1897 are: Total vessels, 429; tonnage, 557,179; bushels of wheat shipped, 16,711,226; oats, 215,805; barley, 11,959; flax, 96,376; flour, 83,078; barrels pulpwood, 714 tons; coal arrived, 138,134 tons; duty collected, \$97,666.77.

For several weeks rumors have been in circulation to the effect that the Ogdensburg & Chicago Transit Company boats would not run to Ogdensburg; but, instead, would run in connection with the Canada Atlantic Ry. It is now said the Transit boats will run to Ogdensburg this season as usual.

The North Shore Navigation Co.'s steamer City of Collingwood, & the Great Northern Transit Co.'s steamer Majestic, will form a line this season from Collingwood & Owen Sound, going via the north of Manitoulin Island to Sault Ste. Marie, Port Arthur, Fort William, Duluth & intermediate ports.

The C.P.R. Co. has purchased the Troup wharf & warehouses at Wrangel, Alaska, for \$12,000. The wharf is to be extended to 600 ft. in length, with a width of 60 ft., & necessary shed accommodation is to be built in connection with the C.P.R. boats to Telegraph Creek. Wrangel is reported to be a lively place, & buildings bring fancy prices.

The tug being built by Capt. Angus Campbell Elliot & Hale at Nelson, B. C., will be completed about the middle of March. It is 80 ft. long, 14 ft. beam, with 6½ ft. draft of water. The machinery is now on the road from Ontario, & when completed the tug will be one of the best boats of its kind on the inland waters of B.C. It will be used for towing on Kootenay Lake.

The steamer Rosedale, which ran ashore, & is now in drydock at Kingston, Ont., has been sold by the underwriters to the Edwardsburg Starch Co. of Cardinal. There were several tenders put in for the steamer, the former owners, Hagarty & Crangle, of Toronto, making an offer. The Rosedale will be repaired at once & will be again sailed this season by Capt. Ewart.

The steamer Filgate, running between Montreal & L'Isle Grosbois, & the steamer Chateaugay, running between Chateaugay & Lachine were put up at auction in Montreal, Feb. 15, the Filgate being placed on the list at a valuation of \$25,000 & the Chateaugay at \$22,000. The Filgate fell to R. Gagnon for \$8,500 & the Chateaugay was bid in by Mr. Rodier at the same figure.

The steamer Shrewsbury has been purchased by the Thousand Island Steamboat Co. from Buffalo parties. She is a very fine & fast steamer, classing A1, built at Bath, Maine, in 1888, at a cost of \$85,000, & will be an important addition to the Folger system. She is a little larger than the steamer Empire State, having a carrying capacity of 1,200 passengers. She will be one of the American Line between Kingston & Montreal this season.

A Collingwood correspondent inquires of the Marine Record. "What steamer on the lakes has the deepest water bottom? Has the Centurion 72 ins. of a water bottom?" The Record replies: "The deepest water bottom on the lakes is found in the new steel steamer building for the Bessemer Steamship Co. at West Bay City, Mich., which is 72 ins. The tow barge, building for the same owners, has a water bottom of 5½ ft., all others range from 30 to 60 ins., the Centurion having only a 54 in. water bottom."

A Kingston, Ont. despatch says the red light at Snake Island is not in a satisfactory

position & the Department of Marine will have it shifted from its present location. For some hundred feet east & southeast of Four Mile Light runs a bed of flat rock, not covered with sufficient water to allow heavily laden boats to pass over it. Another local improvement to be instituted by the Department is the buoying of the old ship channel.

The movement to establish a car ferry line between Port Stanley, Ont., & Conneaut Harbor, Ohio, has assumed definite shape. Docks will be constructed at Port Burwell, Ont. Hingston & Woods, of Buffalo, have received the contract for dredging. It is said this ferry line will enable the Michigan Central & Canadian Pacific, principally the Vanderbilt line, to compete with the Grand Trunk for the coal business. The Bessemer road is back of it, too.

The Tunisian is the name of the Allan Line's latest new boat. She is now upon the stocks, & is expected to be ready by April, 1899. She will be the largest vessel which has ever entered the port at Montreal. Registered tonnage 10,000 tons, length 510 ft., beam 59½ ft. She is to be a modern boat in every respect, with magnificent passenger accommodation, and enormous carrying capacity. Her speed will be about 16 knots. The other new Allan liner, the Castilian, will reach Montreal, on her 1st trip, about the middle of next July.

The C.P.R. steamer Kootenay, while making a landing at Robson, B.C., recently ran into a submerged rock in the middle of the river & stove a hole in her hull, which is believed to be 18 in. square. Had it not been for the fact that the steamer is provided with air-tight compartments it is certain that she would have sunk. The boat was moored safely & all on board landed without accident. There was about 4 ft. of water in the compartment in which the hole was located. It may be necessary to put the steamer on the dry dock for repairs.

On what is known as the Edmonton route to the Yukon, The Hudson's Bay Co. has a steamboat, the Athabasca, plying on the Athabasca River, between Athabasca Landing, about 100 miles north of Edmonton, Alberta, & the Grand Rapids, from which point freight has to be transferred in boats to Fort McMurray. From this point the steamboat Grahame runs to Fort Smith on the Slave River, where a transfer is made to the Wrigley, a screw steamer which goes across Great Slave Lake, & down the Mackenzie River to its mouth, a distance of about 1,300 miles. These steamboats are used for the business of the Hudson's Bay Co., & the Co. does not undertake to carry passengers & freight on them.

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HAMILTON, -:- CANADA.

BY OCEAN AND RIVER

To the Great Yukon Gold Fields.

Never before in the history of mining was there such a mad rush to a new Eldorado as that settling in for Canada's northern gold fields. Never has existed a more alluring region for treasure-seekers, and never were there such facilities for spreading the news to every corner of the known world. Six months ago, people were appalled at the thought of thousands going to the Yukon. To-day, the invading army is numbered in the hundreds of thousands. A Wall Street financial firm recently ascertained from the mayors of all the cities and towns in the United States a rough estimate of the numbers in each intending to set out for the Yukon, and found that the total exodus from the United States alone is likely to exceed 200,000. Probably as many more treasure-seekers will leave other parts of the world; so that the northern gold fields have every prospect of a population of half a million within two years.

Heretofore, the vessels of the Canadian Pacific Navigation Co., of Victoria, B.C., sailing from that port and Vancouver, and those of the Pacific Coast Steamship Co., sailing from San Francisco and transferring passengers at Seattle, Wash., and Victoria to other steamships of the same line for northern points, have been ample to accommodate all passengers, but with the rush to the gold fields the northern waters have become fairly alive with boats, and countless numbers of vessels are under construction for the new traffic. At one time the C.P.N. Co.'s steamers made regular trips during the summer months from Victoria and Vancouver to Alert Bay, Ft. Rupert, River's Inlet, China Hat, Gardiner's Inlet, Port Essington, Ft. Simpson, Ft. Wrangel, Sitka and Juneau. Of late years their steamers went only to Ft. Simpson and intermediate points; but recently an extended service was announced to Queen Charlotte Islands on the first of each month, and steamers have gone on the Yukon route, leaving Victoria and Vancouver weekly for Wrangel, Juneau, Dyea and Skagway. The Pacific Coast Steamship Co.'s boats conducted excursions from San Francisco, Puget Sound ports, Vancouver and Victoria, to Sitka and northern points, transferring passengers to the north-bound steamers at Seattle and Victoria. These were, practically, the only vessels of importance plying between Pacific Coast ports and the southern coast of Alaska.

But travellers bound for the interior of Alaska, for the great unknown country on each side of the Yukon River, generally entered the region by another and longer route. They took ship with one of the two big trading companies, the Alaska Commercial Co., or the North Am-

erican Transportation and Trading Co., which practically controlled the trade of the vast interior. The boats of the trading companies ran between San Francisco, calling at Pacific ports, and St. Michael's, an island 70 miles north of the Yukon's mouth. St. Michael's was the headquarters of Arctic and Yukon trading. Here miners and traders were transferred from the ocean vessels to the shallow-draught river steamers, which carried them 1,370 miles up the Yukon to Forty-Mile Creek. The fame of the gold fields has transformed the face of the far northern seas. Where two trading companies and two navigation companies once monopolized all traffic, there are now hosts of vessels, ready on being prepared, to handle the greatly increased travel. Twenty-six vessels were scheduled to sail from Vancouver and Victoria for northern points

possess the largest and finest fleet of any of the lines conducting a service from England to Cape Colony. Both the steamships have been employed in the trade for the South African gold and diamond fields.

The Tartar was built by Aitken & Mansel, of Glasgow. She is classed 100 A1 at Lloyd's, and is three-masted, schooner rigged. Her gross tonnage is 4,425; length, 376 ft.; breadth, 47 ft.; depth, 33.3 ft. She is fitted with triple expansion engines, by T. Richardson & Sons, of Hartlepool, the diameter of cylinders being 36, 58 and 94 ins., respectively, length of stroke 60 ins., and working pressure 160 lbs. She is fitted throughout with electric light, and has refrigerating plant and cold chamber for the storage of fruit, vegetables, milk, etc. From the commencement of her career in the South African mail service the

Tartar has been a great favorite with passengers. She has a character for comfort and speed only exceeded by a very small number of the vessels employed in the South African trade.

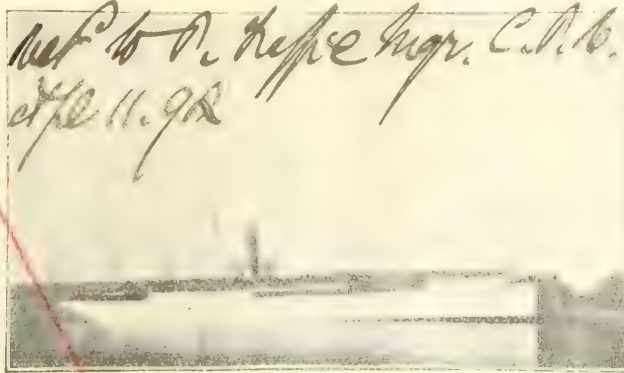
The Athenian was also built by Aitken & Mansel, of Glasgow, and has always been regarded by passengers as a most comfortable vessel to travel by. She is a three-masted schooner, classed 100 A1 at Lloyd's, of 3,882 tons. Length, 365 ft.; breadth, 45 ft.; depth, 33 ft. In 1886, when the demand for higher speed in the Cape mail service was observed, the Union Steamship Co. put her in the hands of T. Richardson & Son, of West Hartlepool, who converted her engines from the compound system to the more modern and neces-

sary triple expansion type, thereby materially increasing the speed of the ship at sea with little addition to the expense in coal.

As was the custom when the Athenian was built, the first-class accommodation was put aft, on the main deck, the cabins being extremely lofty. The dining saloon is large and airy, extending right across the ship, tastefully decorated and lighted by skylights leading from it on to the spar deck. On the upper, or spar deck are a few deck cabins, which are highly prized by passengers who are fortunate enough to secure one for themselves. The second-class accommodation is nearer the middle of the ship, just forward of the engines, and may fairly be described as comfortable and clean, with perfect ventilation. Smoking-rooms are provided for both first and second class passengers on the upper deck. The third

class accommodation is in the fore part of the ship, four cabins being provided, each berth being fitted with patent cushions in the place of the old wooden bunk. She is fitted with refrigerating apparatus and electric light.

Both vessels were built and hauled and refitted since they passed into the possession of the C.P.R. Co. Great interest was excited at the departure

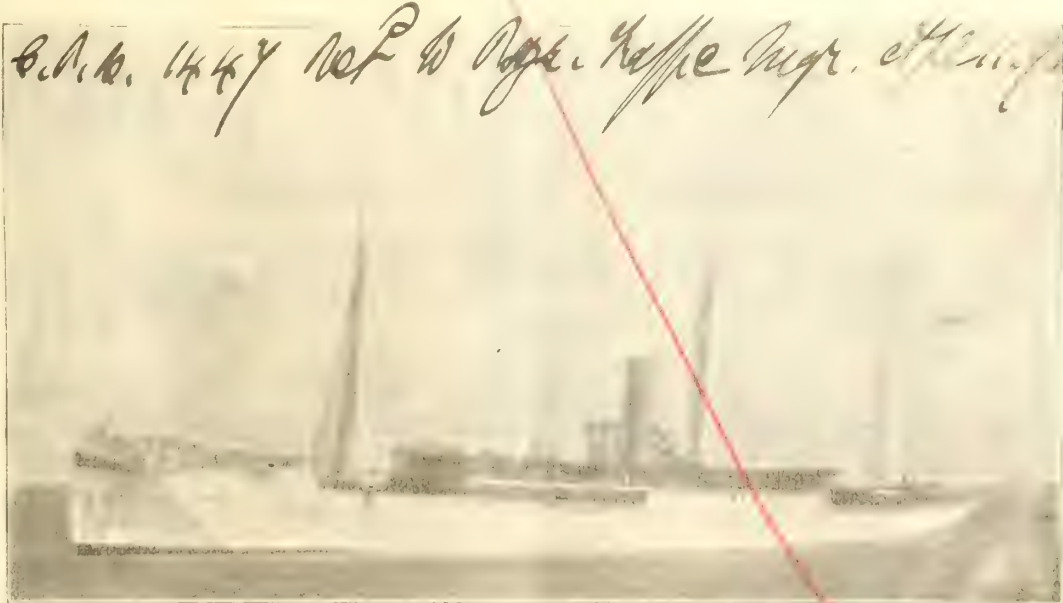


THE C.P.R. CO'S S.S. ATHENIAN.

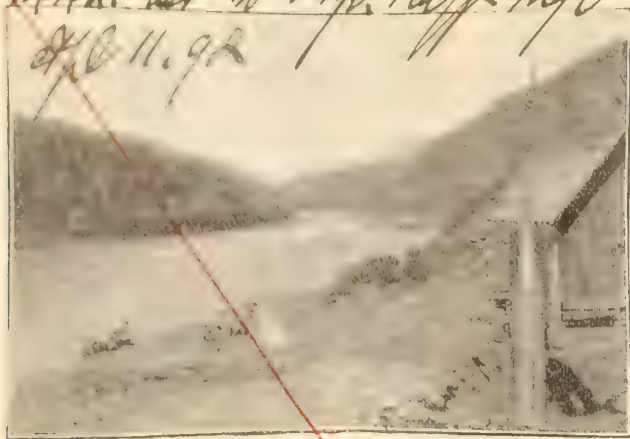
between Feb. 10 and March 31, and this without including the craft leaving Seattle and San Francisco and not calling at Canadian ports. One ship-builder alone has orders for 14 new steamers for Yukon travel. Old vessels are being overhauled to join the fleet of north-bound steamers. To keep account of the different transportation companies, preparing to handle the traffic, would be impossible, but brief mention of a few of the vessels booked for northern ports will give some idea of the activity among shipping circles.

THE C.P.R. CO'S STEAMSHIPS.

First in importance are the two steamships, the Tartar and the Athenian, recently purchased by the C.P.R. Co. from the Union Steamship Co., of London, Eng., which pos-



THE C.P.R. CO'S S.S. TARTAR



LOOKING DOWN STIKINE RIVER AT GLENORA.

of the Tartar for Vancouver, B.C., to call on the way at Tenerife, Rio, Coronel and Callao. The C.P.R. was represented by T. Skinner, a member of the Board; Archer Baker, European Traffic Agent; A. Piers, Superintendent of Steamship Lines, and H. Moody, Deputy Secretary. Capt. Waite, former captain of the Tartar and now Shore Superintendent of the Union Line, was also present. Capt. Archibald, commander of the C.P.R. Co.'s H.M.S. Empress of China, and an old Orient Line captain, is in command of the Tartar, which has a small passenger list and a full cargo, including the C.P.R. Co.'s cable to be laid between Vancouver and Nanaimo. The Athenian sailed from Southampton on Feb. 12 for Vancouver, under command of Capt. Mowat, formerly of the C.P.R. Empress line, and both vessels are expected to be there early in April, when they will commence a service between Vancouver, Victoria and Fort Wrangel, one of them leaving the B.C. ports every Monday and Thursday. These steamers are far superior to any on the service, and as they are not likely to be beaten, they are sure to become highly popular.

OTHER OCEAN STEAMSHIPS.

The Washington and Alaska Steamship Co., in addition to its two steamers, recently chartered the S. S. Cleveland to run to Skagway and Dyce. The little steamer Augusta, 41 tons burden, left Seattle to engage in carrying trade between northern oceanports. The

Mocking Bird hailed from the Sound and plies between Dyce and Skagway. There is the City of Nanaimo, carrying no freight but the personal effects of the passengers, for whom it had its accommodation increased, and which is now prepared to carry 200 passengers. The bark Richard III. is to be used by the same company for freighting exclusively. A company sent Capt. Chas. Hackett to London to select several steamers of some 1,200 tons register, with ample passenger accommodation, to sail direct from London for Victoria, Fort Wrangel and Dyce, and afterwards to ply between Victoria and Dyce. There is also the Barbara Boscowitz,

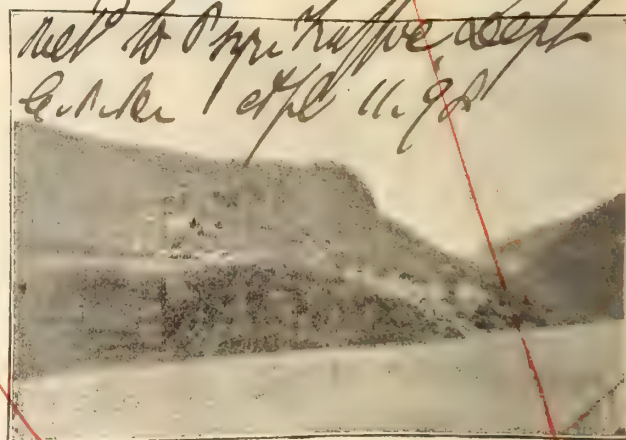
formerly making Skeena its northern terminus. The Centennial Alaska Transportation Co. will operate steamers between Victoria and Vancouver and Wrangel, Skagway and Dyce, putting on this route the Centennial, a British built iron steamship of 2,075 tons, 450 passenger accommodation, and formerly of the P. and O. line. The Centennial will also make a special trip to St. Michael's in June. The Alaska Transportation and Development Co., of Chicago, plans a weekly service between Seattle and St. Michael's, having 6 steel steamships for the ocean and 6 light draught steamers for the river. The Maitland-Kersey Transportation Co. has already purchased the S. S. Monte Cristo for traffic between Wrangel and the mouth of the Stikine, where there is intricate navigation at certain stages of the tide, but over this the Monte Cristo can run with upwards of 100 passengers with comparative safety, as may be judged from the following dimensions:—Keel, 90 ft.; beam, 22 ft.; draft, 13 ins. Plans for a very fast twin-screw launch have been prepared. She will be 70 ft. long and will be used principally for

the accommodation of the members of the company in addition to doing some towing on the Upper Stikine.

The sealing schooners, Oscar, Hattie and Fawn, and the S. S. Transfer, are being rigged out for Alaska freight and passenger business. Maitland Kersey, promoter of the Canadian Development Co., has arranged for the construction of 7 steamboats for the northern service. Another big steamer is in course of construction for Captains Fuller and Crane. This steamer is to have accommodation for 250 passengers. The Sound steamer, Utopia, has been taken off the Vancouver route and will run to Alaska ports. The Empire Transportation Co. will run 5 vessels, now being overhauled in Cramp's yard, the Ohio, the Indiana, the Illinois, the Pennsylvania and the Conemaugh. The Oceanic S. S. Co.'s boat, Australia, will be withdrawn from Honolulu trade to run to Dyce, Skagway and St. Michael's. This list of vessels engaged in, or preparing for, Yukon traffic, gives some idea of the activity in Pacific coast shipping circles.

On the Stikine River.

Already Mackenzie and Mann are at work on the Stikine River—Teslin Lake route to the Yukon; and a volume of freight and passenger traffic, exceeding anything known in the history of transportation, is likely to pass through Wrangel and up the Stikine during the coming season.



TELEGRAPH CREEK, ON STIKINE RIVER.

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Esplanade East, Foot of Sherbourne Street, -:- TORONTO.

Fort Wrangel, on an island off the mouth of the river, was the second settlement in southeastern Alaska after Sitka. It is 80 miles in from the ocean and its harbor is mountain-girt, and Wrangel, consequently, has colder winters and milder summers than

valleys, with occasional canyon walls and generally steep lower slopes, while high undulating and mountainous country form the surroundings. From Telegraph Creek southward for some 30 miles, or to the inland border of the Coast Range, high gravel terraces or benches of a fairly regular level and out-line are noticeable, especially on the east side of the valley, while near the water low benches are of more frequent occurrence, greater extent and few rocky projections on the river sides. About 116 miles from the sea the Clearwater River, a large tributary flowing through an open valley, enters from the north-west. Below the Clearwater and on to within 20 miles of the sea, the general course

of the valley is south, and it is from 1 to 3 miles in width, but the river makes many bends and swings from side to side of it, and the bottom lands are more frequently divided by sloughs or by channels cut during freshet seasons through the silty and loose formation. The Klutchman and Little Canyons being almost exceptional points where there is only 1 channel, confined between rugged but receding rock walls, respectively 300 to 400 feet apart and $\frac{1}{2}$ of a mile in length at the former, and 100 to 150 feet apart for $\frac{1}{4}$ of a mile at the latter. In both cases the direction of the river between the rocky shores is straight. "Below the Little Canyon and on to the sea the flat lands increase in extent and the by-channels in number and volume. The Och-sa Kieen, Soud, Porcupine and Iskoot Rivers flow into the Stikine from the east at varying intervals, besides many small streams from glaciers and mountain clefts on both sides. The Iskoot River, which is the largest of the tributaries named, enters 35 miles from the sea, and 10 miles below it the Stikine changes direction to the west, passes out through the main range of mountains and on through an expansive valley to its wide delta-like mouth on the coast line, some 12 miles north of Wrangel and in latitude $56^{\circ}40'$ N. and long. $132^{\circ}20'$ W. The range of mountains cleft by this river valley is principally of granite rock and grand to look upon, as the peaks are lofty, rugged and irregular, and some five or six large and many small glaciers are yet to be seen, but, with few exceptions, they are "dead." The whole valley and slopes to the timber limit are clothed with cottonwood, spruce and alder trees, which decrease in size and quantity as the interior is reached. The Stikine River is usually navigable for powerful steamboats of suitable design to Glenora or Telegraph Creek, a distance of 150 miles, between the 1st of May and a date sometimes well on in October, dependent of course on the openness of the season and the amount of rain and snowfall. Its width varies from half a mile on the lower river to 500 feet above. The depth is generally good, and the channel is remarkably free from snags, sunken rocks or boulders. At Little and Klutchman Canyons, respectively 96 and 106 miles from the sea, during high water periods when many drift trees are running, it is with considerable risk that the passage through these contracted reaches are made, and delays are common, as drift-wood is liable to become foul of the rudders or wheels. The first 50 miles from the sea, or to the Great Glacier, is very good water with a moderate current not exceeding 3 miles per hour, while from this point upwards the channel becomes somewhat more tortuous and contracted, with an increasing general rate of current varying from 3 to 8 miles per hour; however, the exceptionally swift sections are few and usually not over a half mile in length. A powerful river steamer should be able to make the Little Canyon in one day's run from the mouth of the river, and the Glenora or Telegraph Creek on the second day. The sum of \$5,000 could be advantageously spent in removing snags and boulders and in placing permanent cables for use in the heavy water, principally above the Little Canyon."

The trip from Wrangel to Glenora on the river steamers usually occupies about 36 hours, and Canadian territory is entered about 40 miles from the mouth of the river. A few months ago, Telegraph Creek was an aggregation of 40 or 50 cabins, with one store, but



BANK OF STIKINE RIVER, SHOWING HIGH WATER MARK.

any place along that coast. The first settlement was made by Admiral Baron Wrangel, who sent a subordinate officer from Sitka to build a stockade and to prevent the Hudson's Bay Co. maintaining trading-posts on the Stikine River. After much diplomatic controversy, Russia leased a 30-mile strip from Dixon Entrance to Yakutat to the H.B. Co., renewing the leases until the transfer of Russian America to the United States. The old fort was the scene of an exciting life among the Hudson's Bay officers and their men, owing to the hostility of surrounding natives. The discovery of the Cassiar mines and the influx of miners were the next important events in the history of Wrangel, and U.S. troops occupied the barracks from 1875 to 1877. After the abandonment of mining up the Stikine, a great quiet reigned in the little town. There was a saw-mill left. The traders' stores still remained and natives exposed their quaint curios in vain. For a second time in its history, Wrangel is revived by a mining boom and houses are now going up, stores are being erected and new wharves are every day pushing out over the waters of the harbor, as if in the twinkling of an eye. Hotels and lodging-houses, such as there are, are packed, and big structures, to accommodate the incoming crowds, are in course of erection.

After a sea voyage of more than 700 miles, passengers and freight are transhipped from the ocean to the river steamers. Here, the sea is described as frequently very boisterous. Then begins a trip up stream to Glenora and Telegraph Creek. The Stikine River is thus described by W. T. Jennings, C.E.: "The Stikine River and its branching head waters rise in the Cassiar Mountains between latitudes $56^{\circ}20'$ and $59^{\circ}20'$ N. and longitudes 128° and $131\frac{1}{2}^{\circ}$ W. The main stream and its upper feeders, the Tanzilla, Tooya, and Tahlitan, gradually converge and eventually unite in one grand watercourse within a distance of 16 miles, and from 10 to 26 miles above Telegraph Creek, which is at the extreme head of steamboat navigation and distant from the sea, at Fort Wrangel, 150 miles. The feeders (excepting the Tooya) and main river run as a rule in deep and more or less contracted

of the valley is south, and it is from 1 to 3 miles in width, but the river makes many bends and swings from side to side of it, and the bottom lands are more frequently divided by sloughs or by channels cut during freshet seasons through the silty and loose formation. The Klutchman and Little Canyons being almost exceptional points where there is only 1 channel, confined between rugged but receding rock walls, respectively 300 to 400 feet apart and $\frac{1}{2}$ of a mile in length at the former, and 100 to 150 feet apart for $\frac{1}{4}$ of a mile at the latter. In both cases the direction of the river between the rocky shores is straight.

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GLENORA RAPIDS, STIKINE RIVER, LOOKING UP.

the process of transformation has been at work there, as well as in Wrangel.

Lying on the beach at Wrangel is the hull of the old river boat that plied the Stikine during the first boom. This moss-grown relic of former shipping is all that is left of the

Rudder Grange, which used to clear \$135,000 a season. When its machinery gave out, the old stern wheeler was transformed into a hotel. Then it became the rendezvous for wandering Chinamen, who worked the deserted piers. After the Rudder Grange fell to

other transportation companies are preparing to take a hand in the traffic.

The Dominion Government has decided to send immediately the Chief Engineer of Public Works, L. Coste, and the Chief Engineer of Marine, Lieut.-Col. Anderson, to the Stikine River and over the Canadian route to Dawson City, for the purpose of seeing what improvements are necessary to overcome obstructions to navigation. It is the intention to erect a wharf at Dawson.

The C.P.R. Co. is having 10 light draft, flat-bottomed stern wheel steamers built for the Stikine River. Seven of these are being built of wood, 3 in Vancouver and 4 in Seattle, Wash. The other 3 which will have steel hulls, are being built in To-

ronto, one of them by the Polson Iron Works. The 3 being built in Toronto will have a length over all of 161 ft. 6 ins.; length, from stern to transom, 140 ft.; breadth moulded, 30 ft.; depth moulded keel plate to beam at side, 5 ft.; at centre, 5 ft., 7 1-2 ins. The engines will be 1 pair high pressure, non-condensing type, with cylinder 16 ins. bore, 72 ins. stroke. The boiler will be of the locomotive fire-box type, of ample capacity, and to pass Govern-

ment inspection for 175 lbs. working pressure. The construction of the hull throughout will be of open hearth steel, except the bottom, which is to be B.C. fir to the turn of the bilge. There will be two fore and aft water-tight bulkheads, and several cross water-tight bulkheads athwartships. The decks and deck houses will be of wood, and, with the bottom, will be put in by the C. P. R. Co. at the Pacific Coast, where the boats are to be completed by the end of April. The boats will have a draught of 18 ins. when light, with a capacity for 100 tons of freight and 200 passengers each, and will have a speed of 15 miles an hour in quiet waters. It is expected that the hulls and

machinery will be sent from Toronto during this month to Vancouver, where they will be put together. The use of steel for the hulls will render the boats much lighter than if built of wood. The seven wooden ones being built at the coast will have similar dimensions. The Hudson's Bay Co. are having two steamboats built for the Stikine. They will be 140 ft. long and 32 wide, capable of carrying about 100 passengers and 80 to 100 tons of freight, and will be lit by electricity. The B. C. Iron Works, Vancouver, are manufacturing the machinery, and J. H. Moir, New Westminster, is building the boats. Until July, three of Mackenzie and Mann's boats will run on the Stikine, but after that they will be transferred via the Yukon to Teslin Lake. Maitland Kersey's Co. is also preparing to handle the river traffic. J. Todd, who has had 20 years' experience navigating the Missouri, and Messrs. Hagerty and McCaskey, recently went to Victoria to supervise the building of 3 steamboats for the Stikine route. The steamers are to be 156 ft. over all and 33 ft. beam. The boilers and machinery are being constructed by Jas. Reese & Sons, of Pittsburg. Four other stern-wheel steamers are being constructed in Vancouver for another company which is competing for a share of Stikine transportation. W. J. Stephens, of Victoria, is building 3 stern-wheel steamers for a B. C. syndicate and a twin-screw boat for a Tacoma firm. The former are to be used on Lake Bennett, and the latter on Teslin Lake. F. M. Rattenbury and W. E. Dowler, of Victoria, also have under supervision the construction of river steamers for an English syndicate. The Stikine Navigation Co. was recently incorporated to engage in the northern transportation business.

From Telegraph Creek to Teslin Lake, pack trains will have to be used until Mackenzie and Mann have completed the railway across country a distance of some 130 or 140 miles. Sections of the line will be used as soon as completed. The trail from Telegraph Creek to Teslin Lake is through an undulating country, partly covered with scrubby timber. The road built by the Government follows a comparatively flat country, the swampy land being



KLUTCHMAN CANYON, STIKINE RIVER, LOOKING UP.

ruin, few boats except canoes were seen on the Stikine. Occasionally the H. B. Co.'s boat, the Caledonia, beat her way against the current, carrying supplies to trading-posts. The steamer made two trips from Port Simpson to the Stikine River and up to Telegraph Creek in 1896 and two in 1897; and her time, according to Mr. Ogilvie, from Fort Simpson to Wrangel, averaged 16 hours. The Caledonia draws, when loaded, 4 feet of water and only on the tidal flats at the mouth of the river was she bothered by shallow water. "At some points," reports Mr. Ogilvie, "short bends with a swift current required the aid of a line to surmount, but this was more to keep her in the channel than to help up. Sudden rises in the river also bring down lots of driftwood, which compel tying up until it abates. Her average time of ascent was about 37 hrs., exclusive of the time lost wooding up. Her average time of descent was about 14 hrs., including time wooding up and all stops. This boat is 150 ft. long, 24 ft. 4 in. beam, 2 engines, 1 cylinder 16 in. bore and 6 ft. stroke; steam pressure allowed 130 lbs; average used 90. Wheel makes ordinarily 24 revolutions a minute in dead water, but ascending swift current as many as 35 are made. Her average rate in dead water is about 10 1/4 miles an hour. Her rate up the Stikine is about 4 miles an hour and down about 12 1/2." The Caledonia was recently sent to New Westminster to have her machinery transferred to a larger hull with lighter draught. The new hull is to be completed on April 15, when the Caledonia is to go north for the purpose of carrying Klondikers up the Stikine. The old hull is to be converted into a barge to carry fuel for the river steamers. Besides the Caledonia, the Alaskan, a flat-bottom, stern-wheel, old craft in the last stages of dilapidation, made a trip in October, 1897, taking up prospectors at a charge of \$100 each, and taking ten days for the journey to and from Glenora.

Such has been the navigation of the Stikine in the past, but next summer will witness a marvellous transformation. The boats of the C.P.R., the C.P.N. and H. B. Co., alone will make a large fleet on the river; and many

other transportation companies are preparing to take a hand in the traffic. The Dominion Government has decided to send immediately the Chief Engineer of Public Works, L. Coste, and the Chief Engineer of Marine, Lieut.-Col. Anderson, to the Stikine River and over the Canadian route to Dawson City, for the purpose of seeing what improvements are necessary to overcome obstructions to navigation. It is the intention to erect a wharf at Dawson. The C.P.R. Co. is having 10 light draft, flat-bottomed stern wheel steamers built for the Stikine River. Seven of these are being built of wood, 3 in Vancouver and 4 in Seattle, Wash. The other 3 which will have steel hulls, are being built in To-



LITTLE CANYON, STIKINE RIVER, LOOKING UP.

corduroyed. The railway contractors are to construct and to have ready during this month a good road from the mouth of the Stikine to Lake Teslin, with suitable stopping places every 25 miles.

Once at Teslin Lake, all will be compara-

tively plain sailing. Another fleet of stern-wheel steamers will be waiting, and in three days—the time given by a surveyor, who has passed a long service in that country—a passenger should arrive at Dawson City. On Lake Teslin, which is from 2 to 5 miles wide and 80 miles long, a steamer is now completed, and arrangements are being made for the placing of many others on the lake prior to or on opening of navigation. Lumber is plentiful around the lake for the construction of boats and batteaux by those who wish to prospect en route, and last season a number of craft, each capable of carrying three or four passengers and five tons of freight safely to Dawson City, were easily constructed in two days.

There is clear navigation from the head of Lake Teslin to Dawson City, with but one rapids—that of Five Fingers—along the entire distance, and this, with care, is reported to be usually navigable on the northern or right-hand channel. Out of Lake Teslin flows the Hootalinqua or Teslin River, which, after being joined by the Big Salmon River, is known as the Lewis, which is followed to Fort Selkirk, where, with the Pelly, it forms the Yukon, of which it is the principal source.

It is said that by the arrangements which are being made on the Teslin route the trip from Vancouver to Dawson City will be made in a fortnight during the early part of the season; and it is believed that with the railway in operation this time will be cut down to about a week.

By the Yukon River.

"Starting from Victoria, or Vancouver," says Wm. Ogilvie, of the Yukon River route to the gold fields, "we make our way by an ocean steamer to St. Michael's, about 2,700 miles from Victoria or Vancouver. The steamer approaches St. Michael's a greater or less distance as she draws more or less water. A boat drawing 12 ft. or less may come within a mile of it—one of greater draught has to anchor further out. The cargo is discharged on lighters, towed by small steamers to the warehouses of the several companies. From here up to Dawson or other points on the Yukon, passage is made on stern-wheel steamers, of which there are at present 7 or 8. Four belong to one of the trading companies, three to the other, and one or two to other parties. The time taken in ascending the river from St. Michael's to Dawson, supposing we have fair weather continuously, is from 14 to 18 days. The steamer has to fight its way up this long stream against a stiff current, with, in low water, shallow places at several points: also there is much time lost procuring wood. Much of the fuel at present used is cut by Indians, and piled up along the banks. For the first 500 miles upwards the fuel consists entirely of driftwood, as there is no timber in the vicinity of the river large enough to be utilized for that purpose. Above this point timber is plentiful, but green. The boat is tied up to the beach, all hands available sent ashore, trees cut down, generally carried on board in long lengths, and sawn into proper lengths for furnace use on board. Much of this is entirely green, as what little dry wood was scattered along the bank of the river has been pretty well used up. In the future much delay will be caused to steamers on this account, as the wood gets further and further from the river. Heretofore, there were

only 3 or 4 steamers plying on the river. Next summer there will probably be 25 or 30. These will use up in a single trip all the wood cut, as the steamers now on the river use from 16 or 18 cords a day to 24 or 30.

"Through the kindness of Capt. Kennedy of the Alaska Commercial Co.'s steamer Alice, I am able to give her dimensions and the log of one of her trips. Capt. Barr of the North American Transportation and Trading Co. kindly gave me from his logs the distances from point to point along the river as he deduced them from the travelling rate of the steamer. I am inclined to think his distances are overestimated and that a survey of the river will prove it shorter than he puts it. Dimensions of steamer Alice: Length 165 ft.; beam 32 ft.; depth 8 ft. Compound tandem engines, but no condenser, high pressure cylinder, 14 in. bore, low pressure, 22 in. Length of stroke 6 ft. Steam pressure 150 to 180 lbs., consumption of wood per day 16 to 18 cords. She can carry about 500 tons, but when so loaded draws too much water for the river (about 5 1/2 ft.). In 1896 she made a trip from St. Michael's to Fortymile as follows; the distances are by Captain Barr: St. Michael's to mouth of Yukon, 72 miles, 9 hrs. 40

season, it has never been repeated since. The fastest round trip on record, from and to St. Michael's, was made by the same Co.'s steamboat Alice, in 1897. It took less than 22 days. As a rule, the trip occupies a month. We may generally count on several days detention at St. Michael's. There high winds render it impossible for the river steamers to make their way over Behring Sea to the mouth of the river. The same detention may be caused on the return trip, and the steamer may have to lie in the mouth of the river for days. Then, again, the channel at the mouth is shallow and crooked, and as it is only open for 3 or 3 1/2 months in the year it is impossible to mark it, and even if we could do so it is not permanent, for the ice drifting about in the shallow water in Behring Sea often ploughs up the mud in ridges, making barriers across places which were heretofore good, deep water. In 1896 a boat ran on to a barrier near the mouth of the river and lay there for 14 days before the wind and tides combined raised the water high enough to enable her to float. To enter the country by this route we need not contemplate arrival at Dawson much earlier than the middle of July. The ice in the river breaks about the middle of May, but

Behring Sea, as a rule, is not open until the last 10 days of June—indeed, in 1896 it was not until July 7 that the ocean steamer could approach St. Michael's."

St. Michael's is on an island in Norton Sound, 70 miles north of the Yukon's mouth, and is the commercial capital for the Yukon and Arctic regions. Besides the trading warehouses and officers' houses, there are a Swedish mission and school and some other church mission-houses in St. Michael's. Since the rush north ward set in, St. Michael's has expanded greatly, the new structures consisting chiefly of lodging-houses, hotels and saloons.

Instead of half-a-dozen steamers plying the Yukon, as heretofore, there is likely to be a fleet of 50 steamers on the river this summer. The Alaska Commercial Co. is now having constructed 14 large river steamers and a large number of barges to be used in the navigation of the Yukon between St. Michael's

and Dawson City. Maitland Kersey states that steamers are now being built in England for use on the Yukon River by his company. These steamers will be shipped in sections and put together in B.C. The C.P.N. Co. has river steamers to connect with its ocean vessels. A few weeks ago, a stern-wheel steamer, named the Research, destined for the Yukon, was launched in London, England. She draws 2 ft. 6 in., has a speed of 10 knots, and carries stores for 15 months. Her 22 passengers are to live in her commodious deck house after reaching Dawson City.

Anticipating the great river traffic, the U.S. Government is sending Prof. Pritchett, of the Coast & Geodetic Survey, to Alaska, to make an examination of the delta of the Yukon, for the purpose of locating & marking the deep-water entrance to the river. For this Congress has appropriated \$10,000, and the 30 men composing the party leave San Francisco for the north in April.

It is quite an easy thing to build a boat, but, according to President Maitland, of the Alaska Trading & Navigation Co., a boat to the Yukon is not for the same sort of that would do for other service. The largest Yukon river steamer,



RAPIDS ABOVE SHAKES, STIKINE RIVER, LOOKING DOWN.

min., mouth of Yukon to Nulato, 576 miles, 81 hrs. 30 min., Nulato to mouth of Tanana, 249 miles, 36 hrs. 30 min., mouth of Tanana to Fort Yukon, 456 miles, 60 hrs. 25 min., Fort Yukon to Circle City, 88 miles, 21 hrs. 10 min., Circle City to Fortymile, 156 miles, 47 hrs. 40 min., Fortymile to Sixtymile, 97 miles, 19 hrs. 15 min. This makes the total running time from St. Michael's to Fortymile 255 hrs. and 25 min., or ten days, 15 hrs. 25 min., the distance being 1,597 miles. In addition she must have lost 4 to 6 hrs. at least per day cutting wood and loading it.

"After we get up the river some 1,300 miles we strike what is known as the Yukon Flats. These flats were no doubt the site of a lake ages ago, now filled up with numberless islands and channels, most of which are too shallow, crooked and narrow for steamboat passage. The sand and mud drifts about in them, changing the course of the steamboat channel, and every year appears to be getting more and more difficult of navigation. In the summer of 1895 water remained high until well into September; the result was that one of the Alaska Commercial Co.'s steamers, the Arctic, made 5 passages from the mouth of the river to Fortymile. This is the record

A of water, & stuck last season. Flat-bottom boats, 195 ft. long & 36 1-2 wide, drawing 21 ins. when loaded, & made of wood, are supposed to be the most practicable for the river. A boat of this kind will carry 100 passengers & 300 tons of freight. It can be placed on land in the winter & used for an hotel. The bare hull, covered so that it will float with either side up, is towed by an ocean steamer from Seattle to St. Michael's, & the machinery is shipped as freight. One ocean steamer can tow 2 of these hulls. The expenses of running the boats are high. River captains on the Yukon command a salary of \$250 a month, & they are paid that the year round on contract, although the season of navigation commences about June 20 & closes about October 15 or 20. Pursers are paid \$200 a month on a year's contract, & pilots get \$175 a month. A river steamer can make only 2 round trips from St. Michael's to Dawson City in one open season. Many have tried to make 3, but were generally stuck in the ice on the latter half of the trip. Mr. Turner does not see how the thousands of people who will be carried to St. Michael's in the ocean steamers will find their passage up the river to Dawson City. One ocean steamer carries 500 to 800 passengers, while a river steamer on the Yukon can, as a rule, carry only some 200.

The Sintram is being sent north from San Francisco to St. Michael's, the first of several new steamers for the Yukon. The old whaler, Lew Williams, has also joined the river fleet. Capt. Armstrong & Mr. Barber are putting on the Yukon a boat of about 126 tons. Having sold their old steamer to the eager miners, the Jesuit Fathers of San Francisco are having a new steamer, 92 by 22 ft., built to run between their Yukon mission stations.

Moran Bros. Co., Seattle, Wash., write THE RAILWAY & SHIPPING WORLD that in addition to the torpedo boat Rowan, which is nearing completion for the U. S. Navy, it has under construction in its yards at Seattle 17 river steamers & 25 barges. Of the steamers 14 are being built for the Yukon Co., the other 3 being for the Seattle & Yukon Steamship Co. The steamers for the Yukon Co. consist of 6 vessels 260 ft. long & 50 ft. beam, six 175 ft. long & 35 ft. beam, & two 100 ft. long & 22 ft. beam, all of the stern-wheel light draught type. The first 12 are designed & fully equipped for passenger & freight service. They are to have 3 decks, with the best cabin accommodations. Two steamers building for the Yukon Co. are tow boats for river & coast service. The river barges are also being built for the Yukon Co. They are to be 30 by 120 ft. with flat bottom. They are intended to carry a deck cargo only & are to have a freight house on deck. These steamers & barges are for service on the Yukon River, & are to be delivered at the time navigation opens on the river the coming season. Their approximate value is \$1,000,000. The vessels under construction for the Seattle & Yukon Steamship Co. consist of 2 steamers designed & equipped for passenger & freight service, 190 ft. long & 32 ft. beam, & a tow boat 100 ft. long & 22 ft. beam, all of the stern-wheel, light draught type. The approximate value of these is \$100,000 & they are also to be in service during the coming season on the Yukon River. The machinery for all these steamers was designed by Moran Bros. Co. & is being built by it in its yard at Seattle. The first steamer is to be equipped with a complete electric light plant. Moran Bros. Co. also operates a ship yard at Dutch Harbor, Unalaska, where it has under construction 2 passenger river steamers, 190 ft. long & 32 ft. beam, & 1 river tow boat 120 ft. long & 26 ft. beam, all of the stern-wheel type. A fourth steamer is being constructed there by it, which is 140 ft. long & 28 ft. beam. The hull for this vessel is of steel & was purchased in Toledo, Ohio, & shipped

west in sections. It is being reconstructed with new house & cabin, fully equipped for passenger & freight service. Several river barges are also being constructed at this yard. All the vessels being built at Dutch Harbor are to be delivered in the early spring to the North American Transportation & Trading Co., for whom Moran Bros. Co. has already constructed several steamers now doing satisfactory service.

The Polson Iron Works, Toronto, is building for the Yukon & Klondike Pioneers Co., for the Stewart River, a tributary of the Yukon, a flat-bottomed, stern-wheel steamer, 58 ft. long & 10 ft. beam, which when light will draw about 12 ins. of water & will have a speed of 12 miles an hour.

Through the courtesy of Passenger Traffic Manager McNicoll of the C.P.R., we are able to give at the back of this issue a copy of his Co.'s excellent map showing its routes to the Yukon gold fields, which will be found valuable to refer to while reading this article.

Richelieu & Ontario Navigation Co.

Senator Forget, the President, presided at the annual meeting in Montreal, February 6. The report stated the gross receipts for the year were \$688,026.09, operating expenses \$552,950.94, fixed charges \$26,945.09, & the net profit \$108,130.06. Two semi-annual dividends of 3 per cent. each amounting together to \$81,000 were paid, leaving \$27,130.06 to be carried to surplus.

Notwithstanding some unfavorable circumstances, such as cold weather during most of the spring & part of the summer, & the laying up of one of the Western steamers in the middle of the season on account of smallpox, the earnings show a gratifying increase over the previous year both in the gross & net results.

Carrying out the intention of this & previous boards of paying off the Co.'s floating liabilities, a sale of \$150,000 of stock was made at par on Nov. 2 last. As a result of this sale & of the general operations for the year, the statement shows \$15,280.17 cash on hand, as against a floating debt of \$188,989.34 on Dec. 31, 1896.

In conformity with the deed of trust, 38 bonds of £100 sterling each, amounting to \$18,493.32 have been withdrawn & cancelled, making a total to date of \$36,013.32. The Co.'s hotel at Tadouac has continued to show satisfactory results, & in consequence of its inability to accommodate the visitors offering, an enlargement of the building was made during last autumn by which its capacity has been increased over one-half.

With the view of meeting the want for larger steamers on the line between Toronto & Montreal, the directors, in Nov. last, entered into a contract for a modern first-class passenger steamer, 277 feet in length, to be ready for the ensuing season, & at the same time made arrangements for the necessary capital for her construction by the sale of 2,400 shares of stock at par. It is the intention to build another steamer of similar class for the same route to be ready for the season of 1899.

Following is the financial statement:—

ASSETS.	
Steamers, real estate, buildings, wharves, &c.....	\$2,165,709.69
Coal, stores, provisions, &c....	82,306.82
Accounts receivable.....	60,785.42
Cash in bank.....	15,280.17
	\$2,324,082.10
LIABILITIES.	
Capital stock.....	\$1,500,000.00
Bonds, 5 p.c. sterling.....	\$571,833.33
Less cancelled.....	\$36,013.32
In treasury.....	12,653.34
	48,666.66
	\$523,166.67

Accounts payable.....	68,142.99
Unclaimed dividends.....	783.00
Accrued interest on bonds.....	8,930.32
Surplus.....	223,059.12
	\$2,324,082.10

INCOME ACCOUNT.

ASSETS.	
Dividend 6 per cent. Paid May 2, 1897..	\$40,500.00
Dividend 6 per cent. Paid Nov. 2, 1897..	40,500.00
	\$81,000.00
Carried to surplus December 31, 1897.....	27,130.06
	\$108,130.06

LIABILITIES.	
Net income over & above expenses, fixed charges & interest, for year ended December 31, 1897.....	\$108,130.06

The report having been unanimously adopted, the following were elected directors: Hon. L. J. Forget, W. Wainwright, F. C. Henshaw, Hector MacKenzie, E. B. Garneau, C. O. Paradis, Jas. Swift, Jos. Lewis, J. K. Osborne, R. Forget & W. Hanson. This is the same board as last year with the addition of J. K. Osborne, of Toronto. At a directors' meeting held afterwards, Senator Forget was re-elected President, & W. Wainwright, Vice-President.

THE NEW STEAMBOAT.

Following is a description of the steamboat Toronto, now being built, and which is to be completed this season to run between Toronto and Prescott:—Length over all, 277 ft.; breadth of hull, 36 ft.; breadth over guards, 62 ft.; depth of hull, 14 ft.; draft of water, 8 ft. 6 in.

The hull will be of open hearth steel with 4 water-tight bulk-heads. It will have considerable dead rise on the bottom with sharp lines forward and aft, permitting easy propulsion. The general shape of the hull under water is based on experience gained with the Niagara Navigation Co's steamboat Corona, of Toronto, which is considered a decided success, both in regard to economy and speed.

The engines will be inclined triple expansion with 3 cranks and 3 cylinders, respectively 28, 40 and 74 in. in diameter and 6 ft. stroke, each built for a working pressure of 175 lbs. of steam per square in., and for a speed up to 40 revolutions, with feathering paddle wheels 22 ft. in diameter, with curved steel buckets.

The boilers will be 4 in number, of Scotch pattern, 11 ft. in diameter and 11 ft. 6 in. long. Each boiler will have 2 furnaces of Adamson type, 40 in. in diameter, fitted with the Howden system of hot draft.

The general outfit, including anchors, chains, windlasses, steam capstans, fire & life-saving apparatus, water-tanks for trimming purposes, steam steering gear, steam heating, waterworks & artificial ventilation plant, & electric light plant for 700 lights, will be of the latest & most approved designs.

The passenger accommodation will be of the same general description & ornamentation as that of the steamers of the New York & Fall River Line, & more especially that of the steamboat Plymouth, with 2 tiers of staterooms in the upper saloon & a capacity for sleeping 400 passengers, in addition to crew, & with the dining-room on the highest deck forward.

The average time-table speed will be 17 miles an hour, with a capacity for 20 miles when required, which will permit of more convenient hours of sailing being arranged for than at present.

J. F. Wardner, the founder of Wardner in East Kootenay, B.C., will probably engage in the Yukon transportation business.

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TORONTO, CANADA, APRIL, 1898.

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VOL. I. NO. 2.

TORONTO, CANADA, APRIL, 1898.

\$1 A YEAR.

The Minister of Marine.

Of Canada's varied & rich resources none should be more prized than the fisheries; & in a country whose vast lakes are inland seas & whose great rivers are the channels of a nation's commerce marine interests can never take second place. It is over the Department of Marine & Fisheries that the subject of this sketch, the Hon. Sir Louis H. Davis, K.C.M.G., presides.

Sir Louis Davis was born in Charlottetown, P.E.I., May 4, 1845. His father, the Hon. Benjamin Davis, M.P.P., of that city, was the son of Nathan Davis, who was one of the pioneers of the Island, coming to the colony in 1812. Sir Louis received his early education in Central Academy, Charlottetown, afterwards attending the Prince of Wales College & completing his professional education at the Temple, London, Eng. He was called to the Bar of P.E.I. in 1866, & six years later married the fourth daughter of the late Dr. A. V. G. Wiggins. A Liberal in politics, Sir Louis soon became prominent in his party, being Solicitor-General for the Island in 1869, again in 1872-73, & leader of the Opposition in the Legislative Assembly until Sept., 1876, when he became Premier & Attorney-General. In March, 1879, his administration resigned. In Nov., 1880, he was appointed Q.C., & in 1882 was elected to the Dominion Parliament, being again returned in 1887, 1891 & 1896. In the Federal House he became known as a shrewd & able critic, & a dashing & fervent debater. At the general convention of the party held in Ottawa, June, 1893, he was chosen leader of the Liberals of the Maritime Provinces. When the change of government took place the ability & services of the Maritime leader were recognized & he was sworn as member of the Privy Council & appointed Minister of Marine & Fisheries. His re-election was by acclamation. The activities of Sir Louis have not been confined to purely political matters. As President of the Merchants Bank of P.E.I., counsel for the tenantry before the P.E.I. Land Commission, & Canadian counsel before the International Fishery Commission at Halifax, he has become prominent as one whose interests are identified with those of the Maritime Provinces. In 1897, on the completion of the 60th year of H.M.'s reign, he was appointed Knight Commander of the Order of St. Michael & St. George, a fitting recognition of his public services. Sir Louis is a member of the Church of England.

A new office has been created on the G.T.R. Prof. McLeod, of McGill Observatory, has been appointed to have full charge of the transmitting of time over the wires, as well as the company's clocks & employees' watches.

J. A. Richardson, heretofore Canadian Passenger Agent of the Wabash, with office at Toronto, has been appointed District Passenger Agent with headquarters at Toronto and St. Thomas. He will have immediate supervision over passenger business originating in Canada.

MEETINGS, REPORTS, &c.

The Grand Trunk's Semi-Annual.

The half-yearly meeting of G.T.R. shareholders, held at the Cannon St. Hotel, London, Eng., April 5, was most enthusiastic.

The directors' report presented shows a net revenue surplus for the half-year ended Dec., 1897, of £275,263, being an increase of £236,177 over the corresponding half-year of 1896. The passenger traffic decreased £151,728 compared with 1896, however. Freight & live stock increased 410,960 tons, & the earnings per train mile increased 7d. The working expenses decreased nearly 7%.

The Chicago & Trunk shows a deficit of £49,467, being £17,950 better than 1896. The Detroit & Grand Haven shows an increased net revenue of £21,373, leaving a net deficit of £2,174 on revenue charges.

The directors report that an agreement has been entered into granting the Wabash R. Co. joint use for 21 years of a portion of the G.T. lines, between Windsor & Black Rock station & the G.T.R. in Buffalo. The



SIR LOUIS H. DAVIES, K.C.M.G.

agreement provides that the Wabash pay the G. T. a rental commencing at \$275,000 a year, to be increased at the end of every 5 years by \$25,000 a year, until it reaches a maximum of \$350,000 a year, at which rental it will continue for the remaining 6 years of the agreement.

The directors regret to report that amicable relations with the C.P.R. have been interrupted in consequence of the unwillingness of the C.P.R. Co. to agree with its U. S. competitors & the G.T. upon equal passenger fares to & from western points. The negotiations which are now in progress it is hoped will result in a satisfactory adjustment of the disputed matters.

The directors record a high appreciation of the great ability displayed by General Manager Hays in promoting the interests of the Co. & of the exertions manifested by him & his staff towards the achievements of the remarkable results attending the working of the road in the past half-year.

The opening remarks of Sir Charles Rivers-Wilson, President, were warmly received, be-

ing punctuated with cheers as he recapitulated the heavy decrease in the expenses & the increases of revenue under the new regime. He gave great credit to the administrative ability of the staff in Canada, & praised them in the highest terms for the remarkable results, as shown by the statements up to the end of 1897.

"The Co. is not now only free from debt, for the first time since 1890," he continued, "but has more than enough cash on hand to meet the outstanding liabilities."

But while this was satisfactory the shareholders must be prepared for an expenditure from the capital account owing to the necessity for strengthening the line in order to haul heavier loads. This would begin on the Portland Division, and they would in June begin saving £8,000 yearly by a reduction of interest owing to the redemption of the 6% bonds. The expenditure from the capital account would be spread over a series of years so as not to cripple any particular year. The President said the Victoria Jubilee Bridge at Montreal was progressing satisfactorily. He expressed the belief that an agreement with the Government in regard to the Intercolonial running powers would soon receive statutory sanction, & said the principle which the present board had always followed was to seek the maximum amount of business at the minimum cost. He congratulated them upon the results of this policy, which, he said, was best illustrated by the fact that the road during the last half-year had hauled 25.4 freight cars per train, compared with 22.8 during the preceding half year.

He especially congratulated the meeting on the building up of the Portland trade. The G.T.'s proportion of the earnings on the Montreal and Portland line was for 1897 almost double that of 1896, & three times that of 1895. He, however, said nothing in reply to the criticism of the G.T. building up foreign ports.

Referring to the rate war he made a long exposition of the differences with the C.P.R., beginning with the Toronto & North Bay disputes. He insisted that the G.T. had, by repeated proposals for arbitration and otherwise, done everything to avert the war. He declared the C.P.R. desired an exclusive contract with the G.T.R. in order to weaken the Chicago connection & damage the G.T.'s connecting roads to Chicago. The G.T.R., he said, would never give up its close alliance with its allies. On the larger question of differentials & the Klondike business, he said the C.P.R. had yet to prove its title to a differential. The negotiations would be continued next month, when it was believed an agreement would be reached. He did not believe that Sir Wm. Van Horne was serious in threatening to build a new parallel line from Toronto to North Bay. He could not conscientiously recommend the English public to find the money. He did not grudge Sir Wm. Van Horne and Mr. Shaughnessy their pride in the C.P.R., but he believed they would soon see the error of their ways & come to an agreement. He also declared the future was filled with the brightest promise, &

concluded with a warm eulogy to Mr. Hays & his staff, which was much cheered.

Mr. Girdlestone, of Bristol, who recently visited Canada, gave a eulogistic description of the property, but was howled down by the meeting.

An attack upon the board was made by Mr. Baker, of Bristol, who declared there was no truth in the statement of the President regarding the G.T.R. not beginning a rate war, which, according to Mr. Baker, was brought about in the interest of the U. S. allies of the road.

The President denied Mr. Baker's assertion, & apologized to Mr. Girdlestone for the meeting's behavior.

The report of an agreement with the Wabash Railroad for access to Detroit was adopted unanimously.

The retiring directors were re-elected as follows: Sir C. Rivers-Wilson, Jos. Price, G. Allen, G. Von Chauvin, J. A. Clutton-Brock, Col. F. Firebrace, A. Hubbard, Sir H. M. Jackson, L. J. Seargeant, A. W. Smithers, Lord Welby of Allington, Sir W. Lawrence Young. The retiring auditors were re-elected as follows: G. B. Newton & F. Whitney, London, Eng.; W. M. Ramsay & T. Davidson, Montreal.

Canadian Pacific Annual Meeting.

The annual meeting of the C.P.R. shareholders was held in the Board Room of the Co.'s offices in Montreal, April 6. The proceedings were just about as they always are at these meetings. President Sir Wm. Van Horne took the chair sharply at noon, flanked by his able lieutenants Messrs. Shaughnessy, Drinkwater & Ogden. Representative capitalists from all over Canada as well as some from England & New York were present, also John Morrison, the venerable critic of the management, his hands full of memoranda, the result of an evidently thorough dissection of the annual report. The President moved the adoption of the report, which was published in our last issue. Mr. Morrison made an even more lengthy & sarcastic criticism of the management than customary, the President joined heartily in the laughter aroused by the blunt jokes made at his expense, put the motion to adopt the report to the meeting, & solemnly declared it carried. Then the usual batch of formal resolutions about the leasing of side lines, etc., was adopted with impressive formality, the balloting for direc-

tors began, & the meeting was practically over.

In moving the adoption of the report, Sir William said: "In submitting the annual report of the directors for your approval, a brief explanation of our difficulties with the American transcontinental lines may not be out of place.

"For a number of years prior to 1894 the C.P. had, by agreement with the transcontinental lines, been allowed certain differential rates on passenger traffic between the Eastern States & Eastern Canada & the Pacific Coast. The principle of differential rates when applied to our case was not a new one. It was adopted a great many years ago as a means of adjusting the difference in conditions between competing lines, & differentials are in use today for this purpose in various parts of America, & even between the Atlantic seaboard & Chicago, where they are accorded to certain of the trunk lines, including the G.T. In 1894 the situation of the C.P. as regards through passenger traffic had considerably improved, & a new agreement was made whereby the C.P. differentials on transcontinental passenger traffic were reduced & were confined in the east to a restricted territory. They applied to all points on the Pacific Coast. At that time there was not much travel to & from Alaska, but a few months back it became apparent that it would soon reach large proportions, & about the opening of the present year, & just as the new stream of travel was setting in, we discovered that the agreement of 1894 was being violated by our competitors. Our agents bought quantities of tickets at the agencies of the Great Northern & Northern Pacific Co.'s, not only at our differential rates, but far below them. The evidence was unquestionable, & the facts as to the broken rates & as to who broke them are not now denied by anybody.

"We called the offending lines to account for their violation of the existing agreement, & they replied that they had decided to no longer consent to differential rates on Pacific Coast traffic, & they asked for a meeting concerning the question. We insisted on their restoration of the rates & terms of the existing agreement as a condition precedent to a meeting. They refused, & we then, after notice, published an open tariff making such rates as the provisions of the law & the interests of the C.P. seemed to require.

"The question at issue at this time is not whether there shall or shall not be differential rates; that question we are prepared to dis-

cuss on its merits when a meeting is held for the purpose of revising the agreement of 1894. The question now is whether, as a condition precedent to a meeting of the lines interested for the purpose of revising this agreement, the rates & conditions ante bellum shall be restored. We have a right to insist on this, but in the interest of peace we have been willing to leave to disinterested arbitration the question as to whether the rates & conditions shall be restored in whole or in part, or not at all, pending a meeting. A resolution providing for such arbitration was offered at the conference of the lines interested at New York three weeks ago. This resolution was supported by the G.T. & all the other parties interested, except the U.S. transcontinental lines, whose representatives asked for time, & subsequently recorded their votes against it. There can, therefore, be no question as to where the responsibility lies for the continuance of the disturbance.

"The decision of the Interstate Commerce Commission at Washington, on suspending the 'long & short haul' clause of the Interstate Commerce Act, has been pointed out as showing that we were in the wrong & our competitors in the right. It shows nothing of the kind. It was a decision on ex parte evidence, & clearly stated that the Commission was in possession of evidence of the cutting of rates before our tariff was published, & the decision contains the distinct statement that but for a technicality in connection with the issue of our tariff the action of the Commission on the application of our competitors would have been different. These are the words of the decision in that regard:

"'If the Canadian Pacific made these rates with the concurrence of its American connections, observing, as it apparently now does, the rule of the fourth section, an entirely different question would be presented.'

"While we are earnestly desirous of peace & willing to go as far as we can towards securing it, the present & future interests of the company must not be overlooked. I am glad to be able to assure our shareholders that up to this time the company's revenues have not suffered through the existing difficulties, & I may point to the fact that during the month of March, over the whole of which the disturbance extended, our increase in earnings was \$541,000.

"I cannot dismiss this subject without referring to the action of the G. T. Co., with which we have so long been at peace, in aiding our American competitors to carry their

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The GURNEY FOUNDRY COMPANY, Limited, Toronto

Mention this paper when writing.

reduced rates into our territory. We believe that the cancellation of the North Bay agreement by the G. T. two months ago was the result of an understanding with the American lines, & was intended to place us at a disadvantage in the coming contest; & in view of our past relations & the loss of revenue that must result to the G. T., their action is inexplicable.

"But now let me turn to something more agreeable. We have had a fairly prosperous year, & the financial results, after due provision for all expenses of working & ample maintenance, have enabled the directors to make a distribution of dividends at the rate of 4% for the past year, & to carry forward \$897,088 surplus to the reserve, & so far as we can see this prosperity will continue and increase.

"We have never entered upon a new year with so cheerful an outlook as at present. An analysis of the traffic of the various sections of the main line, the branch lines, & the auxiliary services on the sea, lakes, & rivers, shows that practically no mistakes have been made in the development of the system so far as we have gone. Some things have had to be done ahead of time in order to protect our future, & we have had to wait for a good many vacant spaces on our lines to become productive, but nearly all of these spaces are now yielding revenue, & practically all of our branch lines are self-supporting.

"We have been forced to make lines which we did not, at the time, wish to make, but the results have shown that we have nothing now to regret in this regard. Our heavy movement of passengers westward is not all towards the Klondike by any means. A great many settlers are going to the prairies of the Northwest, from the soil of which gold will the more surely come, & a great many more are going to take farms in British Columbia or to work the big mines of the Kootenay. Our reports tell us that the area of land prepared for seeding in the Northwest is 20% greater than ever before, & development & new industries seem to be the rule everywhere in the vicinity of your lines.

"The directors are asking your authority to expend a considerable amount of money for improvements of various kinds. These expenditures have in the past brought a very handsome return, as is evidenced in part by the reduction in our ratio of working expenses to gross receipts to 57% & the expenditures now proposed will be equally profitable. The directors are also asking your authority to provide adequate rolling stock for the further increase in traffic which they confidently expect, but the money will not be expended unless the need becomes a certainty. The use of extra heavy locomotives which has been made possible by the improvement in the permanent way has had a marked effect on the cost of transportation, & within a short time only the heavier type of locomotives will be used on your principal lines."

MR. MORRISON'S INEVITABLE CRITICISM

was about on the usual lines. He said the annual dividend had been more meagre than the financial results of the year warranted. Instead of carrying over such a large surplus, the directors should have made the last semi-annual dividend 3½ instead of 2½%. He hoped it was not the intention to give the surplus withheld from the common stockholders to the holders of preferential stock. He regarded with pleasure the decrease in the working expenses, which were 3.64% less than last year. He understood that the ratio of expenses to earnings was the lowest in the history of the company.

The President said it was.

Mr. Morrison, continuing, remarked that he thought the report highly optimistic, the position being distinctly boomed on every page. He asked for explanations regarding the item of \$667,000 increased liabilities & the item

of \$3,100,000 surplus earnings. From whom had the former amount been borrowed, & was the latter amount held for interest to be paid to the shareholders?

The President said that the Co. acted as its own banker. The first account asked about was for material for the Crow's Nest Pass Ry., the last amount in question was held for general purposes. Instead of borrowing from the banks the company borrowed from itself.

Mr. Morrison recommended to the management the construction of steamers of a size that they could take on 3,000 tons of freight at Port Arthur, & proceed without transhipment to Liverpool. Small steamers were really the only ones which trade could afford to patronize. The big new express steamers were only fit for high-flyers & railway officials with immense salaries. As things went now-a-days, it was only extravagantly-salaried railway officials who could afford to travel by the passenger steamers, & as they travelled on free passes, it was hard to see where the dividends were to come from. As to the rate war, Mr. Morrison described it as a piece of abject folly. Competing lines should be left severely alone. He hoped that in future the C. P. would pay no attention to what the G. T. or any other railways did.

The President—"I am afraid that then you would not have many dividends, Mr. Morrison."

Mr. Morrison, continuing, said his experience was that conferences of railway men were very much like bankers' associations. A lot of men got together to see who were the greatest fools among themselves.

The report was then adopted, & a number of resolutions passed authorizing the taking over of a number of railway charters in B.C. used in connection with the construction of the Crow's Nest Pass Ry.

In moving one of these resolutions, H. W. Birks, as an English shareholder, & member of the London Stock Exchange, took occasion to congratulate the management upon the fine outlook before the Co. He had just completed a journey of over 7,000 miles over the Co.'s system, & he had been most favorably impressed. He had started a firm believer in the C. P. R.; he was going home sanguine that there was a most prosperous future before the Co. In the words of Dr. Johnson, "The potentialities of wealth are beyond the dream of avarice."

Resolutions were then adopted approving of the purchase of the Columbia & Western Ry. from Rossland to Robson, the construction of the branch line from Slocan Lake to Slocan Jc., the acquisition of the 4-mile siding from St. Stephen, N.B., to milling properties, the proposed double tracking of the line between Montreal & Toronto, & the estimates for the ensuing year, as follows:—

Permanent bridges, ballasting & other improvements of permanent way.....	\$1,399,550 00
Terminal facilities, stations, wharves, grain elevators, additional sidings & fences.....	748,104 00
Rolling stock & other equipment, & for automatic freight train brakes & couplers.....	1,919,875 00
Steamships & Lake & River Steamers.....	375,000 00
Additional Telegraph Lines & Cables.....	252,696 00
	<u>\$4,695,225 00</u>

In connection with the double tracking of the Montreal-Toronto line, Sir William remarked that it is ultimately intended to double track from Port Arthur to Winnipeg, & from Montreal to Farnham, & steps had already been taken in that connection, but the Montreal-Toronto section was regarded as the most urgent.

The following Board of Directors was then

re-elected: Lord Strathcona & Mount Royal, Sir Wm. Van Horne, T. G. Shaughnessy, R. B. Angus, E. B. Osler, M. P., Toronto; Sir Sandford Fleming, Ottawa; Sir G. A. Kirkpatrick, Toronto; G. R. Harris, Boston; W. D. Matthews, Toronto; Hon. D. McInnes, Hamilton; T. Skinner, London, Eng.; J. W. MacKay, New York; Gen. S. Thomas, New York.

At a subsequent meeting of the directors Sir Wm. Van Horne was re-elected President, & T. G. Shaughnessy Vice-President.

The C. P. R. Co's. Report.

RAILROAD GAZETTE, NEW YORK.—To read the annual report of the C. P. R. is something like reading the story of one's youth. That road still has certain immense advantages, in that it lies in a country where people are yet disposed to look upon railroads as important aids to their own prosperity, & where the Populist legislator is still insignificant, & where there are immense & rich regions waiting the invasion of the railroad. Consequently the C. P. is still in the stage of active & vigorous growth. The affairs of this company are going on with great vigor & are in a very promising condition.

MONTREAL GAZETTE.—The C. P. R. Co. is only 18 years old. When its project was published people thought it would never be executed. The system to-day comprises 7,676 miles of road owned & operated, & 2 steamship lines on the Pacific. It has assets representing a value of \$245,000,000, earns \$24,000,000 a year, and is paying dividends where some thought it would not earn axle grease. Its story is one of the most wonderful in the annals of modern business enterprise.

Canadian Pacific Bookkeeping.

The New York Commercial Advertiser recently charged the C. P. R. with manipulating its bookkeeping by charging items of maintenance to capital account, & thus being able to make a better showing than it otherwise could. Sir Wm. Van Horne made the following reply when asked as to the truth of the charge:—"It is hardly worth while to answer a critic whose animus is so apparent. The chief burden of his complaint is that in dealing with our capital account we do not follow the 'enlightened' American practice; but there is no recognized American practice in this regard, & if there were, our preference for the recognized English practice should not give him any concern, our stock being chiefly held in England & Germany & Canada, & not in the U.S. At all events, the 'enlightened' American practice does not prevent occasional swarms of receivers."

Grand Trunk Earnings.

These figures include the G. T. of Canada, the Chicago & G. T., & the Detroit, Grand Haven & Milwaukee Rys.

	1897	1898	Increase.
Jan.	\$1,000,000	\$1,000,000	
Feb.	1,000,000	1,000,000	
Mar.	1,000,000	1,000,000	
	\$3,000,000	\$3,000,000	

CALGARY & EDMONTON RY.'S net earnings for Jan. were \$17,190.89 against \$4,846.90 in Jan., 1897. In Feb. they were \$18,824.71 against \$3,393.04 in Feb., 1897.

At the annual meeting of the Montford Colonization Ry. Co. in Montreal, Mar. 8, last year's directors were re-elected as follows: Jos. Brunet, E. D. Porcheron, E. Senecal, G. Chapleau, & J. W. R. Brunet. Jos. Brunet was elected president; E. D. Porcheron, vice-president; A. S. Hamelin, secretary, & D. W. Brunet, assistant secretary-treasurer.

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases over 1897 from Jan. 1, 1898, are as under:

	Earnings.	Expenses.	Net Profits.	Increase.
Jan. 1 to Dec. 31, 1897	\$4,171,774.14	\$2,500,711.13	\$1,671,063.01	\$142,284.49
Jan. 1 to Dec. 31, 1898	\$4,191,578.18	\$2,522,071.07	\$1,669,507.11	\$18,442.88
	\$4,191,578.18	\$2,522,071.07	\$1,669,507.11	\$18,442.88

The traffic earnings for March, 1898, were \$2,050,000, against \$1,509,000 in Mar., 1897, an increase of \$541,000.

C.P.R. Land Sales.

	Acre.	1897.	1898	1897
Jan. 1 to Dec. 31, 1897	22,111	9,913	\$7,021.00	\$33,872.00
Jan. 1 to Dec. 31, 1898	22,111	8,403	66,399.00	27,573.00
Mar. 1 to Dec. 31, 1898	43,121	8,727	109,010.09	29,080.33

R. V. Rogers has been elected a director of the Kingston & Pembroke Ry., succeeding Sir G. A. Kirkpatrick resigned.

The report of the Wagner Palace Car Co. for the quarter ended Dec. 31 last shows: Gross earnings, \$809,174; expenses, \$609,422; net earnings, \$199,752.

QU'APPELLE, LONG LAKE & SASKATCHEWAN RY. & STEAMBOAT CO.'s net earnings for Jan. were \$3,091.39 as against a loss of \$963.14 in Jan., 1897. In Feb. they were \$89.55 as against a loss of \$31.10 in Feb., 1897.

At a meeting of shareholders of the Columbia & Western Ry., which was recently sold to the C.P.R., held in Montreal, Mar. 11, the following directors were elected: T. G. Shaughnessy, R. B. Angus, Montreal; G. McL. Brown, H. Abbott & R. Marpole, Vancouver. At a subsequent meeting of the directors, T. G. Shaughnessy was elected President & H. C. Oswald, Secretary.

Regarding the report that the European bond-holders of the C.P.R. expressed dissatisfaction over the position taken by the management in the rate war, Vice-President Shaughnessy recently said: "There is absolutely no foundation for such a report. Bondholders in England & Europe have expressed no dissatisfaction with our management of the C.P.R., & our position has received the support of such people. The report to the contrary is simply an American newspaper story."

EQUIPMENT.

Grand Trunk Locomotives.

F. W. Morse, Superintendent of Motive Power, writes THE RAILWAY & SHIPPING WORLD: "The G.T.R. system is now receiving from the Baldwin Locomotive Works 6 mogul locomotives & 4 10-wheelers, & a duplicate order from the Schenectady Locomotive Works. At present we are not building in Montreal, but may do so before the end of the year."

The 10-wheel passenger engines are illustrated on page 33. In designing these new classes of locomotives the intention has been to combine the best features of a number of recent designs; & the details have received unusual attention, both from Superintendent Morse & from the manufacturers, & such parts have been made especially substantial, while the passenger & freight locomotives are designed for particular classes of service, yet the parts which will require repairs & renewals are the same for both engines, which undoubtedly will reduce considerably the cost of maintenance. The passenger engines have a greater total weight than the freight engines of 14,500 lbs., but less weight on the drivers by 3,000 lbs.; the passenger engines also have larger driving wheels & a longer boiler, the latter resulting in a slightly greater heating surface for the 10-wheel locomotives. The diameter of the boiler & the dimensions of the fireboxes are the same for both classes.

The following is a list of the dimensions of both classes & of the special equipment of the engines built at the Baldwin Works:

	Ten-wheel Pass.	Mogul.
Builder's class & number	10-34 D, 326 to 329	8-34 D, 15 to 20
Number	992 to 995	901 to 906
Name of builder	*Baldwin Locomotive Works.	
Name of operating road	*Grand Trunk.	
Gauge	4 ft. 8½ in.	4 ft. 8½ in.
Kind of fuel to be used	*Bituminous coal.	
Weight on drivers, lb.	117,000	120,000
" truck wheels, lbs.	37,500	20,000
" total, lbs.	154,500	140,000
Wheel base, total, of engine	26 ft. 11 in.	24 ft. 1 in.
Wheel base, driving	15 ft. 8 in.	15 ft. 8 in.
" total, engine and tender	53 ft. 9 in.	50 ft. 11 in.
Length over all, engine	42 ft. 8 in.	39 ft. 10 in.
Length, total engine and tender	64 ft. 11 in.	62 ft. 1 in.
Height, center of boiler above rail	8 ft. 9½ in.	8 ft. 4½ in.
Height of stack above rail	14 ft. 7½ in.	14 ft. 2½ in.
Heating surface fire-box, sq. ft.	189	188.1

Heating surface tubes, sq. ft.	2,272	1,803
Heating surface, total sq. ft.	2,461	1,991.1
Grate area	33.43	33.43

WHEELS AND JOURNALS.

Diameter of driving wheels	72 in.	62 in.
Truck wheels, dia.	37 in.	37 in.
Journals, driving axle, size	9½ in. X 12 in.	9½ in. X 12 in.
Journals, truck, size	6½ in. X 10½ in.	6½ in. X 10½ in.
Main crank pin	6½ in. X 6 in.	6½ in. X 6 in.
Parallel rod pin	5½ in. X 4 in.	5½ in. X 4 in.
Crosshead pin	4 in. X 3½ in.	4 in. X 3½ in.

CYLINDERS.

Cylinder diameter	20 in.	20 in.
Piston stroke	26 in.	26 in.
" rod diam.	3½ in.	3½ in.
Main rod, length cen. to cen.	10 ft. 8½ in.	7 ft. 7¾ in.
Steam ports, length	20 in.	20 in.
" width	1½ in.	1½ in.
Exhaust ports, length	20 in.	20 in.
" width	3 in.	3 in.
Bridge, width	1½ in.	1½ in.
Valves, kind of	*Balanced.	
" greatest travel	5½ in.	5½ in.
" outside lap	¾ in.	¾ in.
" inside lap	0	0
" lead in full gear	¾ in.	¾ in.

BOILERS.

Boiler, type of	*Extended wagon top.	
Boiler, working steam pressure	200 lbs.	200 lbs.
Boiler, material of barrel	*Steel.	
Boiler, thickness of material in barrel	21-32	21-32
Boiler, diam. of barrel at front sheet	62 in.	62 in.
Boiler seams, kind of	Butt jointed, double covering strips, sextuple riveted.	
Boiler seams, circumferential	*Double riveted.	
Thickness of tube sheets	¾ in. front, ½ in. back.	¾ front, ½ back.
Thickness of crown sheet	¾ in.	¾ in.
Crown stayed with	*Radial stays.	
Dome, diam.	31½ in.	31½ in.
Tubes, number	291	291
Tubes, material	*Lap welded iron.	
Tubes, outside diam.	2 in.	2 in.
Tubes, length over tube sheets	15 ft.	11 ft. 11 in.
Firebox, length	120 in.	120 in.
" width	40½ in.	40½ in.
" depth	76¼ f. 65 b.	73¼ f. 65 b.
" material	*Steel.	
" thickness of sheets	Crown, ¾ in. Tube, ½ in. Sides, 5-16 in. Back, ¾ in.	Crown, ¾ in. Tube, ½ in. Sides, 5-16 in. Back, ¾ in.
Firebox, Brick arch	*Yes.	
" water space, width front	4 in.	4 in.
Firebox, water space, width sides	3½ in.	3½ in.
Firebox, water space, width back	4 in.	4 in.
Grate, kind of	*Rocking.	

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revision of the engineer, who, by replenishing the lamp, can maintain a continuous light for any number of hours.

Canadian Pacific Locomotives.

The C.P.R. Co. is adding about 50 compound consolidation locomotives to its equipment, 27 of which are being fully built at the Co.'s works, De Lorimer Avenue, Montreal, under the supervision of Mechanical Superintendent Atkinson. It is estimated these will carry 15 to 20% more load than the 10-wheelers.

An order has been placed with the Baldwin Locomotive Works, Philadelphia, Pa., for 10 complete & 10 partially constructed Vauclain system compound locomotives of the following general dimensions:

Gauge, 4' 8 1/2".
Type, Compound Ten-wheeled.
Cylinders, 2, 24" diam. x 44" stroke.
Valve gear, outside piston.
Boiler, 110 ft. long, 30" diam.
Thickness of sheets, 11/16" & 3/4".
Working pressure, 200 lbs.
Fuel, soft coal.
Firebox material, steel.
Firebox length, 40' 0".
" width, 42' 0".
" depth, front 62", back 52 1/2".
Thickness of sheets, sides 3/8", back 3/8", crown 1/2".
Diagrams, 1:1.
Cylinders, 2, 24" diam. x 44" stroke.
" diameter, 24".
" length, 44' 0".
Heating surface, firebox, 110.51 sq. ft.
" tubes, 1,494.99 " "
" total, 1,605.50 " "
Grate area, 28.51 sq. ft.
Driving wheels, outside diameter, 62",
" centre, 56".
" journals, 8" x 8 1/2".
Truck wheels, 28" diameter,
" journals, 5" x 8".
Weight on drivers, about 96,000 lbs.
" truck, 32,000 " "
" total engine, 128,000 " "
" & tender, 208,000 lbs.
Wheelbase, driving, 13' 5".
" total engine, 23' 11 1/4".
" & tender, 48' 3 1/2".
Tender truck wheels, diameter, 33".
" journals, 4 1/4" x 8".
Tank capacity, 32,000 Imperial gallons.
Weight, empty, about 35,000 lbs.
Service, passenger & freight.

Mr. Atkinson writes us that the partially constructed locomotives will be completed at the C.P.R.'s Montreal shops. They are being supplied without cabs, boiler mountings, boiler covering, sand boxes, bells, stacks, headlights, smokebox fronts, smokebox nettings, tubes, pilots, ash pans, grates & tenders complete, & are virtually boilers, frames, cylinders, wheels & motion.

The C.P.R. Co. recently placed an order with the Richmond Locomotive Works which calls for Richmond compound engines weighing in working order 140,000 lbs., with cylinders 20 1/4" & 32 ins. by 26 ins. The boiler will be of the extended wagon-top type, (Belpaire firebox) 62 ins. in diameter at the smallest ring, made for a working pressure of 200 lbs. The firebox will be 9 ft. 1 1/4 ins. long, 3 ft. 6 3/8 ins. wide, 5 ft. 4 1/2 ins. deep at front & 5 ft. 1/2 in. at back.

Car Lighting by Electricity.

The C.P.R. has equipped the sleeping car Winchester, which runs between Toronto & Montreal, with a system of electric light generated from the axle. The C.P.R. has been experimenting with various systems of lighting for some time, with a view of determining the one best adapted for use in the car service. The results procured from the apparatus used on the Winchester are said to be very promising. Although the current is generated from the car axle, there is no flickering or irregularity in the light. This regularity is brought about by the use of a system of storage, which maintains a regular current, no matter what the speed of the car may be, and stoppages are also provided for in this way. One great advantage in this electrical system of lighting lies in the fact that the lamps can be brought into immediate requisition. On the transcontinental line, for instance, where there are numbers of snowsheds & tunnels to be passed through, the process of lighting oil lamps is too slow to meet the desideratum of having instant illumination. With the electric system, on the other hand, an employee need only press a button when the train is about to plunge into the darkness of a tunnel, to set all the lamps aglow. The Winchester is the first car in Canada to be honored with the new electric system.

A Westinghouse Victory.

On Jan. 4 the Circuit Court of the U.S., held in Utica, N.Y., gave an important decision in the case of The Westinghouse Air Brake Co. vs. The Buffalo, Rochester & Pittsburgh Ry. Co. The Court issued a decree for an injunction against the latter Co., requiring infringing air-brake apparatus furnished by the New York Air Brake Co. to be removed from the cars of that road. During

1892 public competitive trials of the New York Air Brake Co.'s apparatus & the Westinghouse Air Brake Co.'s were made on three different railways. Each of these trials, the Westinghouse Co. states, showed the inferiority of the New York air-brake, & the Westinghouse Co. notified prospective purchasers that the New York apparatus would prove inferior & that it infringed the Westinghouse patent rights, & that a suit against the company would be pressed to a conclusion. After the question of infringement had been fully decided in the Westinghouse Co.'s favor, this Co. notified those who had purchased the New York apparatus, & made a proposition to replace it with its own. In spite of this owners of the New York brakes persisted in their use, & the suit followed, terminating in favor of the Westinghouse Co.

Equipment Notes.

The C.P.R. Co. works at Perth, Ont., are turning out 8 to 10 freight cars per day.

It is said the Pullman Co. has renewed its contract with the Union Pacific for 15 years.

Rhodes, Curry & Co., Ltd., Amherst, N.S., is building 50 box cars for the Intercolonial Ry.

The Dominion Atlantic Ry. has ordered a passenger engine from the Baldwin Locomotive Works.

The C.P.R. has given an order to the Canadian Locomotive & Engine Co., Kingston, to build 15 tanks.

The C.P.R. is improving a number of its stock cars, especially for the cattle trade. They are being made wider & longer.

Rhodes, Curry & Co., Ltd., Amherst, N.S., is building 200 coal cars for the Dominion Coal Co., & 20 flats for the Canada Eastern.

The Montreal Star of Mar. 28 says that a Montrealese went to Kingston to negotiate for the purchase of the Canadian Locomotive & Engine Works for a syndicate.

The company working the Southern Italian Railway has discarded the Hardy brake & will substitute the Westinghouse brake. The change is to be made first on 140 locomotives, 158 passenger cars & 45 baggage cars.

The Spokane Falls & Northern Ry. has ordered from the Illinois Car & Equipment Co., 25 ore cars for April delivery, to have 780 cubic ft. capacity, & to be fitted with Westinghouse brakes.

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The C.P.R. intend to make a considerable increase of power at Field, B.C., to meet the growing traffic over the Big Hill. Three new engines will be placed at Field for this purpose & a new & commodious engine house is to be built on the flat at the mile post just west of Field.

The C.P.R. is arranging for rolling stock on the Crow's Nest Pass Ry. Eight engines are being built, also ballast cars with self-couplers & air brakes. The engines are not of the heaviest type, for the grade is only 1%. This rolling stock will be ready within a month or so.

The Canadian Locomotive & Engine Co., Kingston, Ont., is building 3 locomotives for the Intercolonial Ry. of the 10-wheel type, one a Vaucrain compound, & 2 simple; weight, in working order, about 132,000 lbs. Also a saddle tank, 6-wheel locomotive for B.C., connected weight about 60,000 lbs.

In answer to a question in the House of Commons recently, the Minister of Railways said that since Mar. 1, three dining cars had been placed on the Intercolonial Ry. They cost \$7,321, & their equipment \$2,528. From another source it is learned that at one end of each car there will be a lunch room, where lunches may be obtained at a reasonable cost.

The G.T.R. is adding largely to its equipment. In addition to the locomotives, referred to elsewhere, an order has been given to the Pullman Co., Chicago, for 20 1st-class passenger cars. The freight equipment is to be increased to the extent of 1,000 cars, half of which will be built at the Co.'s shops at Montreal & the rest at Detroit.

C.P.R. agents east of Fort William have been notified by Manager Tait that the instructions regarding sealing of cars reading "When a car has been unloaded it must be stripped of all seals," are not being observed. Agents must see these instructions are carried out, that new leads are used for sealing, & that in no case old leads are pressed over.

The first through train de luxe to be despatched direct to Tomask over the Siberian line, which in a few years will run to Port Arthur, is finished. It is composed of 4 splendid cars built at Moscow, an open saloon dining car, bathroom, library, telephones, electric lighting, refrigerators, ventilating apparatus, piano, chess and means for gymnastic exercise. Nothing like it has ever been seen on a Russian railway.

Manager Tait, of the C.P.R. Eastern Lines, has issued the following circular:—Many of our employes use the term "Trojan bars" or "Trojan couplers" for all kinds of vertical plane (M. C. B.) automatic couplers. A vertical plane automatic coupler should always be described by its recognized name; as for instance: Trojan—Gould Hien Washburn Tower—Janney, etc. Vertical plane couplers in general should be called "M. C. B. couplers."

Connecting lines have been notified by Manager Tait, of the C.P.R. Eastern Lines, that after April 1, 1898, that Co. will not accept any car to be hauled in passenger trains on lines east of Fort William unless it is equipped with M.C.B. vertical plane couplers, steel tyred wheels & Westinghouse automatic air-brake & train signal, or air-brake & train signal interchangeable therewith respectively, & during cold weather, unless it is equipped for steam heating.

The Canada Atlantic Ry. has placed an order with the Baldwin Locomotive Works for 16 freight locomotives. Ten will be 10-wheel engines of the Vaucrain compound type with 14 & 24x26 in. cylinders, 56 in. (outside diam.) driving wheels, & weigh in working order about 145,000 lbs., with about 116,000 lbs. on the driving wheels. The tender capacity will be 4,000 gals. The remaining 6 will also be

Vaucrain compounds of the consolidation type, with 15½ & 26x36 in. cylinders, & will weigh in working order about 173,000 lbs., with about 156,000 lbs. on the driving wheels. The tender capacity will be 4,500 gals.

The C.P.R. is adding about 70 sleeping & passenger cars to its equipment, most of which are being built at the Co's works at Montreal & Perth, Ont., & the others by the Crossen Co., Cobourg, Ont. These cars will all have standard platforms & wide end vestibules, which practically provides a guarantee against telescoping. Krupp wheels will be used. They will be fitted with inside Westinghouse air brakes, which were applied for the first time on the C.P.R. about 18 months ago & have given such excellent results that they have since become the standard on the Pennsylvania, Erie & other U.S. roads. Their chief advantages are stopping 10 to 15% quicker & the reduction of jolting to a minimum.

The Minneapolis, St. Paul & Sault Ste. Marie Ry. is getting five 10-wheel compound engines from the Schenectady Locomotive Works. These engines were designed by E. A. Williams, Mechanical Superintendent, & T. A. Foque, Mechanical Engineer of the road. The engines will weigh in working order, without tender, about 130,000 lbs. The boilers are to be of the radial stay type, 55 ins. in diameter at the smallest ring & made for a working pressure of 200 lbs. The fireboxes will be 96 3-16 ins. long, 43¾ ins. wide, 70½ ins. deep in front, & 58½ ins. deep at the back. They will have 245 two-inch tubes. Total heating surface will be 1,902.2 sq. ft., of which 1,763.85 sq. ft. are in the tubes & 138.35 sq. ft. in the fireboxes. The grate surface will be 27.63 sq. ft. The tender capacity will be 4,500 gals. of water & 7 tons of coal.

Car Building at Cobourg.

The Crossen Car Mfg. Co. writes us that it is building the following cars:—For the C.P.R., 20 tourist cars with Pullman wide vestibules & standard steel platforms, automatic couplers, hollow brake beams, steam heating. Body of car, smoking room & kitchen, 14 berths, 28 seats upholstered in corduroy. Kitchen contains improved wrought iron range. The women & men's toilets are furnished with Tennessee marble washstands & overhead tanks. The berths are supplied with headboards, curtain rods, brackets, etc. Each car is lighted with 5 double-centre lamps besides the necessary side-bracket lamps. Double windows, with upper lights of bevelled plate glass, monitor lights, flowered glass. The cars are equipped with Westinghouse quick action air-brakes, & air signals & Krupp's 40-in. steel wheels. Exterior finished in cherry & varnished, & interior in birch-stained mahogany. The interior trimmings are the latest design, finished in Persian brass.

For the Esquimalt & Nanaimo Ry., 10 Lehigh Valley Railway hopper gondola coal cars with C.P.R. standard trucks, 60,000 lbs. capacity.

For the Intercolonial Ry., fifty 33 ft. box freight cars, 40,000 lbs. capacity, with Westinghouse air-brakes, automatic couplers & Intercolonial Ry. standard trucks.

For the Canadian Copper Co., Cleveland, Ohio, ten 33 ft. platform cars, 40,000 lbs. capacity, C.P.R. standard pattern, with automatic couplers. 10 ore dump cars, 8 tons capacity.

THE WESTINGHOUSE MANUFACTURING CO., Hamilton:—"We have received the first issue of THE RAILWAY & SHIPPING WORLD, & beg to say that our advertisement, & also the article on our works are entirely satisfactory; in fact, we think that as a whole the first issue does you considerable credit."

OPERATING.

Grand Trunk Time Inspection.

General Superintendent McGuigan has issued the following circular, dated April 1:—To insure improved efficiency in train service & provide an additional safeguard against accident, affording greater security to life & property, this Co. will inaugurate a system of watch inspection, effective May 1, 1898, & employes designated below are required, on & after that date, to submit their watches for quarterly examination & for weekly comparison with standard time to the various inspectors, who have been appointed for the purpose, & will be under the general supervision of Prof. C. H. McLeod, of McGill University, Montreal, who has been appointed Superintendent of Time Service & Watch Inspection, with office at Montreal. All train & engine-men must submit their watches to local inspectors as required by this rule.

The minimum standard of excellence adopted by this Co., for watches, is of a grade equal to what is known among American movements as 17 jewel, patent regulator, adjusted to temperature, the variations of which must not exceed 30 seconds a week.

Each employe designated will apply immediately, & every 3 months hereafter, to his superior officer for a blank certificate & order for examination, which he must take, together with his watch, to the local inspector, who will, if the watch is satisfactory, sign the certificate & forward the same to the officer under whom the person is employed, free of charge to such employe. If the watch is below the required standard it will be rejected, & the officer in charge promptly advised. Any watch so rejected cannot be used in service, nor passed upon by another inspector except upon order of the Superintendent of Time Service. Employes, where no inspector is located, may send their watches, together with blank certificate, to the nearest local inspector.

In addition to the quarterly examination, trainmen & enginemen must submit their watches to local inspectors weekly for comparison with standard time, as must also other employes who have the opportunity for doing so, that a record of the rating of their watches may be made. Employes in the train service who fail to submit their watches for weekly comparison & quarterly inspection, in accordance with the terms of this circular, will be considered as having violated the rules of the service, for which satisfactory reason must be given.

When watches need cleaning or repairing they may be left with the inspector if the owner so desires, or they may be taken to such watchmaker as the owner may select; but the watch carried in the meantime, & his own watch, after the same has been repaired, must be submitted to the Co's Inspector for examination & approval before such watch can be carried in service.

When watches are left with the inspectors of the Co. to be cleaned or repaired, a standard watch will be loaned to the employe until his own is returned.

Employes who so desire can obtain standard watches, guaranteed to give the required performance, from the inspectors on monthly payments, as may be agreed upon, not, however, exceeding 4 in number, or \$20, the amount of such monthly payments to be deducted from the pay-roll.

The officers having direct charge of employes, who are subject to the above provisions, will see that certificates of the quarterly examination of watches are filed with them for watches of employes under their charge, who are subject to the rules of watch inspection, & such officers in all departments will be held responsible for the collection & filing of watch certificates.

Trainmasters must require conductors & brakemen, & master mechanics must require engineers, to turn in, regularly, certificates of weekly comparison of their watches, & will enter in records to be kept for the purpose the dates when such certificates are received.

Employees whose watches do not conform to the required standard will be given until June 1, 1898, to provide themselves with standard watches, as on & after that date all employees subject to the provisions of this circular must be provided with standard watches & the quarterly certificates to that effect must be in the hands of the officers to whom they report.

The hearty co-operation of employees in making the operation of the system successful is earnestly enjoined. The desired results can only be obtained by observing carefully the rules as to inspection & comparison, & refraining from any attempt to set or regulate their watches themselves.

C.P.R. Lubricating Oil Rules.

Manager Tait, of the C.P.R. Eastern Lines, has issued a circular stating that enginemen will be expected, by carrying out the instructions which have been given as to the use of lubricating oils & by the exercise of care & good judgment, to achieve the following results:

EIGHT WHEEL ENGINES, EXCEPT MOGULS.

Road, valve per 140 miles run, 1 pint; engine per 40 miles run 1 pint.

Ballast, per 10 hours:—valve, 1 pint; engine, 3 pints.

Other work, per 10 hours:—valve, $\frac{3}{4}$ pint; engine, $2\frac{1}{2}$ pints.

Switching, per 12 hours:—valve, $\frac{3}{4}$ pint; engine, $1\frac{1}{2}$ pint.

TEN WHEEL & MOGUL ENGINES.

Road, valve per 120 miles run:—1 pint; engine per 35 miles run, 1 pint.

Ballast, per 10 hours:—valve, $1\frac{1}{4}$ pint; engine, 4 pints.

Other works, per 10 hours:—valve, 1 pint; engine, 3 pints.

Switching, per 12 hours:—valve, 1 pint; engine, 2 pints.

Many eloquent tributes have, indeed, been tendered from time to time to the vast changes in Canadian life which can be justly traced to the construction of the great trans-continental railway, the Canadian Pacific. But never, perhaps, has the truth been more aptly or more forcibly put than by C. D. G. Roberts, in his new history of Canada, in two sentences, which abundantly merit quotation: "All through the mountains, all along the prairies, are strung little settlements growing into villages, villages blossoming into towns, so filled with sanguine life that they sparkle like jewels on the thread of steel, & so the roaring trains of the great highway may be likened to gigantic shuttles darting backwards & forwards across the continent, & weaving into the warp of this northern land the bright pattern of national life."

OFFICIAL RAILWAY CIRCULARS.

Canada Atlantic & Ottawa, Arnprior & Parry Sound.

CANADA ATLANTIC RAILWAY & CANADA ATLANTIC TRANSIT CO., OTTAWA, Mar. 23. The following appointments take effect April 1: J. T. Rose, North-Western Agent, Duluth Minn., office at 609 Board of Trade; H. L. Moore, Agent, Minneapolis & St. Paul, Minn., office at Corn Exchange, Minneapolis; C. D. Howard, Agent, Milwaukee, Wis., office at Room 38, Mack Block. C. J. Smith, General Freight Agent. Approved, E. J. Chamberlin, General Manager.

CANADA ATLANTIC, & OTTAWA, ARNPRIOR & PARRY SOUND RYS., & CANADA ATLANTIC TRANSIT CO., OTTAWA, Mar. 31. M. A. Overend is appointed Foreign Freight Agent of these companies; office at 115 Board of Trade Building, Montreal. C. J. Smith, General Traffic Manager.

CANADA ATLANTIC & OTTAWA, ARNPRIOR & PARRY SOUND RYS., & CANADA ATLANTIC TRANSIT CO., OTTAWA, Mar. 31. W. P. Hinton having been appointed Assistant General Freight Agent, will have direct charge of the local freight traffic of these companies, the tracing & care of traffic in transit, freight claims, & such other duties as may be assigned to him by this office. Agents & others will report to him on matters pertaining thereto. All correspondence relative to the Canada Atlantic Fast Freight Line should be addressed to the Line Manager, as formerly. C. J. Smith, General Traffic Manager.

CANADA ATLANTIC & OTTAWA, ARNPRIOR & PARRY SOUND RYS. The following circulars were issued by E. J. Chamberlin, General Manager, dated Ottawa, Mar. 31: M. Donaldson, formerly Superintendent, is appointed General Superintendent, headquarters Ottawa, Ont.; J. Ogilvie, formerly Locomotive Foreman, is appointed Superintendent of Motive Power, & will have charge of maintenance of motive power & other matters pertaining to that department, reporting direct to the General Superintendent, headquarters, Ottawa; W. H. Smith is appointed Boat Line Auditor, headquarters Depot Harbor, Ont. He will also act as Agent & have charge of operation & accounts in connection with warehouses & elevators at Depot Harbor; C. J. Smith, formerly General Freight & Passenger Agent, is appointed General Traffic Manager, headquarters Ottawa. J. E. Walsh is appointed Assistant General Passenger Agent. Headquarters, Ottawa. W. P. Hinton is appointed Assistant General Freight Agent. Headquarters, Ottawa. On & after this date the Chief Engineer will have the direct supervision of track, bridges, trestles & docks. Roadmasters will respect his orders accordingly. Headquarters, Ottawa.

CANADA ATLANTIC & OTTAWA, ARNPRIOR & PARRY SOUND RYS., Mar. 31. J. E. Walsh having been appointed Assistant General Pas-

senger Agent, will have direct charge of the passenger business of these companies. Agents & others will report to him on matters pertaining thereto. The Baggage Department is assigned to his office. E. J. Smith, General Traffic Manager.

Canadian Government System.

As a good deal of doubt appears to exist as to the powers, &c., of the General Traffic Manager we give here a copy of the circular announcing his appointment:

MONCTON, N.B., Nov. 22, 1897. A. H. Harris is appointed General Traffic Manager of the Canadian Government System of Railways, with headquarters at Montreal, to take effect Nov. 24, 1897. The General Freight Agent & General Passenger Agent will report to & receive their instructions from him. D. Pottinger, General Manager.

In sending us the circular, the Secretary of the Department of Railways & Canals wrote: "I am to say that Mr. Harris is to report to the General Manager."

In the House of Commons, April 6, answering Sir Hibbert Tupper, Mr. Blair said Mr. Harris was not independent of the General Manager. He could not fix rates without first obtaining the sanction of the Minister of Railways.

PERSONAL MENTION.

Lady VanHorne & Miss Adeline VanHorne are sojourning at Pasadena, Cal.

Jas. McMullen, of Galt, has been appointed Secretary to Chief Solicitor Clarke, of the Canadian Pacific.

C. W. Graves, District Passenger Agent, Wisconsin Central, Toronto, has removed his office to 80 Yonge St.

E. A. Seeley has been appointed General Agent of the Oregon Railroad & Navigation Co. at Juneau, Alaska.

Chas. Newman, car inspector for the Grand Trunk at Niagara Falls, lost his son in the Maine disaster at Havana.

G. McL. Brown, Executive Agent of the C.P.R. in B.C., has decided upon making Victoria his headquarters.

Jos. De Gurse, Land Surveyor & Civil Engineer for the L. E. & D. R. Ry., died Mar. 23, at Windsor, Ont.

C. W. Mott, General Immigration Agent of the Northern Pacific, having resigned, the position has been abolished.

Bert Belch, formerly N.P. ticket agent in Winnipeg, has been given a position in the C.P.R. Vancouver ticket office.

Mrs. M. L. Flynn, wife of the Master Mechanic of the Michigan Central, died at St. Thomas, Ont., Mar. 16, of paralysis.

L. J. Seargeant, formerly General Manager of the G.T.R., presided at the dinner of the Canada Club in London, Eng., April 6.

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TORONTO.

Steel Elevator at Fort William.

Although the C.P.R. Co. has 3 grain elevators, with an aggregate capacity of 4,000,000 bushels at Fort William, the great development of Manitoba & the N.W.T. has rendered necessary still further storage, & last season the company decided on a new departure, to add still further capacity, but to construct it of steel instead of wood. The illustration on this page shows the new elevator as it will appear when completed to the full capacity of 3,000,000 bushels. It is situated on the bank of the Kaministiquia River, about $1\frac{1}{4}$ miles west of Fort William Station & of the wooden elevators. The advantage to the C.P.R. in locating this plant on the bank of the river is seen in the trifling cost of constructing the wharfage necessary for it, the piling being all in now, and the whole cost of the wharf being but a small fraction of what a wharf or dock on the lake would cost.

The high building shown in the illustration is constructed of structural steel, with $\frac{1}{4}$ in.

The boiler & engine-house is constructed of Lake Superior stone, with steel truss roof, & contains one 400-h. p. condensing engine, 3 boilers, 66 in. x 16 ft., with all the necessary pumps & fixtures. The power is transmitted from engine to steel house by a 400-h. p. manilla rope drive.

Tunnels constructed of stone under the tanks contain the belt conveyors for transferring the grain from tanks to steel building, where the grain is weighed & shipped to vessels by means of the conveyors in the steel galleries over the tanks; dock spouts being attached to end of galleries for receiving the grain from the belt conveyors.

The steel tanks as shown consist of 16 tanks 58 ft. diam. x 60 ft. high, & 32 tanks 29 ft. diameter x 60 ft. high.

It is understood that the C.P.R. Co. does not intend to carry any insurance on the buildings, tanks, or grain stored therein.

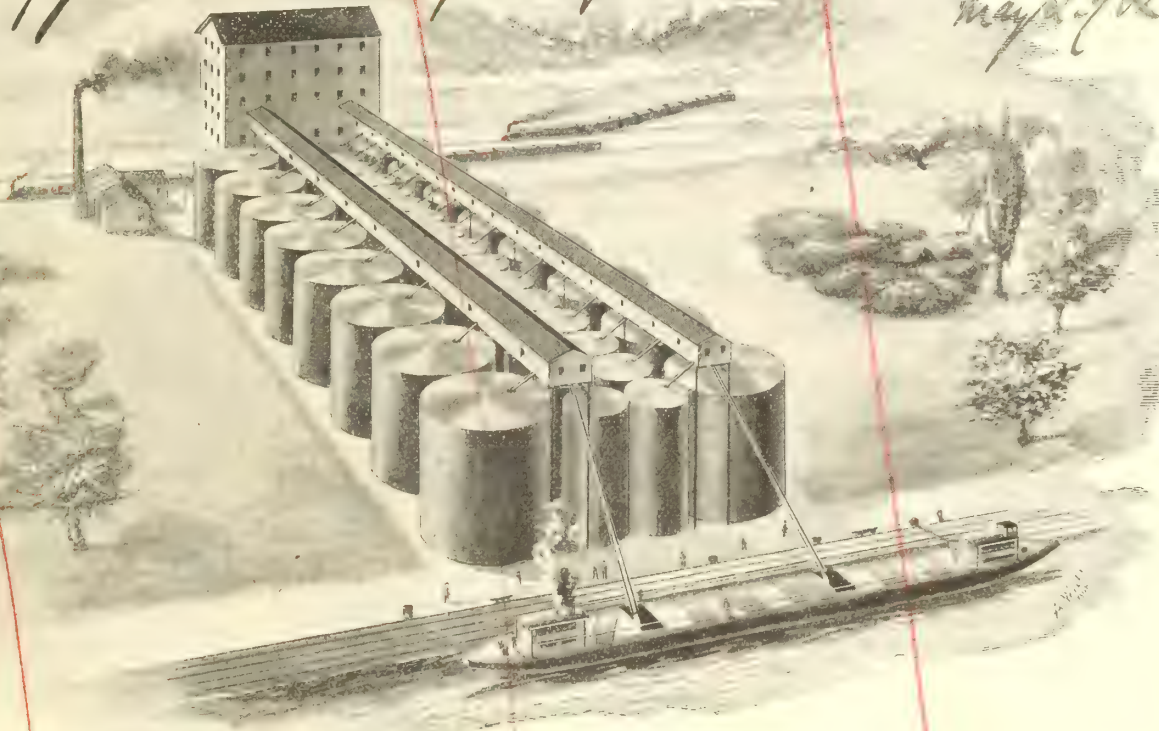
The building, tanks, &c., have been built by the Steel Storage & Elevator Construction Co., Buffalo, N.Y.,

C.P.R. Pipestone branch.....	255,000
" Southwes'n "	1,041,500
" Emerson "	179,000
" Stonewall "	48,000
" W. Selkirk "	3,000
" Pr. Albert "	65,000
" Edmonton "	360,000
" All lines	15,765,500
Man. & N. W. Railway	1,136,000
L. Man. R'y & Can. Co.	115,000
Northern Pacific R'y	1,004,000
Gt. Northwest Central	357,500

Total..... 18,378,000

The largest elevators are the C.P.R. Co.'s at Fort William, with the following capacities in bushels:—A and B, 1,250,000 each; C and D, 1,500,000 each. The others having a capacity of over 100,000 are:—Keewatin, Lake O, the Woods Milling Co., 750,000; Winnipeg, Ogilvie Milling Co., 320,000; Port Arthur-C.P.R., 315,000; Winnipeg, Northern Elevator Co., 140,000; Brandon, Alexander &

Sent to N.Y. Commercial by order of Steel Storage & Elevator Co. Co. May 1902



CANADIAN PACIFIC RAILWAY STEEL ELEVATOR, FORT WILLIAM, ONT.

steel plate floors, supported on I beams, the steel frame being covered with heavy corrugated steel. The building contains the scales, steel circular garners, steel elevator legs, power shovels, car pullers, warehouse separators, steel spouting, transmission machinery & fixture, for the weighing & transferring of grain from cars to tanks or direct to vessels. The steel building & contents being fireproof is not the only feature to be considered. Steel construction will last much longer than wood; no settlement will occur to disarrange the shafting & belting. No force of mechanics is required to replace rotten or broken timbers & repair spouts and shafting.

The two belt galleries shown over the top of tanks are constructed of steel, & contain 2 belt conveyors, each with trippers, for distributing grain to the various tanks, or direct to vessels. The shipping capacity is 40,000 bush. an hour. The unloading capacity is 400 cars a day.

Western Elevator Capacity.

The following table shows the growth of the capacity of grain elevators and warehouses on or adjacent to lines of railway, including Port Arthur, Fort William, Keewatin and points in Manitoba and the Northwest Territories:

1891.....	7,628,000 bushels.
1892.....	10,366,800 "
1893.....	11,467,100 "
1894.....	11,817,100 "
1895.....	12,000,000 "
1896.....	13,873,600 "
1897.....	14,990,300 "
1898.....	18,378,000 "

Following are details of the present capacity in bushels:

C.P.R. Main Line.....	10,499,000
" Pembina branch.....	2,195,000
" Souris "	1,120,000

Kelly & Co., 125,000; Portage la Prairie, Farmers' Elevator Co., 110,000; Edmonton, Brackman & Kerr, 104,000.

In Manitoba and the Territories, including Keewatin, there are 58 flour mills, with a daily capacity of 11,825 barrels, and 5 oatmeal mills, with a daily capacity of 425 barrels.

The C.P.R. Co., which recently bought the Trail smelter on the Columbia River & the railway from the smelter to the mines at Rossland, has contracted with the War Eagle mine for the shipment & treatment of 100 tons of ore daily for a year. The freight & treatment charges are \$7.50 a ton, a reduction of \$3.50 below the rates which have existed. The Le Roi smelter at Northport, Wash., made a lower bid in connection with the Spokane & Northern Railway, but the War Eagle preferred to pay the higher rate & have the ore treated in B.C.

CONSTRUCTION & BETTERMENT.**Ottawa & New York Railway.**

The work of completing the grading north of Cornwall is in progress, & it is expected the line will be ready for traffic by July. Owing to much of the work being done late last fall, a good deal of it will have to be gone over, especially the embankments in the swampy places, to make the roadway secure. Brennan & Foster are at work on Cornwall Island, & the operations south of the river will be begun shortly. The SooySmith Co., which has the contract for the foundations of the International bridge, has a staff at work preparing to finish the masonry. A large quantity of cut stone has been delivered on the north bank of the Cornwall Canal, & derricks to handle it are being put up. It is intended to put in the piers for the swing bridge across the canal first, taking advantage of the water being out of the canal, & the work will be finished before the opening of navigation. The completion of the piers in the south channel, & the building of those in the north channel, will then be rushed through. It is expected both bridges will be ready for traffic towards the end of July.

"The Ottawa & New York Ry.," said President Hibbard recently, "was originally chartered as the Ontario Pacific Ry., with powers to build from Cornwall to Sault Ste. Marie, by way of Ottawa. This charter lay in abeyance for 15 years. Two years ago the present management of the O. & N. Y. Ry. began making preparations for the extension of that line south to connect with the Delaware & Hudson at North Creek. Learning that a charter was in existence for a line to Ottawa & beyond, arrangements were made for the extension of the line to the Capital, bridging the St. Lawrence at Cornwall. At the 1897 session of Parliament, in order to more distinctly mark the road as an Ottawa one, the name was changed from the Ontario & Pacific to the Ottawa & New York Ry. Co. Contracts were at once let for the construction of the line, including the bridge, & a short line from the present terminus of the O. & N. Y. at Moira to the bridge. This work has progressed to an extent that leaves very little work to complete the line from Ottawa to Cornwall. Work on the bridge was stopped for the winter, but will be pushed on with vigor in the spring, & will be completed by July 1. Several piers, those in the U. S. channel, & the 2 abutments are finished, & the iron & steel work is on the ground ready for erection as soon as the weather opens.

"The construction of the south link between Tupper Lake & North Creek will be continued next summer. The line to be followed through the Adirondacks is an unusually favorable one for a mountain road, the grades, with the exception of 1 section of 10 miles, not exceeding 1%, & the curvature being light. The line follows the waters of the St. Regis & Raquette Rivers for the first 60 miles in the mountains, & then, crossing a small divide, reaches the Hudson River, following that river & contiguous streams to its southern connection. This line will form the shortest route from Ottawa to New York—415 miles—being 70 miles shorter than the present through car route.

"Spencer, Trask & Co., & Moffatt & White, of New York city, are the bankers who have formed the syndicate to build the road. G. B. Moffatt is chairman of the Directors, G. F. Peabody, a member of the firm of Spencer, Trask & Co., is Vice-President of the Co., G. W. Parker, late President of the St. Louis, Alton and Terre Haute Ry., has had entire charge of construction.

"The directors of the company are not connected in any way with any other railway in Canada, nor is there any intention of consolidating with any existing road. It is pro-

posed to operate the road as a distinctively Ottawa line, for local traffic, & also in connection with the G.T.R. from Cornwall, and with the C.P.R. at Finch & Ottawa, & the other roads running north & west from Ottawa for the usual traffic interchange. Being the shortest line to the east, it will have intimate relations with all roads competing for New York business. The O. & N. Y. intends having an entrance to Ottawa entirely independent of the C.A.R. up to the deep cut; & as the agreement with that Co. holds good only until Sept. 1 next, you can readily see that not much time can be lost in completing the line to that point."

A by-law to bonus the workshops of the Ottawa & New York Ry. Co. for \$75,000 was carried by the ratepayers of Ottawa early in January. Mr. Adgate, of New York, is the contractor for new steel bridge over the St. Lawrence at Cornwall.

C P.R. Extensions & Betterment.

As will be seen by reference to the report of the proceedings at the annual meeting, on another page of this issue, the C.P.R. will spend over \$2,000,000 in the improvement of the system, \$1,399,550 having been voted for permanent bridges, ballasting & other improvements of permanent way, & \$748,104 for terminal facilities, stations, wharves, grain elevators, sidings & fences. On the

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ATLANTIC DIVISION

about \$500,000 will be spent in improving the permanent way, &c., particularly between Megantic & St. John, N.B. It is intended to lay some 53 miles of heavy steel rails & about 90 miles will be re-ballasted, all to the end of better meeting the increase of winter port business at St. John. During last season the weight of business was rather much for the railway telegraph wires, & some of the business was done over the Co.'s commercial wires. The line of improvements includes extension of the railway telegraph circuit east of Montreal. A large elevator will be built at Sand Point.

THE ONTARIO & QUEBEC DIVISION

will have about \$1,250,000 spent on it. A large amount of ballasting will be done east of Montreal, & west & north of Toronto, greatly increased siding accommodation will be provided all over the division, & particularly between Toronto & Montreal, & 80 lbs. rails will be substituted for 50 & 60 lbs. on some 30 miles between Montreal & Megantic & about 5 miles on the Owen Sound branch.

IMPORTANT NOTICE

TO THE BUSINESS PUBLIC.

REDUCTION IN COLLECTION RATES.

The Canadian Express Company have adopted a new system & a low schedule of rates for collecting notes, drafts & accounts at points on their lines in Canada, which will no doubt be taken advantage of by the general public who have such business to transact.

Amounts.	SCHEDULE.	Total Charges.
\$3 & under.....		\$0 13
Over \$3 to \$5.....		14
Over \$5 to \$10.....		16
Over \$10 to \$20.....		20
Over \$20 to \$30.....		22
Over \$30 to \$40.....		25
Over \$40 to \$50.....		28
Over \$50 to \$60.....		30
Over \$60 to \$75.....		35
Over \$75 to \$100.....		40

Maximum charge on uncollectable paper, 10c. For further information apply to the company's agents.

THE CANADIAN PACIFIC RAILWAY COMPANY.

Dividends for the half-year ending December 31st, 1897 have been declared as follows:

On the Preference Stock, 2 per cent.

On the Common Stock, 2½ per cent.

Warrants for the common stock dividend will be mailed on or about April 1st to shareholders of record at the closing of the books in New York and London respectively.

The preference stock dividend will be paid on Friday, April 1st, to shareholders of record at the closing of the books at the Company's London Office, 1 Queen Victoria Street, London, E.C.

The common stock transfer books will close in London at 3 p.m. on Friday, February 25th, and in Montreal and New York on Tuesday, March 8th. The preference stock books will close at 3 p.m. on Tuesday, March 8th.

All books will be re-opened on Thursday, 7th April.

By order of the Board.

CHARLES DRINKWATER,

Montreal, Feb. 14th, 1898.

Secretary.

A. HOLDEN & CO.

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132 St. James Street,

MONTREAL

The double tracking of the line between Montreal & Toronto will soon be undertaken. Surveys will speedily be made, with the view of entering upon this work, rendered necessary by an increase of traffic—an increase which is now found difficult to handle, & which could not, in the future, be handled successfully with the single track. The work will be a costly one, but as Sir Wm. Van Horne recently pointed out, it is one of the most urgent things at present before the executive. Mr. Shaughnessy says there is, of course, the preliminary work of surveying to be done before the work itself can be started, but indicates that there will be little delay in proceeding.

At Toronto Junction an addition of 60 x 130 ft. will be made to the car shops, costing about \$6,000. Some \$13,000 will be spent in increasing the facilities of the Toronto yards.

At Owen Sound there will be a general improvement of terminal facilities, including the erection of a large brick engine-house, & track extensions, costing about \$21,000.

The bridge over the Grand River at Galt, which now consists of 5 iron spans of 150 ft. each on stone piers, with timber approaches, will be replaced at a cost of about \$70,000. The piers will be raised about 10 ft., to carry 5 steel spans of 150 ft. each. Two iron spans of about 60 ft. will be added at the west end, & 1 at the east end to take the place of the wooden approaches, & the track will be raised so as to improve the grade from the bridge for about 2 miles west, & also west from the station.

The wooden stations at Galt & Woodstock are to be replaced by brick structures, costing about \$13,000 each, & comprising general waiting room ladies' waiting & retiring room, agent's office & baggage room. The present Woodstock station will be moved eastward a little, & converted into a freight shed. The Woodstock yard will be altered to provide greater convenience for passenger trains & additional room for freight business.

The C.P.R. short line to Ottawa will be ready for operation by July. This will be the shortest line between Montreal & the capital, & it will, from the start, be the fastest. The question whether the C.P.R. will use the Ottawa Union station, or put up a structure of its own, is, according to Mr. Shaughnessy, under the consideration of the executive. The Co. will continue its transcontinental service, by the old line via Calumet, the new line, splendidly equipped, being used chiefly for fast passenger service between the commercial & political capitals. The C.P.R. looks forward to seeing this new line one of the best paying in the system. Its construction has been rapid, but solidity has not been sacrificed to speed; the rolling stock which is to be placed on it will be among the finest used on the system.

WESTERN DIVISION.

About 100 miles of 73 lbs. steel rails will be laid on the main line between Fort William & Winnipeg, & a large amount of ballasting will be done. The wooden truss bridge over the Kaministiquia River is to be replaced by solid stone arches. A small dock is being built at Wabigoon to facilitate the transshipment of mining supplies, &c. A neat frame station has been built at Morden to replace the one burned last year. Six elevators standing in a row by the tracks at Morden handle nearly a million bushels of grain every season. A number of other stations are to be built on the division, the principal one being at Moose Jaw, which has become an important station point, owing to the traffic to & from the "Soo" connection at Port Arthur. There will also be a new dining-hall, & offices for the Superintendent & dispatchers. At Carberry a station 29x65 ft. will be built on stone foundations. Smaller stations will be built at Sintaluta, Altona, Winkler, La Riviere, Rathwell, Elva, Pipestone, Reston, Pierson, Maple

Creek & Dinorwic. The Co. has acquired the Caldwell Block, opposite the Post Office, in Winnipeg, for its city ticket and telegraph offices. The building will be remodelled & a four-storey extension will be built at the rear. The railway offices will be on the ground floor. It is expected the building will be ready for occupation in July.

The C.P.R. shops at Winnipeg have never been so busy as at present, & overtime is being put in by hundreds of employees to a greater extent than in any previous season. Owing to the great increase in traffic, all the repairs necessary for the division cannot be done at the Winnipeg shops, & it has been decided to establish another divisional point near the Rockies. A proposition has been made to the town of Calgary, & if it is accepted the Co. will build there.

On the Crow's Nest Pass branch the rails have been laid to Bull's Head Prairie, which is within 80 miles of the Columbia River. Trains are running regularly from Macleod to the end of the track. The work between Lethbridge and Macleod is being pushed, & it is expected the link will soon be completed so that trains can run through from Dunmore via Lethbridge to the end of the track.

PACIFIC DIVISION.

A large amount of work will be done, particularly in replacing wooden structures with permanent fills & steel bridges. At Mountain Creek the trestle is being filled by hydraulic.

The Co. is proceeding with the construction of a station building at Vancouver. It will be a splendid structure, of Calgary sandstone & brick, 190 ft. long, 60 wide & 126 high, with 6 storeys on the front. It will cost in the vicinity of \$200,000. The Co. will make extensions to its mountain hotels at Revelstoke, Field, North Bend & Glacier, at all of which the traffic has outgrown the accommodation. It is said brick offices will be erected in Nelson, & a sawmill, with a capacity of 100,000 ft. a day, is to be built by the Co. at Elk River.

Collingwood Schreiber, Deputy Minister of Railways, states in his recently issued annual report that he made a trip over the C.P.R. from Ottawa to Vancouver, & examined the work done & in course of erection under the arbitrator's award. On the division between Savona's Ferry & Emory's Bar the work was almost finished, giving permanency to the character of the road, the alignment having been greatly improved. The total award to the C.P.R. was \$579,255.20. Previous to the award in July, 1891, \$202,675.20 worth of work had been done. The work done from Feb., 1891, to Feb., 1892, amounted to \$11,966.79. In 1892-3-4-5-6-7, the work proceeded steadily, so that there is now only a balance of \$6,809.50.

The Deputy Minister remarks on the undertakings of the Co. for the substantial improvement of the railway in the directions of steel bridge construction, the formation of solid embankments & the adaptation of the most recent appliances to rolling stock, in order to ensure safety & comfort to passengers & employees, & states it has equipped with self-couplers 7,589 freight cars, & has fitted 5,056 freight cars with automatic brakes.

THE QUEBEC CENTRAL is about to extend its shops at Newington, near Sherbrooke, which will require an expenditure of not less than \$70,000.

THE TILSONBURG, LAKE ERIE & PACIFIC is constructing a connection at Tilsonburg, Ont., with the M.C.R. & will build a \$20,000 steel bridge across Otter Creek.

TORONTO, HAMILTON & BUFFALO.—A plan to increase the yard-room at James St. Station, Hamilton, is under consideration, the 2 tracks not affording sufficient room.

Railway Building in 1897.

Following is a record of construction during last year:

Asbestos & Danville.—From Danville, Que., to Asbestos.....	4.75
Atlantic & Lake Superior.—From Caplin to Paspebiac	20
Canada Atlantic.—From Lacolle Jct. to Vermont State line	5.5
Canadian Pacific.—Columbia & Kootenay extension from Slocan Jct. to Slocan Lake, 32 miles; Crow's Nest Pass extension from Lethbridge west to] ward Nelson, 65 miles; Montreal & Ottawa extension from Alfred toward Ottawa, 42 miles; total	139
Coast Railway of Nova Scotia.—From Belleville to East Pubnico	17.2
Columbia & Western.—From Trail to West Robson	21.5
Drummond County.—From Moose Park to Chaudiere	42
East Richelieu Valley.—From Iberville to Henryville	12
Irondale, Bancroft & Ottawa.—Extension to Bancroft	5
Lake Manitoba Railway & Canal Co.—Extension to Winnipegosis	23
L'Epiphaïne & L'Assomption.—Extension from L'Assomption	4
Montford Colonization.—From Brunet to Arundel	12
Ottawa & New York.—From Ottawa to Cornwall	52
Phillipsburg Railroad & Quarry.—From main line to wharf on Missisquoi Bay ..	7
United Counties.—From Iberville to Island Thomas	22

Total.....380.65

The total mileage of new roads built in the whole of the United States during the same period was only 2,108.82 miles.

Work on the Grand Trunk.

In addition to equipping its system with extra 60,000 lbs. freight cars the G.T.R. is making arrangements to have the roadbed, locomotives, &c., between Toronto & Portland put in condition to haul 35 cars to a train-load from the former to the latter city without having to cut the train. To do this means that all the bridges between Vaudreuil & Portland are being materially strengthened, & some of the heavy grades east of Montreal will be overcome by building a track round them, which will perhaps increase the mileage to some extent, but the amount of time saved by running over flat country will equalize the loss, if any. This departure will enable the Co. to rush through its trains much quicker than formerly, when the trains had to be cut & reduced in load at several terminals in order to overcome the grades.

Arrangements have been made to commence extensive improvements on the Southern Division, which is now being jointly used by the G. T. & Wabash. Traffic will now be much heavier than formerly, in view of the change, & it will be necessary to lay standard 80 lbs. steel rails to replace 56 to 66 lbs. ones now down, & put in additional sidings.

The masonry work on the Victoria Jubilee Bridge at Montreal has been completed, & the work of erecting the superstructure will now go on from both ends.

General Manager Hays informs us that it is the Co.'s intention, as soon as the necessary legislation can be obtained, to somewhat improve the International Bridge connecting Fort Erie, Ont., with Buffalo, N.Y., so as to better facilitate the Co.'s business over it. The plans, however, have not yet progressed far.

Construction & Betterment Notes.

CANADA ATLANTIC & O., A. & P. S. RY.—The new car shops in Ottawa East will probably be re-commenced about May 1, & about the same date work will begin on the Central depot. The O., A. & P. S. Railway Company is at present building several large warehouses at Parry Sound for the storage of goods consigned to lake points. Two of them will be 80 x 600 ft. One is to hold packages from lake points to be shipped east, & the other for goods consigned to western lake points. President Booth states that work on the new station & the car shops will likely be begun as soon as the work at Parry Sound is completed.

THE COBOURG, NORTHUMBERLAND & PACIFIC is to be built from Cobourg, Ont., to Tweed, it is said, at once, the contract having been let to C. H. Bower. Cobourg will be the headquarters & base of supplies.

COAST RY. OF NOVA SCOTIA.—L. H. Wheaton, Chief Engineer, Yarmouth, N.S., states that surveys have been commenced for the extension from Lockport toward Halifax, 2 corps of engineers being in the field working in both directions. As soon as the line is located contracts will be let & grading will begin. The road is projected to run from Yarmouth to Halifax, following the south coast of Nova Scotia. Thirty-one miles are in operation from Yarmouth to East Pubnico, & 20 miles additional are under construction, the work being well advanced. The location is completed to Lockport, 97 miles from Yarmouth. An amendment to the charter has



Coast Railway of Nova Scotia.

been secured providing for a branch from Liverpool to the northern part of Queen's county, to take the place of the proposed N. S. Southern Ry., whose charter expired December last. It is expected to have the road completed & ready for operation to Lockport by the close of this year, & to have considerable work done on the line between the latter place & Halifax. Financial arrangements for completing the entire line have been made, & free right of way has been secured for the entire distance. The contractor is the Nova Scotia Development Co., of Philadelphia, Pa. T. Robertson, Yarmouth, N.S., is President of the Railway Co.

THE DEPARTMENT OF RAILWAYS has issued a circular to railway & bridge companies stating that in view of the increasing weight of locomotives, & the conversion of branch lines into trunk lines, railway bridges, the construction or alteration of which may be projected, must be designed and proportioned, in order to satisfy the requirements of the Department, for not less than a class 2 engine loading, as indicated in the departmental specification of 1896.

GREAT NORTHWEST CENTRAL.—It is said on good authority there will be no extension of this Manitoba line this year, the Dominion Government having decided not to subsidize any roads this year. The Imperial Privy

Council has not yet given a decision in the famous G.N.W.C. case, but simply outlined in what was erroneously reported as a judgment, what their finding would be along certain lines. The latter included the payment of sub-contractors' claims. The English bondholders & Contractor Charlebois were to come together & arrange matters. This they failed to do, as the English bondholders would not meet the demands of Mr. Charlebois, regarding them as too excessive. The bondholders then settled with the sub-contractors, paying their claims, amounting to \$160,000, now control the road, & have asked for the suspended judgment of the Privy Council, which may be expected any day.

THE LOTBINIERE & MEGANTIC is building a wharf 160 ft. long at Cap la Roche, Que., to facilitate the shipping of pulp wood, bark, &c., from that section.

THE MANITOBA & NORTHWESTERN is repairing & extending the stockyards at Portage la Prairie. The company is looking forward to a great expansion in its live stock freight.

MIDLAND.—Fitzpatrick & Co., of New Glasgow and Windsor, N. S., are said to have been awarded a contract for building this line from Windsor, via South Maitland & Brookfield, to Truro, N.S., 60 miles. W. Strachan, Montreal, is president of the Co., which was incorporated by the Nova Scotia Legislature in 1896, with powers to build from Windsor via Maitland & Clifton to the Intercolonial at a point between Truro & Stewiacke, thence to Eastville, with extensions & branches to coal & iron fields & shipping ports. In 1894 a Dominion subsidy was granted of \$3,200 a mile for 90 miles, from Newport or Windsor to Truro, or to a point between Truro & Stewiacke, & from a point on the railway to a point at or near Eastville, & from Eastville, through the valley of Musquodoboit River, towards a point on the Dartmouth branch of the Intercolonial, in lieu of a subsidy authorized in 1892; also for a railway bridge over the River Shubenacadie, a subsidy of 15% on the value of the structure, the total of the subsidies not to exceed \$300,000. The Midland Ry. Co. having applied to the Department of Railways, was admitted to contract for these works on July 30, 1896; the date for completion being fixed as Aug. 1, 1898.

THE MONCTON & BUCTOUCHE will put in a draw in the big railway bridge which spans the river at Buctouche. This has been ordered by the Dominion Government on representations by people of Buctouche & vicinity that it is in the interests of shipping in Buctouche harbor. It will probably cost \$2,000 to \$3,000.

NEWFOUNDLAND, NORTHERN & WESTERN.—W. D. Reid, son of R. G. Reid, who has taken over this line, states it will be formally opened between Port au Basque & St. John's, Nfld., about June 1.

THE NORTHERN PACIFIC will fill in a large number of bridges on the Manitoba division this year.

PEMBROKE SOUTHERN.—W. Russell & Co. have a contract for building this line from Pembroke, Ont., to Golden Lake, where it will connect with the Ottawa, Arnprior & Parry Sound Ry.

THE PORT ARTHUR, DULUTH & WESTERN.—Superintendent Thompson wrote us Mar. 21: "The construction of a branch of about 3 miles from a point on our line near Stanley, 17 miles from Fort William, to Kakabeka Falls is contemplated, but no arrangements have been made, as yet, to start work on it." Kakabeka is one of the most beautiful falls on this continent, & has immense power, which there are strong hopes will be utilized ere long.

THE RESTIGOUCHE & WESTERN has completed arrangements for building the first 20 miles of the line. Malcolm & Ross are the contractors, & C. L. B. Miles is Chief Engineer. The road will be from the I.C.R., at Campbellton, N.B., to the St. John River at Grand Falls or St. Leonards, at either of which it connects with the C.P.R.; at St. Leonards also with the Bangor & Aristook Ry. By bridging the Restigouche at Campbellton, it will connect with the Atlantic & Lake Superior to Gaspé. There will be 110 miles to build, through heavy timber, spruce & cedar, in abundance, & some fine tracts of farm lands, on ridges covered now by a wealth of rock maple.

WINNIPEG TO LAKE SUPERIOR.—A Winnipeg telegram, April 12, says:—An arrangement has, it is said, been come to between Premier Greenway & Wm. Mackenzie, Toronto, who controls the Ontario & Rainy River & South Eastern Ry. charters, under which another line between Winnipeg & Lake Superior will be built, by which Manitoba, to secure competition with the C.P.R., will guarantee the bonds of that portion of the road lying within the Province—about 100 miles, & extending from Winnipeg to the Lake of the Woods—to the extent of \$8,000 a mile. This guarantee, it is expected, will enable the Co. to float its bonds at par on the London market. The South Eastern charter carries a Dominion land grant of 6,400 acres a mile. An announcement is expected in the Legislature in a few days.

GRAND TRUNK OFFICES.—Last autumn negotiations were commenced between Montreal City Council & the G. T. management, relating to the movement of the Co's general offices from Point St. Charles to the central part of the city. Mr. Hays offered that the Co., if given the upper part of Victoria Square, as a free site, with tax exemption would erect a handsome office structure there. This proposition did not meet with the approval of the Council, who offered St. Anne's Market site instead. Recently Toronto civic authorities have been urging the removal of the offices to Toronto, urging that it is more in the centre of the G. T. system than Montreal, but they have not made any offer, Mr. Hays having stated that he could not consider any proposition while negotiations with the Montreal City Council were pending. It appears settled that the Victoria Square site will not be given. Whether Mr. Hays will accept the St. Anne's Market, or some alternative site, remains to be seen. Our own impression is that matters will be arranged between Montreal & the Co., & that Toronto's chances of securing the offices are, to say the least, remote.

Personal Mention.

W. H. Miles has been appointed Live Stock Agent for the C.P.R. Western Division.

Eugene Flynn, of Montreal, once well known as the G.T.R. detective, has gone to jail for 6 months for brutally assaulting a woman.

J. M. Egan, formerly General Superintendent of the C.P.R., Western Division, is now Vice-President of the Central of Georgia, with headquarters at Savannah.

W. F. Anderson, formerly of the C.P.R. audit office in Winnipeg, has been appointed travelling passenger agent for the Co. in the Kootenay District of B.C.

E. Pennington, Superintendent of the Minneapolis, St. Paul & Sault Ste. Marie, has been appointed General Superintendent, with headquarters at Minneapolis, Minn.

W. K. Snider, a well-known conductor on the G.T.R., died at Windsor, Ont., April 5, & was buried at Fergus. He was favorably known as a revivalist & lecturer.

The Vanderbilt Changes.

On Mar. 30 the following statement was sent out from the head offices of the New York Central: To carry out the policy of a greater unity of administration in the Vanderbilt system the following adjustment of the management will be made after the annual election of the New York Central & Hudson River Ry. Co. on April 20. Chauncey M. Depew will retire from the presidency of that Co., & becomes Chairman of the boards of directors of the New York Central & Hudson River, Lake Shore, New York, Chicago & St. Louis & Michigan Central Ry.

S. R. Callaway will succeed Mr. Depew as President of the New York Central Co. Mr. Ledyard will remain President of the Michigan Central. The Presidents of the Lake Shore & of the New York, Chicago, & St. Louis have not yet been chosen. Cornelius Vanderbilt, in retiring from the Chairmanship of the New York Central & Hudson River Co. & of the Michigan Central Co., & W. K. Vanderbilt in retiring from the Chairmanship of the Lake Shore & of the New York, Chicago & St. Louis Co.'s, will remain in the directorates & continue their interest in the property with which their name has been so long identified, & in which they have such large investments.

The new President of the New York Central R. R. is a Canadian by birth, & well-known in the Dominion, having held positions in Hamilton, London & Montreal. He was born on Dec. 24, 1850, & at the age of 13 entered Mr. Hickson's office in Montreal, as office boy, at a salary of \$100 per year. Mr. Hickson, now Sir Joseph, was, in 1863, Chief Accountant of the Grand Trunk. In 1865 Mr. Callaway went as Secretary to Mr. G. Cheney, Manager of the Canadian Express Company, & left there in 1869 to enter the service of the Great Western Ry. under W. Wallace, Superintendent at London, & subsequently Private Secretary to W. K. Muir at Hamilton.

Mr. Callaway retired from the Great Western to enter the service of the Detroit & Milwaukee, of which road he was Superintendent from 1875 to 1878. Upon the absorption of the D. & M. by the Great Western Mr. Callaway was appointed General Superintendent of the Detroit & Bay City Ry., & in 1880 General Manager of the Chicago & Grand Trunk & President of the Western Indiana Railways. In 1884 he accepted the position of Vice-President & General Manager of the Union Pacific Ry. & the allied lines of nearly 6,000 miles. In 1887 he was elected President of the Toledo, St. Louis & Kansas City Ry., & left that road to accept the Presidency of the Lake Shore & Michigan Southern Ry., the position he now holds. It is said Sir Charles Rivers-Wilson offered Mr. Callaway the General Managership of the Grand Trunk in 1895.

Mr. Callaway is a protege of Sir Jos. Hickson, & in speaking of his life, Mr. Callaway once wrote a friend: "One of the most interesting features of my career has been the friendship & confidence of Sir Jos. Hickson. In 1863 I was office boy at \$100 a year. Mr. Hickson predicted a successful career for me, & promised to keep an eye on me. This promise was more than fulfilled 17 years later, when Sir Joseph offered me, then a young man of 27 years of age, the general management of the Chicago & Grand Trunk Ry., of which road he was President."

The Canadian Pacific's President.

Railway Age, Chicago: "Railway men in the U. S. are not feeling extraordinarily well-disposed towards the Canadian Pacific just now, & we therefore take pleasure in presenting herewith an admirable likeness of Sir William Van Horne, in order that our readers may stick pins into him to their hearts' content. It will not hurt Sir William, for he is not eas-

ily perturbed, & must, moreover, be feeling somewhat well satisfied at present, with an increase in net income for 1897 of a little over \$2,000,000, as compared with 1896, & the dividend on common stock increased from 2 to 4.

After giving some biographical facts, the Railway Age continues:—"It is a remarkable career—from operator & agent at small country stations in the Western States to the presidency of the Canadian Pacific & a knighthood, & Sir William is a remarkable man in other ways than as a railway manager. Had he chosen to make painting his profession he would undoubtedly have been among the great artists of this generation, for, even as it is, the work with the brush that he loves to do in the intervals of his serious labor shows extraordinary power & artistic sense. He is a lover of all things beautiful & has in his home in Montreal one of the three or four really great private collections of Japanese ceramics in the world. Stories of his ability as a mind-reader are numerous & (what is more unusual) true. Whatever the strange faculty may be that enables one mind to read what is passing in another, Sir William possesses it in a high degree, & if at any time he had cared to exploit his capacity for public uses he could undoubtedly do any of the things that made Bishop or other professional readers famous. In public affairs in the Dominion it is not necessary to say that he is a power. From time to time rumors are circulated to the effect that he is about to retire from the presidency of the Canadian Pacific. He himself makes no secret of the fact that he looks forward to the time when in his opinion his work will have been so rounded out that he can with satisfaction & confidence resign it to other hands, & himself find some of that leisure that he could use so well. He is a man of too many sides & too broad sympathies to be content always with the routine of any daily work, however large, & at the same time too earnest & too capable a worker to be willing to leave any work half done."

American Railway Management.

Under this title John Wiley & Sons, New York, have issued, in a handy volume of 368 pages, a collection of addresses delivered at the semi-annual meetings of the American Railway Association from 1890 to 1896, & of other occasional addresses by H. S. Haines, formerly Vice-President & General Manager of the Plant System. They relate to matters connected with the management of railways in the U. S., & have value, either as indicating opinions prevalent at the time that they were prepared, or as bearing upon the development of the American railway system from its inception to the present time. Though, for the most part, produced upon the spur of the moment, as opportunities offered during a busy life, some of them contain information gathered from various sources which cannot be so readily obtained elsewhere. The discussion of the Inter-State Commerce Commission Reports to 1894, contained in the address on "Rates of Transportation & Cost of Service on American Railroads," delivered in April, 1895, has been extended to include the later reports in the concluding article recently written for the purpose, entitled "Value of Railroad Property in the United States, as shown by the Report of 1896 of the Inter-State Commerce Commission."

The table of contents includes such subjects as Field of usefulness of the Association; Discipline on railroads; Committee work of the Association; Train rules, Car mileage, Safety appliances; Cost of transportation; Safety appliances; Car couplers; Standard code of train rules; Block system; Co-operation in the consideration of questions of railroad management; Labor organizations; Operat-

ing expenses of a railroad; Rates of transportation & cost of service on American railroads; Railroad organization; Review of the work of the Association for ten years; International railway congress; Introduction of American methods on foreign railways, &c., &c.

Sir Wm. Van Horne in Washington.

When Sir Wm. Van Horne was in Washington last month, he said, in answer to Senator Elkins' attack on the C.P.R. in the U. S. Senate:—"A great deal of what the Senator stated hardly agrees with the facts. He charges the Canadian Pacific with taking \$50,000,000 annually from the revenues of United States railways. As our gross earnings are only \$24,000,000, it would take a smart accountant to figure how we get the other \$26,000,000. His remarks about our subsidies are equally inaccurate. His charge that the line is Great Britain's mainstay for military purposes is somewhat comical, seeing that if there should be any trouble its proximity to the U.S. frontier would make it easy of destruction. But, of course, there will never be any trouble between England & the United States. A war between these nations would be a disgrace to civilization."

"Of late there has been a good deal of rate-cutting, & the C.P.R. has been assailed for its attitude in the war that has developed between it & some of the U.S. trans-continental lines. The rivalry for business growing out of the gold discoveries on the Yukon is at the bottom of the matter. Some of the Western lines make the claim that the C.P. was not entitled to any differential involving this Alaskan traffic; a traffic which was not of importance at the time of our agreement with the U.S. roads. But without waiting to see what we would do these lines began to cut rates secretly. Of this we have abundant evidence, in the shape of tickets bought at prices which the companies would not redeem. This left the C.P.R. no other alternative than to cut rates, but, as it ever does, by publication of an open tariff which is filed with the Interstate Commerce Commission. Every time secret cuts are made this is our recourse. This is all there is of the rate war between us and the U.S. companies, & our position is purely one of self-defence."

Loyal to Canadian Interests.

The Victoria, B.C., Times says: "The C.P.R. Co. has shown wonderful, yet characteristic, energy in dealing with the Klondike question; it has fairly flooded the United Kingdom with literature in the highest degree beneficial to the interest of Canada, yet indulging in no abuse or misrepresentation of the United States. The case for Canada has been put in such a manner that thousands who would have gone to Seattle, Tacoma, Portland & other U.S. points west come to Victoria, Vancouver & other B.C. cities. The C.P.R. can take passengers to Seattle quite as cheaply as it can land them in Victoria or Vancouver, but it is to the Co's credit that all its efforts have been to divert the travel to Canada. We do not expect railway companies to be influenced entirely by patriotism, but the C.P.R. has certainly in this matter done all within its power to give Canada the benefit of its influence without going out of the way to hurt rival lines by false statements. The Alaska Commercial Co. with all its experience in the Yukon & thorough knowledge of the rules and regulations governing the import of goods to the Klondike, purchasing its stores in Victoria, is significant testimony to the fact that the Canadian campaign has been conducted on the proper lines & that it will be completely successful."

YORK STREET BRIDGE, TORONTO.

By A. P. Walker, C.E., O.L.S.

This structure stands near the foot of York St., Toronto, & affords access from the city to the water-front for vehicles & foot-passengers, over the intervening railway tracks. It was built under the provisions of "The Esplanade agreement, 1892," the parties thereto being the C. P. & G. T. Ry. Co's. & the City of Toronto. This agreement was one of the results of the endeavors of the C.P.R. to establish a freight yard in the central part of the city, & under it that Co. was to construct the bridge, & the cost was to be borne in equal parts by that Co. & the city, unless the courts should decide that the G.T.R. was liable for a share, & the plans of the structure were prepared in Montreal under the direction of P. A. Peterson, Chief Engineer of the C.P.R., and were approved by the Toronto City Engineer. Work on the ground was commenced May 1, 1896, & the bridge was opened for traffic about the beginning of Aug., 1897. The erection took much longer than anticipated, owing to the contractors for the ironwork being unable to obtain their raw material fast enough, & to a ship-load of timber for the deck being wrecked en route, & by differences arising between the Co. & the city regarding the finishing up of the roadway.

The general design of the bridge is a steel trestle, composed of about 32 spans deck-plate girder ranging from 30 to 70 ft. span, with wooden stringers & decks. There are also in addition 2 spans of less than 20 ft. rolled steel I beams. These girders & I beams rest in iron columns, standing on stone pedestals, except at the 3 ends of the bridge, where there are stone abutments. The width of the roadway, except on the southerly ramps, is 37 ft. 6 in., with sidewalks on each side 7 ft. 6 in. wide. On the southerly ramps the width of roadway is 32 ft. 6 in., with one 7 ft. 6 in. sidewalk.

The ground-plan of the bridge is "T-shaped," with the base resting on the south side of Front St., & it extends southerly therefrom across the deviation of York St. & the railway tracks to Lake St., a distance of about 906 ft. Here the ramps of the bridge turn, one to the right & the other to the left, & descend to the level of the street, & the length of these ramps is each about 316 ft., making a total length of bridge of 1,538 ft.

From Front St. the roadway of the bridge rises with a grade of 1 ft. in 20, for about 298 ft., & at the Lake St. ends there are similar falling grades of 1 in 20, about 500 ft. in length, & heavy loads to the railway freight-sheds are taken over these grades every day & no special difficulty seems to be experienced.

There are in all 3 abutments and 68 pedestal blocks. The foundation of the two Lake St. abutments & all the pedestal blocks, except 14 north of the south line of the old Esplanade, are on piles driven to the ledge rock. This was necessary, as the land was formerly part of Toronto Harbor, & had only been filled in the year previously with miscellaneous rubbish, earth, brickbats, tin cans, as well as more objectionable refuse.

When piles were to be driven an excavation was carried down to 1 ft. below zero level of the water of Toronto Harbor, & soundings were then taken down to the rock. The piles were then cut off the correct length & driven home with a "follower," & under the specifications the piles were to be cut off 1 ft. below zero level, & the above method was found less expensive than actually cutting them under water, & it was very seldom that a pile had to be cut when once driven home. Only a very small point was made on the pile before driving, & four piles were driven for the small pedestals, 18 for the medium & 9 for the

large pedestals. Under the abutments the piles were 4 ft. centres longitudinally & 2 ft. 6 in. transversely.

The excavation was then carried down 6 inches below the top of the pile & 2 ft. in depth of concrete put in. In some cases where the underlying material was very soft, short lengths of 2 in. plank were laid flat under the concrete between the piles, in order to keep the concrete from settling in the soft material before it was set. The concrete foundation is 7 ft. square under 10 of the pedestals, carrying the longer spans; 6 ft. sq. under 9 pedestals; 5 ft. 6 in. sq. under 5 pedestals, & 4 ft. 6 in. square under the remaining 44, & is generally 2 in. deep. The concrete was composed as follows, except when laid under water: Cement 1 part; clean, sharp sand 3 parts; broken stone 5

parts; all by measure, & under water the concrete was composed, cement 1 part; sand 2 parts; broken stone 5 parts.

Below ground the stone-work is what is known as "Rubble masonry." Above ground it is "Rock-faced ashlar," & was built under the C.P.R. standard masonry specifications. The stone was brought partly from the contractors' quarries at Owen Sound & partly from the Orangeville quarry. The contractor for concrete and masonry work was D. Chalmers of Owen Sound, & the piling was done by the Ry. Co.'s own men & its track pile driver. The two top courses of the pedestals had to be drilled before being placed in position to receive the 1½ in. iron rods which secured the iron columns to the masonry, & some little difficulty was experienced in drilling completely through these stones without breaking

Prop. City of Toronto. Arch





them. This drilling was done with a steam drill, half from each side of the stone.

The iron-work was erected during the winter of 1896-7, & was paid for at so much per lb. in the finished work. The bridge was designed to carry in addition to its own weight the following live loads, either singly or in any combination.

a.—100 lbs. per sq. ft. of roadway & sidewalk.

b.—One 32,000 lb. road roller, having a wheel base of 11 ft. 2 in. in length & 7¼ in. transversely.

c.—A string of electric cars 26 ft. long, each weighing 30,000 lbs, fully loaded, on each track, and all parts of the structure were proportioned so that maximum loads should produce no greater tensile strain upon the net section, than 12,000 lbs. per sq. inch. A

wind strain of 400 lbs. for each longitudinal lineal foot, & 150 lbs. for each vertical lineal ft. if the trestle bents were allowed for. All steel had to come up to the following requirements.

Ultimate strength.....	58,000 to 65,000 lbs.
Elastic limit	33,000 lbs.
Elongation in 8" in.....	20%
Reduction of area.....	40%

& was made by the open-hearth process. Before leaving the shop it was thoroughly cleared of all loose scales & rust with steel scrapers & brushes, & was then given a good coating of red lead mixed with linseed oil, well worked into all joints & surfaces, & after erection the iron-work was given two more coats of paint.

All the timber in the deck of the bridge,

with the exception of the sidewalk planks & paving blocks, is southern yellow pine, creosoted with 10 lbs. of dead oil of coal-tar per cubic foot.

On top of the joists & 4-inch plank was laid 2 thicknesses of best tarred paper thoroughly sealed with roofing-pitch to the planking & each other. On top of this was laid the paving blocks, consisting of square cut white pine blocks 8x4x4½ in. deep, grain upwards. These blocks were held apart at the cross joints by 3 specially made nails driven into each block up to the collar having the blocks 3-16" apart. All joints & vacancies were then filled in with best paving pitch, & the roadway covered ½ in. deep with gravel. A double-track girder rail for electric cars was laid across the bridge by the St. Ry. Co. before the paving was done, for possible use in

the future. The sidewalk planks are of tamarack 7 ft. 0 in. long, 2 in. thick, laid with 1 1/2 in. fall towards the curb. The cost of the structure was approximately:

Foundation & earthwork, including piling.....	\$ 4,200
Stone & concrete work.....	15,900
Iron-work.....	43,000
Damages St. James hotel property..	4,900
Deck & roadways.....	28,000
Engineering.....	2,000
	<hr/>
	\$98,000

Official Railway Report.

The annual report of the Department of Railways & Canals for the last fiscal year states that the number of railways in operation in the Dominion was 141. As some of these lines have been amalgamated, the number of controlling companies was 81. The number of miles of completed railway was 16,687, an increase of 300, besides 2,218 miles of sidings. The number of miles laid with steel rails was 16,477. The number of miles in operation was 16,550. The paid-up capital amounted to \$921,858,232, an increase of \$22,040,332; the gross earnings amounted to \$52,353,276, an increase of \$1,807,707; the working expenses to \$35,168,665, an increase of \$120,010; the net earnings to \$17,184,611, an increase of \$1,681,697. The total number of miles run by trains was 45,780,851. The accident returns show only 7 passengers killed.

The Government expenditure on railways prior to and since Confederation in 1867 is as follows:—On capital account, \$122,944,518.33; for railway subsidies, \$16,390,887.33; making a total of \$139,335,405.66. The expenditure for working expenses of Government roads was \$69,522,382.86, making a grand total of \$208,857,788.52. The revenue from Government roads during the same period amounted to \$61,196,803.08.

Of the total amount, \$579,255.20 awarded the C.P.R. in 1891 by special arbitrators in respect of transferred works in B.C., to be expended by the Co. under Government supervision, the value of work done up to Aug., 1897, was \$572,445.70, including \$202,675.20 expended prior to the date of award, leaving to be expended \$6,809.50. On June 30, 1897, the C.P.R. Co. had under traffic in Canada 6,314 miles of railway, including leased lines.

The Government System.—The I.C.R., the Windsor Branch & the P.E.I.R. were the lines maintained by the Government, a total of 1,388 miles. On the Intercolonial 1,145 miles were in operation, earning \$2,866,028.02, with working expenses of \$2,925,968.67, entailing a loss of \$59,940.65. During the year there was an addition of \$149,112.52 to the capital account expenditure, making the total chargeable to capital on the whole road, as amalgamated, \$55,416,157.15. For increased accommodation at Halifax, there was \$22,274.97; for the branch from Windsor Junction to Dartmouth, \$37,206.44; for increased accommodation at Moncton, \$29,877.32; & for rolling stock, \$14,996.04. Passenger traffic earnings were \$979,005.57, an increase of \$7,579.31; freight traffic \$1,687,050.42, a decrease of \$101,762.76; mail & express produced \$199,972.03, an increase of \$2,571.37. The earnings per mile were \$2,503.08, a decrease of \$86.80.

The Windsor Branch, 32 miles, extending from Windsor Junction on the I.C.R. to Windsor, N.S., is operated by the Dominion Atlantic Ry. Co., which pays all charges of traffic workings, being allowed 2/3 of the gross earnings, the Government taking the remaining 1/3 & assuming all cost of maintenance. This agreement was made in Dec., 1892, & extends for a further term of 21 years. The duty of supervision is performed by I.C.R. officers. The Government earnings amounted to \$40,603.23, an increase of \$4,041.40. Maintenance expenses amounted to \$10,821.04, a decrease of \$5,653.42, leaving a balance of profit of \$29,782.19 in favor of the Government.

The Prince Edward Island Ry. is 211 miles long. The total cost of road & equipment, chargeable to capital account was \$3,750,565.38. The gross earnings for the year amounted to \$153,443.13, an increase of \$6,966.50. The working expenses were \$240,489.90; the over-expenditure being \$87,046.77. The P.E.I. Ry. carried 121,498 passengers, a decrease of 1,088. The freight carried was 52,151 tons, an increase of 5,756. Passenger receipts were \$62,695.07; freight, \$69,872.66; mails, express, etc., \$20,875.40.

The Government operated the **Baie des Chaleurs Ry.** during the winter 1896-7 in connection with the I.C. Ry. Co., the results from Dec. to May showing an expenditure of \$18,679.97; gross earnings of \$6,725.08; leaving a loss of \$11,954.89. The road was transferred back to the Co. May 31, 1897.

The growth of railways in Canada since 1836 has been as follows:

Year.	Miles in Operation.	Year.	Miles in Operation.
1835	0	1873	3,616
1836-46	16	1874	3,832
1846-49	54	1875	4,331
1850	66	1876	4,804
1851	159	1877	5,218
1852	205	1878	5,782
1853	506	1879	6,126
1854	764	1880	6,858
1855	877	1881	7,194
1856	1,414	1882	7,331
1857	1,444	1883	8,697
1858	1,863	1884	9,577
1859	1,994	1885	10,273
1860	2,065	1886	10,773
1861	2,146	1887	11,793
1862	2,189	1888	12,184
1863	2,189	1889	12,585
1864	2,189	1890	13,151
1865	2,240	1891	13,838
1866	2,278	1892	14,564
1867	2,278	1893	15,005
1868	2,278	1894	15,627
1869	2,524	1895	15,977
1870	2,617	1896	16,270
1871	2,695	1897	16,550
1872	2,899		

RHODES, CURRY & CO's. car works, foundry & machines shops at Amherst, N.S., were damaged by fire to the extent of between \$40,000 & \$50,000, Mar. 22, the loss being fully covered by insurance.

NOW READY.

The Klondike Official Guide

PREPARED BY

WM. OGILVIE,

Dominion Land Surveyor,

From his Latest Reports, with Numerous Maps and Illustrations never before published

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SHIPPING.**Dominion Department of Marine.**

The annual report of the Department of Marine & Fisheries states that during the year ended June 30, 1897, the expenditure for maintenance of lighthouse & coast service was \$434,895.66, construction, \$10,910.30; while for the previous year the expenditure for the lighthouse & coast service, including construction, was \$466,057.55, showing a decrease of expenditure for the last year of \$20,251.59. The appropriation for this service was \$481,510, the expenditure being \$35,704.04 less. The total number of light-stations, light-ships & fog-alarm stations in the Dominion was 635, lights shown 783; steam-whistles & fog-horns, bells & guns, 83; light-keepers & engineers of fog-alarms with masters of light-ships, 652.

The extended coast line of Canada, the numerous bays, inlets, rivers, lakes, harbors, & other navigable waters require a large number of buoys, which are maintained at an average cost of \$55,000 a year. For the year the service cost \$49,624.19. The cost is increased in years when new contracts are given for steel signal & other coast buoys. The Chief Engineer, in his report relating to buoyage, points out that the Department has been substituting steel coast buoys for wooden buoys, with favorable results. The districts now buoyed, in all parts of the Dominion, number about 300 & the buoys number about 3,000. A contract has been let for the construction of 39 steel can & conical buoys to be distributed to agencies for use as spare buoys & to replace worn-out buoys. The aggregate cost of these will be \$5,192.

The total number of steamboats reported in the several districts in the Dominion is 1,354. Of these 96 are new vessels, as reported by the Chairman of the Board of Steamboat Inspection; the gross tonnage being 224,865.22.

The hydrographic survey of the Great Lakes made good progress, the steamer Bayfield being employed. Mr. Stewart completed the survey of Lake Erie in July, & resumed the survey of Lake Huron. The charts, when completed, will be forwarded to the Admiralty, & with the sheets of the U.S. survey will make a complete chart of the lakes. A chart of the eastern part of the Bay of Quinte, from Kingston to Deseronto, was completed. Hydrographic notes of B. C. waters were forwarded from the master of the steamer Quadra, & were embodied in the Department's notices to mariners.

A New Maritime Line.

The Manhattan Steamship Co. was incorporated recently, with a capital of \$1,000,000, & headquarters at 11 Broadway, New York. It will operate a service between New York, Maine & the Maritime Provinces. The tourist travel into Maine & the Maritime Provinces has increased to a gigantic figure within the past few years. Contracts have been given for the construction of 3 steel twin screw passenger & freight steamers. The dimensions of these are 260 ft. long by 45 ft. beam. Each contains 2 engines, 22x36x55x28 in. stroke; 6 boilers, 11 ft. 6 in. in diameter by 12 ft. 6 in. long, giving a speed of 17 knots an hour. These steamers are of the best modern construction, with large space devoted to cold storage. The freight accommodation of these new steamers will be ample for all requirements, & in addition a large space has been apportioned for cold storage for the successful transportation of fresh fish, lobsters, fruit & garden truck.

Each steamer will have 126 staterooms of 2 berths each. These rooms will be handsomely fitted up. Many are en suite, & there will also be found several parlor staterooms con-

taining large brass bedsteads & sofas, &, like all the staterooms, luxuriously appointed in delicate tones of ivory & gold. The lavatories & bath rooms will be of the latest sanitary design. The dining-room will be entirely separate from the grand saloon, & will be provided with a series of tables seating 150 persons. The 2 ladies' grand saloons & music halls are to be marvels of beauty & comfort. The men's smoking room will be located on the after part of the saloon deck, with buffet attached. It will be 30x20 ft.

Activity in Boat Building.

Never in the history of the Pacific Coast has there been such activity among ship-builders & marine inspectors as at present. A great shortage of expert hands is reported. The Victoria Colonist reports that a small-sized fleet is being launched every week at Turpells. During the first week of March the little stern-wheeler Monte Cristo & the schooner Casco were launched from the yards. Fulton & Crane are having a stern-wheel steamer built for the Stikine. Another boat, 124x22 ft., with light draught & powerful machinery, suitable for all kinds of river work, is being built under direction of Mr. Shray. Capt. Cairn will have a new freight steamer for the Fraser; & Spratt's Ark—a huge, barge-shaped craft—is being prepared for Klondike trade. In the same yards the tugs Hope & Chieftain are being overhauled.

In the Star yards two Yukon stern-wheelers—the Victorian & Columbian—are under way for the Canadian Development Co., to ply between the Hootalinqua & Dawson City. A freight steamer for Capt. Grant is also being constructed, & the tramp steamer Commonwealth being repaired.

The new C. P. N. steel vessel, to be fitted with water-tight compartments, is also under way.

Canadian Pacific Navigation Co.

The C. P. N. Co. is arranging for the shipment of goods direct to Dawson City without touching at a U. S. port, the object being to avoid bonding privileges or other customs arrangements. The navigation of the Stikine River, through the strip of Alaska at the mouth, is by virtue of treaty rights as free to Canadians as to United Statesers. Taking advantage of this, the C. P. N. Co. intends to run a line of small steamers from Port Simpson up the Stikine River. Connection will be made with these steamers by the Co's vessels from Vancouver & Victoria, & Wrangel will not be touched at all. The trade now being built up there will thus be partially diverted to Port Simpson.

It is recalled that several years ago a steamer, the Western Slope, ran from Port Simpson right up the Stikine to the Canadian line, & in 1878, when the U. S. Government began to show a somewhat similar spirit to what it is doing now, of trying to prevent Canadian vessels doing any of the carrying trade, the steamer ran on the Stikine for two seasons. The vessels the C. P. N. intends to utilize include the R. P. K. thet, Yosemite & some others.

Capt. Bernard King, of St. Catharines, Ont., died Mar. 28, aged 82. Following the lakes, as early as 1837 he was on a boat running from the Niagara River to the north shore of Lake Ontario, & during his early years he had under him such well-known mariners as the late Capt. Jas. Norris, the late Capt. S. Neelon, & Capt. Larkin. He sailed several vessels in his early years, & owned a few. He was the first man to take a ship from Lake Ontario to Halifax.

Port Arthur & Fort William.

The head of Lake Superior is to have better steamboat connection with the East & Duluth this year than ever before in its history.

The C. P. R. Co. will run their three steamers, Alberta, Athabaska & Manitoba, from Owen Sound, giving three sailings each week.

The Beatty Line will run the United Empire & Monarch from Sarnia to Port Arthur, Fort William & Duluth, which will make 3 sailings in two weeks each way.

The Black & White Lines are putting on two steamers, the Majestic & Collingwood, from Collingwood to Port Arthur, Fort William & Duluth, which will give the same service as the Beatty Line.

The mail steamer Hiram R. Dixon, of the Booth Line, will make tri-weekly trips between Duluth & Port Arthur.

The combined sailings will aggregate 6 trips a week each way from Port Arthur & Fort William to Owen Sound, Collingwood & Sarnia, & 6 boats each way between Fort William, Port Arthur & Duluth, or practically a daily boat on both routes.

The steamboat lines have reduced fares during the excursion season, & have largely reduced the immigrant rate for the whole year, so that it is expected steamboat business to Port Arthur & Fort William this year will assume greater proportions than ever before in the history of the Canadian lines.

Correspondence from Wrangel.

A correspondent writing from Stikine Island, mouth of Stikine River, Mar. 6, said:—"All passengers intending to go up the Stikine have to take a light draft steamer at Wrangel, so as to reach this island, where the tide keeps the lower end free from ice; about half-a-mile up the island the ice can be taken. The first parties to arrive reached here about the middle of January, & since then they have been arriving thicker & faster, until at the present I think I am not far wrong when I say there are at least 1,000 men with outfits on the river between here & the Big Bend, 25 miles up the river, while camped on the island are at least 500 more, & there are about 500 waiting in Wrangel, which number is being augmented each day by the many that are being landed by the steamers, 2 or 3 of which arrive daily. Four steamers arrived here to-day, on one of which was the vanguard of Mackenzie & Mann's party. There is also here Capt. Armstrong's party of 40 men, 70 tons of machinery & supplies. Capt. Armstrong is intending to haul his outfit up the river by steam power. He has an engine & a long steel cable. This cable he will run out ahead, take a snub on some convenient tree, & by steam power haul engine & supplies up to the snubbing point. So that no time may be lost, he intends to travel day & night, & takes an electric light plant for the purpose of illuminating the river ahead at night. He takes the necessary machinery for 3 steamboats on Lake Teslin."

The Polson Iron Works.

In addition to the marine and other work mentioned in last month's issue this Toronto firm has the following on hand;

Two Clyde type marine boilers each 11 ft. 4 in. diameter by 12 ft. long, to pass Government inspection for 170 lbs. working pressure. These are for the composite freight steamer now under construction by the Calumet Co. at its works at Garden Island, Ont.

Brown automatic engine, 150 h.p., & two 100 h.p. boilers for the Bain Wagon Co., Woodstock, Ont.

One pair Brown automatic cross compound condensing engines for Brandon Electric Light Co.

OCEAN, LAKE & RIVER.

Ontario & the Great Lakes.

The steamer Tecumseh is having a new boiler plant installed at Toronto.

The iron steamer Seguin, 200 ft. long, is being lengthened about 40 ft., in Toronto.

The S.S. Telegram has been put on the route between Collingwood & Michipicoten.

Capt. D. Milloy is getting things in shape for the opening of business at the Yonge St. wharf, Toronto.

The Straits of Mackinac opened Mar. 28, the earliest opening for the 63 years of which records have been kept.

It is said \$33,000 were paid for the Rose-dale by the Edwardsburg Starch Co., & it is estimated the repairs will cost \$24,000.

It is said to be on the cards to organize a company with a capital of \$3,000,000 to navigate the Great Lakes & St. Lawrence River.

The steamer George H. Dyer, recently purchased for the "Soo" line route between Gladstone and Owen Sound, will hereafter be known as the Hennepin.

The Minister of Public Works has assured the Winnipeg Board of Trade that he will take up the matter of improvements required in connection with navigation at Fort William.

The D. G. S. Bay field, which has been on the Owen Sound dock during the entire winter, has been taken off & her place taken by the D. G. S. Petrel & the steamer Joe Milton.

Capt. R. C. Clapp has arrived in Toronto from his home at Picton & has begun to fit out the steamer Chicora, which will go on the Niagara-Toronto run about the middle of May.

W. A. Geddes is making preparations at his Yonge street wharf, Toronto, for a big traffic this season. His apartments at the wharf have been enlarged by the addition of a private office.

The proposal to put ice-breakers in Mud Lake & Kaministiquia River will be considered by the Government. The proposition is new to the present Government & may not be entertained this year. But it is bound to come.

The Toronto Harbor Board has met & awarded the contracts for dredging for this season to McNamee & Simpson. Owing to the water being higher this year than usual there will not be so much dredging required. The contract calls for 22,000 yards, & the price is about \$3,000.

The American Line on the St. Lawrence River is making alterations & general repairs to its entire fleet at Kingston, & when the season opens the steamers will be in even better condition than last season. This Co. is spending considerable money in the way of improving its boats.

The C.P.R. Upper Lakes steamships lying at Owen Sound have been undergoing their annual painting. There is very little change in the interior decorations, the main color being pure white, with the panels rubbed down to a dead finish & cornice & capitals picked out with gold & lavender.

It is expected the steamers running in connection with the Merchants Line will be placed on the same routes as last summer. The Cuba & Melbourne will run between Montreal, Toronto & Cleveland; the Michigan between Montreal, Toronto & Duluth; & the Tilley & Arabian between Duluth & Prescott.

During the coming summer the C.P.R. does not intend to resume its service between Windsor & Port Arthur & Fort William. The Co.'s steamers, Alberta, Athabasca & Manitoba, will run all season from Owen Sound, giving a prompt & satisfactory service with a sailing every alternate day. Shippers will

appreciate the value of such a service when given by a fleet like that owned by the C.P.R.

The Kingston & Montreal Forwarding Co. has secured the contract for carrying grain from the new elevator at Coteau Landing to Montreal. The grain will be carried from the west to the elevator over the Canada Atlantic Ry. It will be carried to Parry Sound by vessel, & there transhipped into cars for Coteau. This change may necessitate the removal of the Forwarding Co.'s business from Portsmouth.

Efforts are to be made to reduce the dangers to navigation at Charity Shoal, Lake Ontario, where the Toronto steamer Rose-dale got into trouble. It is probable special attention will be given to the marking of the shoal. There are sharp rocks in great numbers on the shoal, which covers 4 or 5 acres. While there is an average of 10 ft. of water over the shoal, there is less on top of the rocks in some places.

A gang of workmen has been engaged for some time back on the Cambria at Sarnia making such repairs as would enable her to float. A steam pump will be put on board her & she will be pumped out; she will then be moved down to the waterworks wharf & a new rudder shipped, & she will then be taken down with her own steam to Lake Ontario, where her owners, Donnelly Bros., of Kingston, intend to have her rebuilt.

The Hamilton Steamboat Co.'s Clyde-built steamer Macassa commenced regular trips between Toronto & Hamilton the first week in April. Having been repainted & overhauled, she appears brighter & better than ever, & with her enlarged promenade deck & steam-heated main deck, cabin & ladies' cabin, will no doubt grow in popularity with the travelling public. The sister boat, Modjeska, will not take her place on the run till some time in May.

The water in Lake Ontario is deeper than it has been known at this time for many years back. If it keeps up as it is now there will be plenty of water in the lower canals, & steamers will be able to load to their full depth. At the head of Lake Superior, however, the water is said to be 20 ins. lower than it was in August last, & it has not been so low before in many years. At Sault Ste. Marie, too, it is 12 ins. lower than it was this time last year, which means a great deal to large carriers.

Assistant U.S. Engineer J. Ripley has been appointed General Superintendent of St. Mary's Falls ship canal at Sault Ste. Marie, Mich., to succeed E. S. Wheeler, Engineer on the Nicaragua Canal Commission. Mr. Ripley has been in the employ of the Government at the Sault since 1877, when he was appointed Inspector of Masonry on the Weitzel lock, which position he held until that work was completed in 1881. He has been in active charge of the channel improvements on St. Mary's River.

The motion to wind up the Georgian Bay Ship Canal & Aqueduct Co. was argued in Toronto Mar. 31, after many delays & postponements. R. C. Clute made the motion on behalf of the New York Journal Co., which has an advertising account of about \$2,000 against the Co. Counsel for the bondholders & Co. stated that all the assets of the Co. were pledged to the bondholders, & argued that if a winding-up order were granted the Journal could, therefore, get nothing. Judgment was reserved.

The Calvin Co., Garden Island, Ont., is building a composite freight steamer at its own works there. The dimensions are:—Length 200 ft., beam 37 ft., hold 15 ft. The engine is triple expansion, 18 x 30 x 48 ins., 30 ins. stroke, and is being built by the Calvin Co. The 2 Clyde type marine boilers, each 11 ft. 4 ins. diameter, by 2 ft. long, to pass Government inspection for 170 lbs., working

pressure, are being built by the Polson Iron Works, Toronto. The estimated cost of the steamer complete is \$70,000.

Henry Beatty has in his office, in Toronto Union Station, a frame containing exterior & interior views of the S.S. Tartar, recently purchased by the C.P.R. for the Vancouver-Wrangell route. They were given him in 1882 by Aitken & Mansel, of Glasgow, who built the Tartar for the Union Steamship Co., of London, Eng., at the same time as they were building the S.S. Athabasca & Algoma for the C.P.R.'s Upper Lakes route under Mr. Beatty's supervision. It is a strange coincidence that the Tartar has now passed into the same ownership.

It is said the fast steamer Unique, built 3 years ago for the Detroit & Port Huron route, is to be sold to Canadian parties & run between Toronto & Port Dalhousie. Mr. Slaght, of Toronto, representing the purchasers, has been in Port Hope negotiating for the boat, & it is said arrangements for the transfer are about complete. If the deal goes through the boat will be thoroughly overhauled, & as soon as she is converted into a Canadian vessel her name will be changed to the Maple Leaf. The consideration agreed on is said to be \$25,000.

The Canada Atlantic Railway is going to be a factor in the grain trade this coming season. The steamer Lynn has been chartered to take 350,000 bushels of corn from Chicago to Parry Sound at 1st open water, for export from Montreal. This makes about 500,000 bushels that have been taken at 5¼ c. a bushel on corn & 6 c. on wheat through from Chicago to Montreal. The 5 steamers which the Canada Atlantic has engaged between Chicago & Duluth to Parry Sound will, it is said, deliver 15,000 tons a week, & other steamers may also be expected to engage in the trade to Parry Sound.

McLeod Stewart delivered an address on the Georgian Bay ship canal before a Committee of the Senate at Ottawa recently. He said that what was wanted from the Dominion Government was \$300,000 a year for 20 years. Lord Lansdowne, Lord Selborne & Joseph Chamberlain were in favor of the project. A subsidy might also be obtained from the Imperial Government. Gates would be opened by electricity in 12 seconds, & everything would be up-to-date. The cost of construction would be \$20,000,000. Mr. Stewart said if money from the Government was forthcoming he would have the work started on the canal before July 1.

The Winnipeg Commercial says there are over 100 steamers on the Lake of the Woods, 45 of them go up & down the Rainy River, & some 15 or 16 ply on Rainy Lake, above the proposed locks at Fort Frances. The contemplated improvements would open up continuous navigation through a chain of lakes with 2,000 miles of coast line. The new town of Mine Centre, situated on the Seine River, about 45 miles east of Fort Frances, has a population of about 600. An appropriation was made last session to build the lock at Fort Frances, but the work has not been done yet. The construction of this work would be of great value to all the region tributary thereto.

The longest lake steamer now afloat is the Sir William Fairbairn, which measures 434 ft. over all. But a steamer now being built at West Bay City, Mich., will be 42 ft. longer, or 476 ft. in length over all. On the keel the boat will be 456 ft. in length, & the breadth of beam will be 50 ft., while the depth of hold will be 29 ft. The capacity of this boat, on a draught of 17 ft. of water, is estimated at 6,100 tons of iron ore. The machinery will consist of a quadruple expansion engine with cylinders, 26½, 37, 54½ & 80 ins. in diameter, by 42 ins. stroke. Steam will be supplied by

4 steel boilers, allowed 200 lbs. pressure. These will each be 13 ft. 4 ins. in diameter, by 11 ft. 6 ins. in length. - Seaboard.

Davis & Son, Kingston, Ont., report that they are building the following:—A steam pleasure yacht, 36 ft. long, 7 ft. beam, 36 ins. deep, tonnage, 3 tons, water-tube boiler, compound engine. A steam launch, 48 ft. long, 8 ft. beam, 4½ ft. deep, tonnage, 12 tons, water-tube boiler, compound engine. Passenger & freight steamer for Homer & Co., Gravenhurst, Ont., 65 ft. long, 14 ft. beam, 6 ft. deep. Rebuilding the private yacht Charlie M., for C. Mickle, Gravenhurst, Ont.; she is now 60 ft. long, 10 ft. wide, 6 ft. deep. They are adding 13 ft. to her length. Rebuilding the steamer Kanonha for the Muskoka Navigation Co., she is 108 ft. long, & they are adding 18 ft., rebuilding the hull, adding new cabins & making other improvements.

With the development of mining prospects in the Seine River country, traffic calls for further steamboat facilities. Last season 3 small steamers connected Mine Centre with Fort Frances & Kettle Falls, & a boat is to be built shortly to ply between Mine Centre & Sturgeon Falls, some 40 miles up the Seine River, towards the Saw Bill country. A. Glassford has the scheme in hand, & the boat will be built at Bell City, & will be ready for use shortly after navigation opens. It will be 45 ft. long, & run 12 miles an hour. Within the past year considerable prospecting work has been done on very promising properties in the neighborhood of Sturgeon Falls, & Mr. Glassford thinks the placing of this boat on the Seine River will prove a profitable enterprise.

On Mar. 19, Capt. Quinn of Toronto, Capt. Raines & Diver White began to raise a derelict in Toronto Harbor. This wreck is supposed to be the str. Lady of the Lake, sunk off the northern wharf & raised by Capt. Moody, Capt. P. McSherry & Capt. Saulter about 43 years ago, the vessels assisting in raising the wreck being the old schr. Royal Tar, now lying sunk east of the R.C.Y.C., & the schr. Echo, owned by Capt. P. McSherry. The obstruction has long been a danger to ferry boats backing out from the Island wharf. About 17 years ago, at the opening of the Wiman Baths, the str. Geneva ran over the wreck & broke her wheel, & 4 years ago the Ada Alice met with a similar accident, the cause in each case being attributed to a sunken crib.

Traffic Manager Smith of the Canada Atlantic Ry. reports favorable arrangements with the ocean lines out of Montreal for large quantities of export traffic from Manitoba & the Northwestern States in connection with the new lake line to Parry Sound. Its fleet of five 3,000-ton steel boats will probably leave the head of the lakes for Parry Sound about April 20. These are the Saxon, Briton, Roman, German & Grecian. In addition to its own fleet the Co. has chartered several of the largest lake carriers for grain, among which is the new steel steamer built at Chicago during the past winter, the Linn, whose 1st cargo to Parry Sound will either be 220,000 bus. of corn or 350,000 bus. of oats. The Canada Atlantic may be depended on to handle a large portion of through freight hereafter.

A deputation from Sault Ste. Marie went to Ottawa recently. The request, put forward as most urgent, was for a new dock. The

present dock is not large enough for the steamers of the C.P.R. & Beatty lines, which would otherwise call & do a good deal of business. Another thing much needed is the privilege of storing steamboat coal in bond. This privilege, it is said, is accorded to Canadian ports on the Detroit River. The result is, that vessels going through, which would go over to the U.S. side to coal if they had to pay the duty on the Canadian side, coal in Canada & purchase their supplies in this country. The bulk of the vessels passing through now coal & replenish stores on the U.S. side to avoid the duty on coal. The business is important & Canadian merchants would like to get a share of it.

B. W. Folger, Jr., General Traffic Manager of the American line of steamers on the St. Lawrence river, says:—"We are going to put 3 first-class boats, the New York, the Empire State & America, on the line on July 4, & they will run until the excursion business is over. They will make daily trips between Clayton and Montreal. Everything that can be done for the comfort of passengers will be accomplished, & we intend to show the people what beautiful places the St. Lawrence

Indications point to a good trade on Lake Ontario, & the steamers running between Toronto & Montreal are likely to have plenty of freight offering. Last year, while they had pretty nearly all they could carry, rates were low, although with the low rates the boats made money. Conditions are rather more favorable this year. The railways are being offered actually more than they can handle comfortably, & when the boats commence to run they are bound to get a large business, while, with the amount of stuff offering, rates are likely to be well maintained. Prospects are hardly so good for the upper lake grain carriers, for while there is a good deal of grain to be moved rates are opening low, although they may improve as the season advances. It is understood that ocean space at Montreal has already been engaged for fully a million bushels, & this means business for the lake craft. Still, even with this, at the same time last year much more than a million of bushels had been secured.

The Northwest Territories.

The Edmonton Board of Trade recently despatched expert blasters to clear the boulders from the Grand Rapids, Athabasca River.

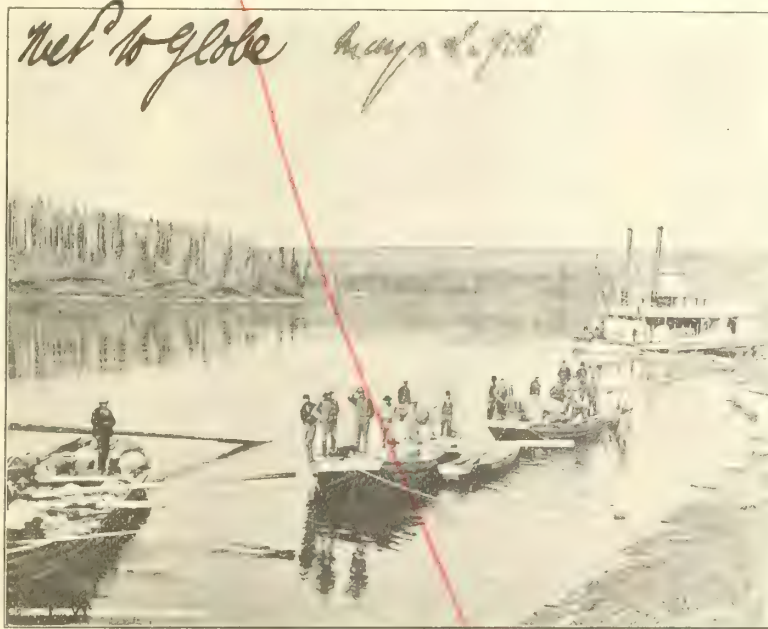
The Secretary of the Steamshipmen's Protective Association at Vancouver states that negotiations with the Union S. S. Co. have resulted in Manager Darling promising that union men will receive preferences when vacancies occur on the Co's. vessels.

The Alaska Mining & Trading Co., Chicago, has put out a lot of printed matter about the Athabasca route to the Yukon. In its last circular it says:—"Our first steamers will leave Athabasca Landing just as soon as navigation is open through, which will be early in May." We have been unable to get any satisfactory information about this Co., & cannot even find out if it has built any steamers.

A correspondent writes from Edmonton: "Extensive preparations have been made for the opening of navigation on the northern rivers. A

large number of boats have been built here & freighted to Athabasca Landing & a lively business is being done in the same line there, & it is safe to predict that several thousand people will take the water route by way of the Mackenzie River when navigation opens. In addition to the boats several small steam tugs drawing about 2 ft. of water have been built, which are intended to tow fleets of small boats, & which it is expected will run the rapids & can be taken right through to the head waters of the Peel or the Pelly. The Hudson's Bay Co. has placed the lots of its new townsite at Athabasca Landing on the market. As Athabasca Landing is at the head of navigation on the Athabasca River, & the proposed immediate terminus of the Edmonton District Ry., there will probably be quite a lively little town there before next fall."

Brockway Bros., Douglas, Wyoming, have issued a folder in which they say:—"Alex. Brockway is now at Edmonton, Alberta, superintending the construction of boats, securing practical Mackenzie River boatmen, etc., for an expedition of 100 men to the gold fields via the Mackenzie River route. The start will be made, under his guidance, as soon as



HUDSON'S BAY STEAMER & TRADERS' BOATS AT ATHABASCA LANDING, ALBERTA.

river & the resorts along it are. The New York will have a speed of 20 miles an hour, & she will probably be the fastest steamer on the St. Lawrence. The boat will be ready for business the latter part of June. W. Murphy is building the steamer in Buffalo. The interior of the boat is finished in Empire State style, & no expense will be spared."

Superintendent Piers, of the C.P.R. Steamship Lines, reports that the Upper Lakes steamers will be ready much earlier than usual, on account of the early opening of navigation. "It is too bad," he says, "that we have to send the Manitoba to a U.S. port to be docked again this spring. It is deplorable that Owen Sound has not a dry dock fit to take its own vessels. With such facilities as the Kennedys have there, a dry dock should be a very good paying investment. It is certainly humiliating that Canadian vessels have to go to Detroit or Port Huron to be docked." Mr. Piers thinks Owen Sound should have no difficulty in securing Government aid towards the construction of much needed docking facilities on the northern lakes. The size of the vessels must continue to increase, & there is now almost an absolute demand that the matter be taken up.

the river is clear of ice in the spring, which will be about the middle of April. We are also constructing a small river steamer for the Yukon River. This is to be of light draft, powerful & speedy. It will start up the Yukon with its load of passengers & freight as early in the spring as the river is free from ice—about June 15. It will be in charge of a first-class river man, & will meet the Mackenzie River party at La Pierre's House, near the head of the Porcupine, on or about July 1. Assistance will then be given to those of the Mackenzie River party who desire to cross over to the Yukon River. These men, with their outfits, will then be taken with the least possible delay, by our Yukon boat, to Dawson City or any intermediate point at which they may choose to land."

In British Columbia Waters.

The Barge Transfer no. 1, built in C. McAlpine's shipyards, Vancouver, for R. Duns-muir & Sons, Victoria, was launched Mar. 11. Her dimensions are, length 190 ft., breadth 40 ft., depth 12 ft. She is of larger tonnage than any sea-going craft yet built at Vancouver.

One of the largest scows on the inland waters has been launched at Nelson. It is 200 ft. long & 38 wide, with a capacity of 1,000 tons, & was built by the C.P.R. as a car ferry, to run between the Kootenay Lake terminus of the Crow's Nest Branch & Nelson, accommodation being provided for a train of 15 loaded cars.

The Dominion Government has been advised that the British survey ship *Egeria*, Capt. M. H. Smythe, now at Esquimalt, B.C., will at once begin a survey of the west coast of Vancouver Island, and the B.C. coast north as far as Wrangel. She was commissioned last year for this work, which is to be done by order of the Imperial naval authorities.

The addition of one boat to the line of steamers on the Kootenay River ensures excellent transportation facilities. The *J. D. Farrell*, recently built by Capt. McCormack, is modern in its appointments, & will be supplied with an electric searchlight, so that it can run at night as well as during the day-time. The *North Star* & *Gwendoline* have been repaired & refitted.

The Department of Marine has called for tenders for the erection of a wooden lighthouse & fog-bell tower on Prospect Point, at the entrance to the Narrows, Burrard Inlet, B.C. Notice has been given the Marine Department that the California Rock buoy, Favorite Reef buoy, Poundstone Reef buoy, & Vanderbilt Reef buoy, as also several buoys in Peril Straits, B.C., are missing.

J. H. Moir, New Westminster, B.C., writes us that he is building the following steam boats: For the Hudson's Bay Co., 2 stern wheelers, dimensions of each, length 140 ft., beam 30 ft., depth of hold 4½ ft. For the Rothsay Steamship Co., 1 stern wheeler, length 143 ft., beam 30 ft., depth of hold 4½ ft. For Klondike Mining Co., 2 stern wheelers, length 145 ft., beam 30 ft., depth of hold 4½ ft. For London Steamship Co., 1 stern wheeler, length 140 ft., beam 30 ft., depth of hold 4½ ft. These dimensions are over all on the hull only, & do not include stern wheel timber length outside. For Fraser River Steam Tug Co., Capt. French, 1 tug, length 85 ft., beam 16 ft., midship depth 7 ft. For Capt. Myers, 1 steam tug, length 70 ft., beam 14 ft., midship depth 6½ ft. All these boats are intended to be in the water in May.

W. Galt, a well-known Toronto newspaper man, has been appointed Manager of the Toronto Ferry Co. in place of W. A. Esson, resigned.

The Yukon Trade.

On the Yukon, at a distance of from 700 to 800 miles from the sea, there are many points where the river is 20 miles wide.

Six or 7 steamships, averaging about 3,500 tons each, are now on their way to Vancouver from various points, to engage in the Yukon trade.

F. C. Davidge & Co., Victoria, have bought the Columbia River stern-wheel steamer *Ramona*, & will run her between Wrangel & Telegraph Creek.

The arrival of the C.P.R. Co.'s *S.S. Tartar* at Vancouver April 1 caused quite a stir in that city, & no little surprise that the Co. had been able to secure so fine a ship for its Yukon service. She was followed on April 12 by her sister ship the *Athenian*.

So numerous are the steamers now engaged in the northern service of the Pacific Coast that it is frequently said that in making the trip one never loses sight of vessels going or coming from the time he starts his trip until he ends it, though the voyage extends over a stretch of upwards of 1,000 miles.

The C.P.R. will make Wrangel Island a live place. C. E. Perry, C.E., who had charge of the Slocan branch of the C.P.R., has located at Wrangel, where the C.P.R. has acquired Sylvester's interest in the water front, paying for it \$11,000, in addition to which the residents paid \$3,000.

The Kootenay-Cariboo Mining & Investment Co., with headquarters at Toronto, advertises 250,000 shares of its treasury stock at 25c. a share, stating that the net proceeds are to be devoted to the construction & equipment of 3 steamers to run from the head of Teslin Lake to Fort Selkirk & Dawson City.

The importations of eastern goods into Victoria have become so heavy in consequence of the Yukon outfitting trade that the daily mail steamer *Charmer* is unable to carry all the merchandise brought for that city over the C.P.R. In consequence the C.P.N. Co. has decided to make extra trips with the *Yosemite* & *Willapa* until the rush of freight is over.

Evans, Coleman & Evans, of Vancouver, have raised their wharfage rates to \$1 a ton, owing to the extra hands necessary in connection with Klondike business. The extension of their wharf will be completed within a month. The addition is 275 ft. into the inlet, forming with the present wharf an L. A warehouse will be erected the whole length of the extension, 60 ft. in width.

Orders have been received by the inspectors of steamboats at B.C. ports, that all steamers sailing from there, British or foreign, are to be rigidly inspected & not cleared by the Collector of Customs until they can show certificates that they have passed a favorable inspection. This action on the part of the Canadian authorities was taken to assure the safety & comfort of travellers, & to guard against catastrophes.

Mr. McInnes, of Vancouver, has been to New York in connection with a steamboat service he is organizing. His company has secured the *S.S. Garonne*, 4,000 tons, formerly of the P. & O. line, which left England April 2 with a full cargo of freight and passengers. The *Garonne* will run from Vancouver to St. Michaels, starting June 10, & making regular trips all season. At St. Michaels the steamer will connect with 4 river boats that will ply between there & Dawson City—the *Paul Walters*, *Lulu Stewart*, *City of Chicago* & *Mascot*. This route & the one via Wrangel & up the Stikine River are, in Mr. McInnes' opinion, the only practicable routes from the Pacific Coast to the Yukon. All others are attended

with great hardship and expense, & at certain seasons, which are never known, it is impossible to travel over Skaguay & Dyea routes.

The Government steamer *Quadra* left Vancouver on Mar. 29th, having on board L. Coste, Chief Engineer of the Department of Public Works, who proceeds to the Stikine River to make an examination with a view to improvements. He was accompanied by a staff of engineers, surveyor & assistant. The party will survey the Stikine River for 100 miles to ascertain what improvements are necessary to overcome the obstructions to navigation. The *Quadra*, after landing the party, will return to New Westminster to tow north the snagboat *Sampson*, which will be employed in removing snags, rocks or other obstructions which render the navigation of the Stikine dangerous. Mr. Coste will also go down the Hootalinquia & on to Dawson, & a survey will be made of the Yukon from Dawson to the Alaska boundary. Chief Engineer Anderson of the Marine Department has also gone to the Pacific coast for the purpose of determining at what points aids to navigation are necessary, and to make other observations in the interests of the public service bearing upon communication with the Yukon territory.

Sir Hibbert Tupper, in recently introducing his bill in the House of Commons to amend the act respecting the coasting trade, explained it was designed to save to Canadian vessels a portion of the carrying trade of the Yukon. They were prevented by the U.S. coasting laws from participating in the carrying trade to Alaskan ports, & he thought it right that the trade to the Stikine should be preserved to them. The United Statesers were, he said, taking the extreme course of preventing goods from one U.S. port, inland or otherwise, being carried by a foreign vessel for any portion of the voyage. For instance, it had been ruled to be a violation of the U.S. coasting laws for goods from Seattle to be transhipped into Canadian vessels at Victoria & carried on to Dyea & Skaguay. On our side we are going on in the good-natured way, without regard to new & harsh enforcement of the U.S. laws. For instance, as in the case of the Alaska, a U.S. vessel has taken goods from Fort Wrangel to Glenora, the goods having previously been taken to the U.S. port of Wrangel from Victoria in another U.S. vessel. His bill would prevent this being done.

The Yukon rush still continues unabated at B.C. ports. There are daily sailings carrying large numbers of fortune-seekers & immense quantities of supplies. So great was the northward movement in the early part of the season that every available vessel was pressed into service, some of them being battered old hulks which, having become unseaworthy, were hurriedly patched up to meet the emergency of the occasion. The lack of experienced pilots in the intricate waters of the northern coast, which in the inner channels through the islands fringing the mainland are difficult to navigate, added to the dangers of the trip, which was taken by some Yukonites with grave misgivings that were not groundless, as evidenced by several disasters. This does not apply, of course, to all the steamers in the Yukon trade, but to enough of them at all events to make the addition of such staunch sea-going vessels as the *Tartar* & *Athenian* of the C.P.R. Co.'s line to the fleet one of more than ordinary importance. It is understood they will take the outside course on the route to Wrangel & entirely avoid the dangers of the inner waters of the Pacific. Their capacity is 500 passengers a trip, or 1,000 a week. With this acquisition to the carrying facilities, the great rush which is anticipated to reach its height very shortly will be amply taken care of from Vancouver & Victoria northward.

NOTICES TO MARINERS.

By the Dominion Department of Marine.

All bearings, unless otherwise noted, are magnetic & are given from seaward, miles are nautical miles, heights are above high water, & all depths are at mean low water.

No. 12, Mar. 2.—1. Hand Fog Horns at Lightstations.—Hand fog horns are supplied to the undernamed lightstations in Nova Scotia, in addition to those already noted in the Canadian List of Lights & Fog Signals, 1897. The fact should be entered in the fog signal column of the list. The horns are used only in answer to signals heard by the keepers in thick weather. 130, Candlebox Island; 140, Stoddart Island; 221, Wedge Island; 240, Eddy Point.

2.—No Cage on Thrumcap, Cape Breaker & Fourche Bell Buoys.—The cages have been permanently removed from the bell buoys on Thrumcap shoal, in Halifax harbor, on the Cape breaker in the approach to Canso harbor, & off Fourché head, Cape Breton. This notice affects Canadian List of Lights & Fog Signals, 1897, nos. 198, 230 & 260.

3.—Color of Eddy Point Lighthouse.—There is a black diamond or lozenge-shaped day mark painted on the white seaward face of the lighthouse tower at Eddy Point, south entrance of the Gut of Canso. This notice affects Canadian List of Lights, 1897, no. 240.

No. 13, Mar. 8.—Fog Alarm Re-established at Lepreau.—Referring to Part 1 of Notice to Mariners, no. 7 of 1898, further notice is given that a new fog alarm building has been erected on the site of the burnt building, on the extremity of point Lepreau, on the Bay of Fundy coast of New Brunswick, & that the operation of the steam fog horn will be resumed to-morrow. The horn will give blasts of 5 seconds' duration, with intervals of 25 seconds between the blasts, as formerly. Duplicate machinery will later be placed in the building. This notice affects Canadian List of Lights & Fog Signals, 1897, no. 31.

No. 14, March 22.—Rock in Johnstone Strait, B.C.—The master of the ship Richard III. reports that while passing through Johnstone Strait, at low water of a long run out, he struck on a sunken rock which he considers must be situated where the 7-fathom sounding of Ripple Shoal is marked on Admiralty chart 581. The Richard III. was drawing 19 ft. 6 in. at the time she struck. Lat. N. 50° 24' 00"; Long. W. 125° 51' 20". An examination of Ripple Shoal will be made by the Canadian Government at the first opportunity. This notice affects Admiralty charts 581 and 1917 and B.C. Pilot, 1888, pg. 207.

By the U.S. Hydrographic Office.

Lake Huron—Sand Beach approach.

The schooner Presto stranded at Sand Beach, Mich., Oct. 16, 1897. The Presto struck in about 7 ft. of water close to & outside of North breakwater of Sand Beach harbor of refuge, Lake Huron. G. W. Plough, Keeper of Sand Beach life-saving station, reports that the wreck soon went to pieces, & a part, or most of the hull, came ashore. The remaining portion of the wreck is not an obstruction to navigation.

Lake Huron—Wreck of steamer Egyptian.—The steamer Egyptian caught afire & burned to the water's edge on Lake Huron on Dec. 2, 1897, & sank; she is no obstruction to navigation, & it is unlikely any attempt will be made to raise her. The wreck lies 13 (15) miles SE. ½ E. (S. 46° 30' E.) from Thunder Bay Island lighthouse, in 37½ fathoms of water.

St. Clair River—Wrecked schooner Home.—The Kendall Marine Reporting Co. has furnished the following information: "Concerning the wrecked schooner Home, she has not been removed. It is possible that the vessel has been shifted a short distance by the river ice. She is a very dangerous obstruction, & ought to be removed."

Lake Erie—Canada—Off Talbot point.—M. Payne, Sub-collector of Customs, Port Stanley, Ont., reports that the spars of the wrecked schooner Groton disappeared early in Jan., 1898, & were supposed to have been cut off by the ice. The hull of the vessel is no doubt in the same spot she sank, as both anchors are down, & she lies in water so deep that ice can not disturb the hull. The Groton sank Nov. 11, 1897.

Lake Erie—Canada.—The owners of the sunken steamer Louis Shickluna, Sylvester Bros., Toronto, Ont., report it is not at all likely they will attempt to raise the wreck, owing to the great depth of water. The steamer was sunk in Lake Erie by collision May 29, 1897, about 4½ (5) miles NE. by E. (N. 50° E.) from Long Point (or North Foreland) light tower, in 25 fathoms of water.

Lake Erie—Lorain.—The shipyard is situated on the right (east) bank of the Black River, in the town of Lorain. It lies west of Fifth street, is above Erie avenue viaduct, and below the N.Y.C. & St. L.R.R. bridge. There is 1 dry dock & 2 slips at the yard. The entrance to the dry dock is about 1,250 ft. above Erie avenue viaduct. Slip no. 1 is just above the dry dock, & slip no. 2 is adjacent to no. 1. The dry dock is 559 ft. 6 in. long over all & 500 ft. on the keel blocks. Width at bottom of dock 56 ft., at top 102 ft. Depth over sill at zero of gauge 17 ft. Slip no. 1 is 531 ft. 7 in. long, 125 ft. wide, & 14 ft. deep. Slip no. 2 is 476 ft. 10 in. long, 125 ft. wide, & 14 ft. deep.

Lake Ontario—New shoal spot southwesterly from Charity shoal.—A. R. Hinkley, Cape Vincent, N.Y., reports there is a rocky spot with only 15 ft. of water over it lying 1½ (1¼) miles SW. ¾ W. (S. 53° 30' W.) from Charity Shoal gas buoy, in the eastern end of Lake Ontario.

Lake Ontario.—The steamer Rosedale grounded on East Charity shoal, eastern end of Lake Ontario, just before the close of navigation for 1897. The steamer first struck on the southern end of upper East Charity shoal; she backed off, but grounded again. The vessel was released Dec. 15, 1897, & carried into port. The Rosedale was drawing 15 ft. when she struck, & soundings on the spot gave 2 fathoms, or a little more. The shoal is reported as a group of boulders, covering a gravelly & rocky area of about three acres, with 18 feet of water all around. Bearings from the spot are as follows: Tibbetts Point lighthouse NE. ½ E. (N. 50° 30' E.). Pigeon Island lighthouse NW. ¾ W. (N. 54° 30' W.). East Charity shoal is a rocky ridge, shallow on upper & lower ends, with 3 to 4 fathoms between the two spots. Locally, this shoal is known also as South Bar; the bar, trending NW.-SE., is about 1½ (1) mile long. Some of the local mariners call the upper shallow spot South Bar, & the lower shallow spot East Charity Shoal. The upper spot, where the Rosedale grounded, lies SW. ½ W. (S. 50° 30' W.) from Tibbetts Point lighthouse; it bears ESE. ¾ E. (S. 77° 30' E.) from Charity shoal gas buoy, & is distant from main Charity shoal 1½ (¾) mile with good channel between them. The lower spot of South Bar, or East Charity shoal proper, lies SW. ¼ S. (S. 42° 30' W.) from Tibbetts Point lighthouse. East Charity shoal is plainly indicated on H.O. chart no. 1477, & is mentioned on page 193 of Sailing Directions for the Great Lakes (H.O. Publication no. 108, published in 1896).

Vessel Officers for 1898.

CALVIN & CO., Garden Island, Ont.: Steamers—D. D. Calvin, Master, A. Malone; Engineer, T. C. Smith. Bothnia, Master, G. Brian; Engineer, R. Veech. Armenia, Master, C. Coons; Engineer, G. Hazlett. Chieftain, Master, J. Sullivan; Engineer, T. Gray. Parthia, Master, D. Lefavre; Engineer, G. Sauve. Johnston, Master, D. Lefavre, Jr.; Engineer, E. Phelix. Bluebell, Master, J. Dix; Engineer, F. Lefavre. Reginald, Master, J. Doyle; Engineer, J. Kennedy. Schooners—Ceylon, Master, H. Smith. Augustus, Master, J. Achee. Valencia, Master, J. Ferguson. Norway, Master, J. Harris.

CANADIAN PACIFIC RV.; Upper Lakes Steamships—Manitoba, Master, E. B. Anderson; Mate, T. Martin; Second Engineer, R. Chalmers; Purser, W. Bethune; Steward, M. Cooney. Alberta, Master, J. McAllister; Mate, L. Pyette; Second Mate, A. Brown; Chief Engineer, A. Cameron; Second Engineer, Findlay; Purser, J. Lane; Steward, J. Brown. Athabasca, Master, G. McDougall; Mate, M. McPhee; Second Mate, A. McNab; Chief Engineer, W. Lockerbie; Second Engineer, J. Davey; Purser, J. McEdwards; Steward, J. Gardhouse.

MATTHEWS LINE, Toronto: Steamers—Niagara, Master, J. Morgan; Engineer, T. Mills. Clinton, Master, J. Joyce; Engineer, J. Gray. Barges—Lisgar, Master, J. Fahey. Grimsby, Master, S. Atkinson. Schooner—Clara Youell; Master, N. J. Colwill.

MONTREAL TRANSPORTATION CO., Kingston, Ont.: Steamers—Active, Master, E. Bennett; Engineer, J. Hamilton. Bronson, Master, J. Murray; Engineer, R. Hepburn. Glide, Master, T. Murphy; Engineer, G. Tuttle. Glengarry, Master, G. Kean; Engineer, J. Evans. Jessie Hall, Master, G. Martin; Engineer, A. Barton. J. A. Walker, Master, J. Boyd; Engineer, G. Boyd. D. G. Thomson, Master, J. Murray; Engineer, G. Henderson. Bannockburn, Master, J. Irving; Engineer, R. Taylor. Rosemount, Master, J. W. Mawdesley; Engineer, H. Thurston. Lake schooners—Kildonan, Master, M. Lefebvre. Minnedosa, Master, R. G. Irwin. Selkirk, Master, H. Colvin. Winnipeg, Master, J. Kirkwood. Melrose, Master, J. Fleming. Dunmore, Master, J. Phillips. River barges—Alberta, Master, F. Poirier. Acadia, Master, L. Hebert. Bella, Master, P. Lalonde. Cleveland, Master, J. D. Perron. Chicago, Master, A. Charlebois. Colborne, Master, B. Sauvie. Corn Crib, Master, A. Charlebois, Jr. Cornwall, Master, H. Boyer. Detroit, Master, T. Davust. Dorchester, Master, J. Lalonde. Eagle, Master, A. Monnette, Jr. Hector, Master, T. Hebert. Glengarry, Master, A. Major. Harvest, Master, J. Bradley, Jr. Iowa, Master, J. Davust. Jennie, Master, M. Moreau. John Gaskin, Master, T. Leduc. Lancaster, Master, J. Page. McCarthy, Master, E. R. Roy. Montreal, Master, M. Lefebvre. Maggie, Master, A. Monnette. Nebraska, Master, C. Leboeuf. Regina, Master, O. Trudell. Senator, Master, A. Lalonde. Star, Master, E. Secotte. Toledo, Master, F. Leduc. Toronto, Master, A. Levoie. Wheat Bin, Master, A. St. Marcelles. Cobourg, Master, F. Lafrance. Brighton, Master, N. Mallette. Kingston, Master, A. Hebert.

NIAGARA NAVIGATION CO., Toronto: Steamers—Chippewa, Master, I. McGiffin; Engineer, R. McCaul. Corona, Master, W. H. Somes; Engineer, J. Walsh. Chicora, Master, R. Clapp; Engineer, H. Parke. Onigara, Master, H. McIntyre.

NORTH SHORE NAVIGATION CO., Collingwood, Ont.: Steamers—City of Collingwood, W. J. Bassett, Master; W. J. McQuade, First Officer; M. Ironside, Second Officer; C. Robertson, Engineer. City of Midland, F. X. Lafrance, Master; W. W. Cox, First

Officer; W. Whipps, Chief Engineer; P. L. Patterson, Purser. City of Parry Sound, S. W. Brown, Master; J. I. Smith, Chief Engineer; H. A. Currie, Purser. City of Toronto, A. C. Cameron, Master; D. McQuade, Chief Engineer & Purser.

NORTHWEST TRANSPORTATION CO., Sarnia, Ont.: Monarch, Master, E. Robertson; Engineer, E. W. McKeane; Purser, J. H. Ronan; Steward, G. E. Morrison. United Empire, Master, J. McNab; Engineer, S. Brisbin; Purser, W. A. Young; Steward, T. R. Ingles.

TORONTO FERRY CO., Toronto: Steamers—Primrose, Master, C. Tufford; Engineer, H. Brownley. Mayflower, Master, G. Moulton; Engineer, E. Abbey. Shamrock, Master, T. Jennings; Engineer, D. Foley. Thistle, Master, A. Martin; Engineer, M. Murphy. Kathleen, Master, J. Fertile. Island Queen, Master, J. Tymon; Engineer, T. Good. Luella, Master, M. Corcoran; Engineer, J. Smiley.

Fort William Grain Shipments.

At the recent annual meeting of the Winnipeg Grain Exchange, President Bawlf, in the course of his retiring address, said: "During 1897 there was a very large increase in the capacity of elevators for handling grain from farmers, & there is no grain producing country in the world to-day that is better equipped for the receiving, cleaning & shipping of grain than Manitoba."

Owing to the very high prices that were paid for wheat the marketing of the crop of 1897 was pushed vigorously, farmers being anxious to sell & deliver wheat in order to take advantage of the high prices. This marketing taxed the transportation companies to their utmost. The movement of wheat east from Manitoba during October & November was the largest in the history of the country. The bulk of it found its way out of the country by the C.P.R. to Fort William, a small percentage only going by Duluth.

I do not think many members of the Exchange or the public generally have any idea of the importance of Fort William as a shipping port, & in order to convey some idea of the quantities of grain shipped, I give the following figures showing the number of bushels of wheat shipped during the past three years:

Season of 1895	10,587,866 bushels.
" 1896	12,689,000 "
" 1897	17,600,000 "

Of the quantity in the latter year, 12,928,000 bus. was shipped for export, 11,000,000 went by way of Buffalo, the bulk of it in American bottoms; while 2,000,000 found its way to the seaboard by way of Montreal. In 1897 there was shipped from Montreal about 10,000,000 bus. of wheat against 17,000,000 bus. from Fort William. The total shipment of grain of all kinds from Montreal for 1897 (wheat, corn, peas, oats, barley & rye) was 27,000,000 bus. It will be observed that Fort William shipped nearly double the quantity of wheat, in 1897, that was shipped from Montreal.

In connection with the port of Fort William, the Exchange has been endeavoring during the past year to have better appliances used for keeping navigation open a greater length of time than hitherto. In 1895 the last vessel left Fort William on December 6. In 1896 navigation closed about November 30, but the Algonquin sailed from Port Arthur a few days later. In 1897 the last vessel loaded at Fort William on December 9, & vessels could have loaded at Fort William as late as December 15 without any difficulty. In order, however, to maintain navigation to so late a date as this, it is necessary that there should be more powerful boats employed on the river than are now there, & I think it is clearly the duty of the Government to take this matter up with vigor & see that a port of the importance of

Fort William has not to be closed prematurely. There is no reason why Fort William should not be kept open longer than the neighboring port of Duluth.

C.P.R. Stikine River Boats.

Capt. Troup, Superintendent of the C.P.R. Co.'s B.C. Inland Steamers, wrote us from Vancouver, March 19:—"We have now under construction 12 steamers for the Stikine River trade, as follows:—Three steel boats, each 140 ft. long, 30 ft. wide, 5 ft. deep, building at Toronto. These will have 16 in. cylinders 6 ft. stroke, with locomotive boilers to carry 175 lbs. steam pressure. These boats will be shipped to Vancouver in sections, & set up here, where the house work will be put on them, & then they will be sent to Fort Wrangel."

"We are building in Vancouver 5 wooden boats as follows:—One boat 150 ft. long, 30 ft. beam, 5 ft. deep, with engines 17 in. cylinders, 6 ft. stroke, 175 lbs. steam pressure. Three boats 145 ft. long, 30 ft. wide, 5 ft. deep, all with cylinders 16 in. bore, 6 ft. stroke. One boat 120 ft. long, 22 ft. wide, 4 ft. deep, with engines 12 in. by 4½ ft. The 3 steel boats & 3 of the wooden boats will be given 1st class passenger accommodation; 2 of the wooden boats will be fitted up as freight steamers only."

"We are building in Seattle 4 steamers for the same trade, 2 of them to be 150 ft. long, 32 ft. beam, & 2 to be 145 ft. long, 30 ft. beam. One of these is to be fitted as a passenger boat, and the other 3 as freight steamers."

"The passenger accommodation on these steamers will consist of 18 and 20 staterooms to the boat, besides accommodation for the crew. Each stateroom will have 1st class spring & hair mattresses, & be as comfortable as the steamers in the Kootenay district. Modern plumbing and electric lights will be used, in fact these boats will be as good of their class as are built in any part of the world. The names decided upon so far are Geo. M. Dawson, Ogilvie, McConnell, Dalton, Walsh, Constantine. The boats have all been designed by me, & we expect to have 3 of them completed by April 5, & about four of the others completed by April 20, & the last of the 12 should be at Fort Wrangel early in May."

A special train, conveying sections of one of the steel river steamers built at the Polson Engine Works, Toronto, arrived in Vancouver the last week of March. Before shipment from Toronto, the steamer was set up, inspected & then taken apart, 100 men being employed for this purpose. Thirty men from the Polson yard preceded the boat to put it together on arrival. W. E. Redway, Superintendent of the Polson Iron Works, who is in Vancouver, reports the steamer well under way, the riveting being almost finished. Three wooden vessels of the same type are under construction in the same yard, but the steel steamer arouses the greatest interest.

Lake Carriers' Association.

A meeting was held at Cleveland, Ohio, Mar. 22, to fix the salaries of the officials of the Association, including the shipping masters, & adopt a schedule of wages for the men employed on boats. The officers' salaries will be the same as last year. The new schedule of wages adopted, which went into effect April 1, is the same as the opening card for season of 1897. The outlook in the freight situation is about the same as it was then, & the members decided to make no change. The steamers are divided into 3 classes, & the consorts & sail vessels into 2 classes. Steamers of the 1st class have water bottoms & triple expansion engines. The 2nd class includes all metal steamers not included in class 1, & all wooden steamers with triple expansion & with compound engines, & the 3rd class takes in all the small steamers with high

pressure or low pressure engines, covering all boats not included in the two former classes. The schedule follows:

ON STEAMERS.

	1st class per month	2nd class per month	3rd class per month
Chief engineer	\$105	\$90	\$60 to \$75
Second engineer	70	65	50
First mate	75	65	50 to 60
Second mate	50	40	
Cooks	50	45	40
Helpers to cooks	15	12	
Firemen	30	30	25 to 30
Wheelmen	30	30	25 to 30
Lookouts	30	30	25 to 30
Deckhands	15	15	15
Oilers	30		

ON CONSORTS AND SAIL.

First mates	45	\$30 to \$40
Second mates	35	
Cooks	30	25
Seamen	30	20 to 25

Firemen fitting out & laying up, \$1.25 a day.

A. R. Rumsey was re-appointed chief shipping master. The other shipping masters are: J. W. Hanson & Capt. W. Anderson, Chicago; Capt. Frank Brown, South Chicago, vice M. Fish; Capt. Lemon, Milwaukee; Capt. Fletcher, Buffalo; Capt. P. Mitchell, Toledo; Capt. D. Harrington, Ashtabula, & W. Wall, assistant, Cleveland.—Marine Record.

Richelieu & Ontario Appointments.

At a meeting of directors Mar. 23, H. Bouchard, who has been with the company for 17 years as steward of different boats, was appointed Inspector of Stewards, a new office. His headquarters will be in Montreal, but his duties will call him all over the route wherever complaints of passengers or other matters may demand his attention. The resignation of Capt. Tranchemontagne, of the Chambly, who has been 17 years with the Co., was accepted.

The appointments of stewards & engineers were made as follows:—Canada, Steward, G. Lefebvre; Engineer, E. Lacroix. Carolina, Steward, T. Payne; Engineer, L. Latulippe. Quebec, Steward, J. B. Barbeau; Engineer, J. B. Gendron. Montreal, Steward, E. Guerin; Engineer, F. X. Hamelin. Three Rivers, Steward, E. Boivin; Engineer, F. Gendron. Berthier, Steward, L. S. Masse; Engineer, D. Laviolette. Terrebonne, Steward, J. E. Masse; Engineer, M. Sheridan. Chambly, Steward, M. Ayott. Mouche-a-Feu, Engineer, P. Bouchet. Hochelaga, Engineer, A. Chapullon. Longueuil, Engineer, Boncage. Hossana, Engineer, H. Gendron. Laprairie, Engineer, not appointed; P. McLean appointed Captain. Hamilton, Steward, E. Marcl; Engineer, G. Marshall. Corsican, Steward, L. Jolly; Engineer, J. Parker. Algerian, Steward, W. J. Clark; Engineer, T. Wadsworth. Bohemian, Steward, F. M. Hepburn; Engineer, not appointed. Passport, Steward, D. Cambridge; Engineer, W. Taylor. Columbian, not appointed. The balance of the appointments are arranged as follows: Each pilot appoints his 2nd pilot & wheelman; the 1st mate employs his own deck hands; the steward his own waiters & cooks, & the engineers their own stokers & other assistants, which make up the full complement of each crew.

The Co. is making energetic efforts to secure a large share of the tourist travel for Canada & to this end has already agents on the road working it up; W. A. Claney, formerly passenger agent of the Co. in the Eastern States; H. F. Chaffee, in the Southern States, & W. A. Fletcher, in the Western States.

ELECTRIC RAILWAYS.

A Halifax Sunday Case.

In November last an information was laid before the Stipendiary Magistrate of Halifax, N.S., by J. Grierson, charging the Halifax Electric Tramway Co. with having procured T. Burgess, a motorman, to perform servile labor on Sunday, Nov. 21, by driving, managing, guiding, controlling & operating a tram car propelled by electricity & owned by the Co. for the conveyance of passengers. The Co. applied to the Supreme Court for an order to prohibit the Magistrate from hearing the case, on the grounds that chapters 57, 22 & 32 of the acts of the Legislature of Nova Scotia for 1889 are ultra vires, & not within the powers conferred upon the Legislature by the B.N.A. Act; & that the Magistrate had no jurisdiction, either at common law or by statute, to hear or determine the charge. Justices Ritchie, Graham & Townshend agreed in favor of the defendant's contention; Chief Justice McDonald dissenting. A writ was granted to prohibit the Stipendiary Magistrate from hearing the case. Borden & Chisholm for the Informant; Pearson & Covert for the Tramway Co.

Judge Ritchie, in the course of his judgment, said: "Chapter 159, Revised Statutes of N.S., 3rd series, being part of the criminal law, the Local Legislature of Nova Scotia had, in my opinion, no power to alter or amend any of its sections, & any legislation purporting to have that effect is ultra vires the Local Legislature. I wish to be distinctly understood as giving no opinion as to whether the Local Legislature could or could not, by any legislation, prevent the performance of servile or other labor on Sunday; but I think it cannot be done in the way attempted—that is, by trying to amend the criminal law. The Stipendiary Magistrate for the city of Halifax should be prohibited from convicting the Halifax Electric Tramway Co. from any breach of the acts of the Local Legislature of N.S., purporting to amend chapter 159 of the Revised Statutes of N.S., 3rd series, or any act in amendment thereof."

Judge Graham, in the course of his judgment, said: "Coming to the amendments I suppose the Province might pass legislation in regard to this matter, & perhaps secure the same end under the head 'property & civil rights' or some other head. But it appears to me that the Act, 1891, cap. 32, is not an attempt to do this. It is a bona-fide attempt to amend by adding sections to an act which I have just endeavored to show is a part of the criminal law. The 1st section expressly says so. Moreover, the person who offends by employing, hiring or procuring his employee to perform servile labor is declared 'guilty of performing servile labor on Sunday within the meaning of the second section of this act,' i.e., the principal act. It is an attempt to deal with the criminal law—to make an offence equal to a crime that the Parliament of Canada alone could create. In my opinion the prohibition ought to issue to prevent the prosecution from proceeding under these supposed amendments."

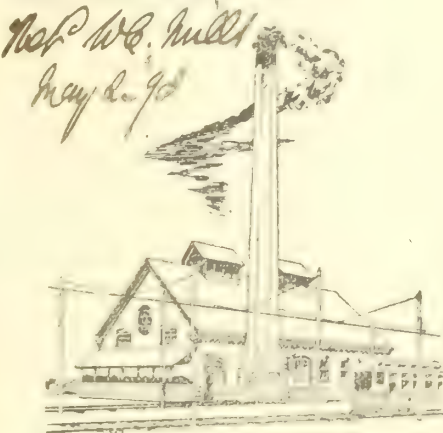
Chief Justice McDonald, in his dissenting judgment, said: "I have endeavored to show that the Stipendiary Magistrate of Halifax has jurisdiction to inquire into & adjudicate upon a charge of an alleged violation of the principal act, & that the amendments mentioned do not affect that jurisdiction. The charge is that this defendant corporation procured & hired persons to do servile work for them & in their interests on the Lord's Day. I think the Stipendiary Magistrate of Halifax has jurisdiction to adjudicate upon that charge, & that consequently this application should be refused with costs. I am not sorry that I feel obliged to come to this conclusion. The Parliament of Canada has made no provision with a view

to enforce abstinence from ordinary labor & occupation on the Sabbath, leaving the subject in the case of N.S. to be dealt with by the Local Legislature; & I should be sorry to see the sanction which our statute gives to the sacredness of the Sabbath withdrawn."

In response to an enquiry, Pearson & Covert, who represented the Tramway Co., write THE RAILWAY & SHIPPING WORLD: "We have an old Act in existence in this Province which was a Nova Scotia Act before Confederation. This states that any person performing servile labor on the Lord's Day shall be fined. It was quite clear that 'person' mentioned in this Act did not mean a corporation. So certain persons here, who constitute the Sunday Observance Society, had our Legislature pass certain laws since Confederation. These are chap. 57 of 1889, chap. 22 of 1890, & chap. 32 of 1891. These chapters are stated to be amendments of the old law. Our argument was that the Sunday Observance Law, in force before Confederation, was part of the criminal law of the Province, & had been regarded as the criminal law since the days of Charles II., when the 1st act on the subject was passed, & that our Legislature had no authority to amend this old Act, because it formed part of the Criminal Law of Canada by reason of section 129 of the B.N.A. Act. The decision went on the point that this was an amendment of the Criminal Law."

A Hamilton Power House.

The Hamilton Radial Electric Ry. Co.'s power station, a view of which is given on this page, is erected on the Hamilton Beach near Burlington, & is the most substantial building of its kind erected anywhere in the locality of Hamilton. The building was designed & erected under the supervision of Charles Mills, architect, of Hamilton, & stands as a monument of first-class construction in every way. The soil on which it stands was not of the best for a structure of this nature, it being a very heavy building for the purposes for which it was required. The size is 53 ft. 9 in. x 99 ft., & all of press bricks made at Beamsville. The foundation walls are also of press brick, & the footings are in 2 courses of 10 in. thick, each of concrete.



The roof is slated with Rockland slate & is carried by 7 large trusses. The lantern sashes on top are operated by a special device from below, & are so arranged to work that the wind cannot penetrate. The winds that sweep this building are at times terrific, the location being between Hamilton Bay and Lake Ontario. The chimney is 108 ft. 3 in. high, & is also of press brick. The base is 16 ft. square & the top on the inside 4 ft. There is one thing that speaks well for the construction of the whole building, & that is, not a single crack of any description has appeared at all in the work.

The station supplies current for 9 miles of

road, & in it are two 15x28x34 L. H. Tandem Wheelock engines & 2 Canadian General M.P. 4-200-450 dynamos & 3 steel boilers, with room for 1 more engine & 2 more boilers if necessary. The fly-wheels are 16 ft. 6 in. in diameter, & 26 in. face. The total cost of the building was \$10,000.

Electric Railways in Canada.

Electricity was first used as a motive power in Canada in 1883. A short piece of track was laid on the grounds of the Toronto Industrial Exhibition. The motor did not "mote" to any extent, owing to the dynamo used on the car, a double armature one, with only one pole piece to each armature. The following year, 1884, produced the first practicable road. In comparison with the modern electric car it would be thought a crude affair, but it "got there," though with the expenditure of a considerable amount of fuel & supplies. The current was taken from copper slips laid in a wooden box between the rails. In 1885, the track was lengthened & the overhead wire & trolley-arm used. In 1891, the possibility of combating the real old-fashioned winter in the deep snow area which includes Quebec, Montreal & Ottawa, was successfully demonstrated by the Ottawa Electric Ry. Co. Montreal followed in 1892 & Quebec in 1897.

In 1896 there were 30 railways in Canada, the motive power of which was electricity, with 569 miles of railway & an equipment of 947 motor cars, 360 trailers, 62 sweepers & 1,315 motors. The number of miles run during the year was 22,772,631, & the number of passengers carried was 73,972,414, giving 3¼ passengers carried to each mile run.

The first city in Canada & in the world to have established in it a special electric heating service from a central station was Ottawa. Electric mail cars were first used in Ottawa on Nov. 9, 1893, to convey Her Majesty's mails from the central post office to the railway stations. In July, 1886, the streets of Montreal were first lighted by electricity. In 1888, the first incandescent lights were supplied. Electric light was first used in Montreal in 1877, by the Harbor Commissioners. Electric power was first supplied for canals in the Dominion at Sault Ste. Marie (Canadian side) in 1895.—From Alphabet of First Things in Canada, by Geo. Johnson, F.S.S.

A Railway Advertising Suit.

An action was recently tried before County Judge Morgan, in Toronto, in which the rights of advertisers were discussed. The Toronto Ry. Co. sued the King-Jones Co., of Toronto, for \$200, balance due on an advertising contract. The defence set up that the Ry. Co. had not performed its contract, & that the contract had been cancelled, & the defendant demanded a jury. Judge Morgan decided against its right to a jury. It was shown in evidence that all the cards received from the defendant had been placed in the cars, & careful & systematic records were put in evidence, proving conclusively the case of the Ry. Co. The members of the defendant Company, although they had previously made affidavits that the cards were not placed in the cars, & that the contract had been cancelled, declined the issue & re-used to give any testimony in their defence, & judgment was immediately given for the Ry. Co. for the full amount claimed & costs. The Judge intimated that the evidence of the Ry. Co. was very conclusive. It was suggested for the defendant in cross-examination that some of the cards for coal shovels had been placed in the cars, but the Judge intimated that unless such a course of conduct could be shown to have been approved of by the Ry.

Co., it could not be held responsible therefor. W. H. Jones, President of the King-Jones Co., claims to have been a pioneer in street car advertising.

NOTES FROM THE LINES.

British Columbia.

B.C. ELECTRIC RY. CO.—The case of *Rae vs. this Co.*, at New Westminster, was recently decided by Mr. Justice Bole in favor of the defendant, each party to pay his own costs. The action arose out of an accident to a horse through the falling of a telephone wire, which came in contact with the defendants' wire.

Manitoba.

THE WINNIPEG ELECTRIC STREET RY. CO.'S annual meeting fixed for March 8 was postponed for some weeks. The Co.'s offices have been removed from the corner of Main St. & Assiniboine Avenue to the Queen's Hotel Block, where quarters are occupied jointly with the Manitoba Gas Co. & the Lake Manitoba Ry. & Canal Co., the three Co.'s being controlled by W. Mackenzie, of Toronto.

WINNIPEG & ST. ANDREWS.—E. F. Hutchings, of Winnipeg, & others ask for power from the Legislature to construct an electric or steam railway from Winnipeg along the east side of Red River to below St. Andrew's rapids, there to connect with steamers plying on Lake Winnipeg & Red River. The petition recites that the petitioners desire to establish a manufacturing enterprise at a point known as Lorne Hill.

Northwest Territories.

THE DAWSON CITY ELECTRIC CO. is applying to the Dominion Parliament for incorporation. The Co. asks to supply electric light, heat or power throughout the city, & within a radius of 200 miles, as well as to operate an electric tramway. The British American Light & Power Co. asks authority to construct & operate by electricity or other motive power tramways in Dawson City, Fort Selkirk & other points in the Yukon district.

Nova Scotia.

THE HALIFAX & BEDFORD ELECTRIC CO. is composed of Dr. Chisholm, ex-Mayor Keefe, E. F. Freman & others of Halifax, N.S. The Co. will build an electric railway from Halifax to Bedford, with such extensions as may be approved by the municipalities. The capital stock is placed at \$250,000.

THE HALIFAX TRAMWAY CO.'S business during the past year shows a steady increase both in electric lighting and street railway departments. The statement shows a surplus of \$27,308.77, after paying all fixed charges & 4 quarterly dividends of 1¼%. The directors have placed \$20,000 to the reserve fund account.

Ontario.

BRANTFORD STREET RY. is, Manager Barron states, to have considerable new equipment this season.

CHATHAM.—Angus Sinclair, of Toronto, has made a proposition to Chatham City Council in connection with the building of the Chatham City & Suburban Electric Ry., in which, it is said, English capital is interested.

THE CORNWALL ELECTRIC RY. CO. has submitted to the Town Council of Peterboro a scheme for the construction of an electric railway from that town to Chemong & Lakefield. The Co. proposes to lease the Chemong & Lakefield lines from the G.T.R., convert them into electric roads & take over the freight business. The cost is roughly estimated at \$350,000.

THE HAMILTON & DUNDAS RY. is now operated by the trolley system.

THE HAMILTON, CHEDOKE & ANCASTER ELECTRIC RY. CO. will ask the Finance Committee of Hamilton to recommend the City Council to purchase the Beckett drive for \$12,000, in which case the Co. will build its line to Brantford.

HAMILTON, GRIMSBY & BEAMSVILLE ELECTRIC RY.—The Lester party has left the H., G. & B., President C. J. Myles & the other directors having bought their stock, amounting to between \$17,000 & \$18,000. The party that has withdrawn is composed of Ald. T. W. Lester, J. Lester, A. T. Freed, J. Hoodless & A. Rutherford.

An idea of the extent of the Grimsby, Ont., fruit shipping business may be got by the knowledge that the H., G. & B. alone carried 170,729 packages of fruit last season, making a total of 2,850,000 lbs. Besides this, large quantities were shipped over the G.T.R.

The H.G. & B.R. recently discovered that some one had cut & stolen 100 pieces of heavy copper wire between Hamilton & the reservoir.

The H. G. & B. has a new palace car which Ahearn & Soper, of Ottawa, built for it at a cost of about \$4,500.

THE HAMILTON RADIAL CO.'S line is not likely to be extended beyond Burlington this year, but it is probable a connection will be made with the T. H. & B. Ry. for the purpose of handling the Hamilton Blast Co.'s business. The H. R. Co. will shortly change its line from Sherman avenue to Birch avenue in Hamilton.

The annual meeting of the H. R. Ry. Co. was held April 4. A successful year was reported, though no dividend was declared. Arrangements are being made for crossing under the G.T.R. tracks east of the Westinghouse Manufacturing Co.'s works, thus doing away with a dangerous level crossing. The directors & officers were elected as follows: A. Turner, President; W. A. Wood, Vice-President; J. Moodie, Treasurer; S. Malloch, Secretary; J. Dickson, Adam Zimmerman. Another director will be elected later on, there being a vacancy on the board.

In the dispute between the Radial Co. & St. Luke's Church, Burlington, over compensation for the possession of the avenue approaching the church, S. Barker, sole arbitrator, has awarded the church \$350 in addition to the costs of the arbitration.

HAMILTON STREET RY.—A special meeting of the City Finance Committee was held April 4th to consider the Street Ry. Co.'s application for better terms & for the extension of its franchise, there being a great many citizens present. The Co. was represented by E. Martin, Q. C., J. A. Bruce, B. E. Charlton & Manager Griffith. President Wm. Gibson, M.P., was unable to be present owing to illness. Solicitor Martin said the street railway business had for several reasons greatly fallen off since the introduction of electricity. The road represented an investment of \$204,000 by its stockholders, who were nearly all residents of Hamilton, & a further outlay of the proceeds of bonds, amounting to \$500,000, or \$704,000 in all in hard cash. The Co. had been disappointed in its earnings, & no dividends were paid in 1896 or 1897. The Co.'s receipts in 1897, amounting to \$115,019, had been disposed of as follows: For mileage, \$6,627.62 had been paid; for percentage, \$6,888.51; for taxes, \$2,517.13; & for wages, \$51,503.92. The balance of the total expenditure of \$113,977.19 presumably went for interest on bonds. The employees numbered 120. The Co. was willing to accept the terms of the 1896 by-law (which was previously rejected), regarding the removal of snow & ice, to sell 9 limited tickets for 25 cents, to extend the time for their use, & to lay down & operate a line on Wentworth Street to the east end incline railway & return, for which the city was

to throw off mileage, to readjust the percentage & to extend the franchise to 1928. Mr. Martin also submitted a proposition to abolish all mileage & percentage, & providing that, after the payment of all wages, expenses of management, interest & taxes, the net surplus should be divided equally between the Co. & the city until the share of each shall reach \$10,000 a year, when there shall be a return to the existing rate of percentage. President Myles, of the H.G. & B. Ry., asked that his Co. be allowed to put its line in the middle of Sherman Avenue, south of Main Street. Several citizens asked for street railway connection with the east end incline railway. Rev. S. E. Marshall spoke in favor of compelling the S.R. Co. & the Radial Co. to use the same line on Sanford Avenue instead of the Radial using Birch Avenue. After considerable discussion, the meeting adjourned until April 7.

Hamilton city's share of the earnings of the H. St. R. for the last quarter of 1897 was \$4,163.49, making a total of \$14,315.06 received from the Co. in 1897, against \$13,704 for 1896.

The H. S. Ry. mileage payments will be increased hereafter by the 5 years exemption having expired for Locke Street, from King to Herkimer, & King Street East from Sherman to Wentworth.

The movement for municipal ownership of the Street Railway is reported to be favored by a majority of Hamilton aldermen.

At the recent annual meeting of the H. S. Ry. Co. the directors were re-elected as follows:—W. Gibson, M.P., President; E. Martin, Q.C., Vice-President; F. W. Fearman, W. J. Harris, B. E. Charlton, I. Beer, J. A. Bruce, J. R. Griffith was re-appointed Manager.

HAMILTON TO ST. CATHARINES.—A syndicate, composed of the directors of the Hamilton, Grimsby & Beamsville Electric Ry. directors, & some other parties, is prepared to build an electric road from Beamsville to St. Catharines, so as to give through communication between Hamilton & St. Catharines, as soon as arrangements can be made for power, & a satisfactory bonus is granted by the town of St. Catharines. Negotiations are going on with the Cataract Power Co. in regard to power, & if these are successful, steps will probably be taken towards securing a bonus from St. Catharines.

THE INTERNATIONAL RADIAL CO. will, it is said, apply to Parliament for an extension of time for the building of the line from Hamilton to Guelph. Mayor Hower, of Guelph, in a conference with Mayor Colquhoun, of Hamilton, recently expressed himself decidedly in favor of the project. In Guelph, he says, opinion is divided. Some think an electric road would divert the Morristown & Aberfoyle trade, which is considerable, to Hamilton. Mr. Hower thinks not, as the run to Hamilton from either place would take an hour, while to Guelph would be only 20 minutes or so. Then the road would be a great benefit to Guelph in ensuring the prompt delivery daily of fresh fruit, whereas at present the city has to depend upon what comes in by waggons. Where Hamilton would reap its greatest benefit, he thinks, would be in catching a great slice of the Guelph trade which now goes to Toronto. The question of a bonus from Guelph has not been discussed there.

KINGSTON, PORTSMOUTH & CATARAQUI ELECTRIC RY. CO.—In Toronto recently, Judges Osler, MacLennan & Moss heard the appeal in the case of the City of Kingston vs. this Co. Robinson, Q.C., & D. M. McIntyre, Kingston, for plaintiffs, appealed from judgment of Street, J. (28 O.R., 399), in favor of defendant. The action is brought to compel the defendant to keep its cars running over the whole of its line of railway during the whole of each year, pursuant

to agreement. The court below held inter alia that the agreement was one of which the court would not decree specific performance. Aylesworth, Q.C., & W. B. Nickle, for defendants, opposed the appeal. Judgment reserved.

LONDON STREET RY.—The annual statement for 1897 made the following showing:

	1897.	1896.
Gross earnings.....	\$ 101,365	\$94,194
Operating expenses....	58,451	54,171
Net earnings.....	42,914	40,023
Passengers carried....	2,585,480	2,432,416

The total assets included:—Road and equipment, \$97,500; stores in hand \$4,000; suspense account, \$3,400. And the liabilities included these items:—Capital stock, \$300,000; bond account, \$350,000; accounts payable, \$30,800; unredeemed tickets, \$2,800; bank overdraft, \$4,500; & profit & loss, \$17,700.

The gross earnings for Jan., 1898, were \$7,705.18, against \$6,600.56 in Jan., 1897. The operating expenses were 66.6, against 75.6 for the corresponding period. The gross earnings for Feb., 1898, were \$6,657.85, against \$6,158.99 in Feb., 1897.

The L. S. Ry. Co. has paid Mrs. K. Pitt \$1,500 and costs in settlement of her claim resulting from the death of her brother, W. Spice, in a trolley accident.

The L. S. R. Co., will pay its taxes on an assessment of \$80,000, on poles, wires, rails &c., but will appeal against \$50,000 assessment on cars.

LONDON TO GRAND BEND.—Application is being made to Parliament for incorporation for an electric railway from London to Grand Bend, on Lake Huron. M. C. Cameron, Goderich, is solicitor for the applicants.

METROPOLITAN & MIMICO ELECTRIC RYS.—When the cases of the Metropolitan St. Ry. & the Mimico Electric Ry. came up in Toronto recently, an adjournment was secured until May 2. The companies contended that the Provincial Government has no power to make the running of street cars on the Sabbath an indictable criminal offence. This contention is based upon the case *Regina v. Halifax Tramway Co.*, reported elsewhere in this issue. In the present cases the defence hold that only the Federal Government has the right to make the offence a criminal one, & the Solicitor-General must be given an opportunity to become a party to the action.

NIAGARA FALLS PARK & RIVER RY.—The bill giving the International Bridge Co. of Buffalo additional rights to enlarge the bridge has passed the N.Y. Assembly. It is the intention of the Bridge Co., which is owned & controlled by the G.T.R. system, to enlarge the bridge so as to permit of the passage of pedestrians & carriages, as well as trolley cars. It is known that for a long time the Niagara Falls Park & River Ry. on the Canadian side of the river has had its eye on getting into Buffalo to secure a direct feeder to its system from that city. Heretofore it has taken the people by boat from Buffalo, which has proved very unsatisfactory. A good deal of its traffic has been by a ferry at Lewiston & the upper suspension bridge. The changes in bridge construction & the desire to secure a belt line down one side of the river and up the other will very shortly revolutionize trolley travel about the Falls. There is little doubt that the Niagara Falls Park & River Ry., which owns the franchise along the river bank from Fort Erie to Queenston, will extend its line to the International Bridge when the proper time comes & make connections into Buffalo.

OTTAWA CITY RY. CO.—At the recent annual meeting it was shown that 4,762,082 passengers were carried during the year & 1,538,836 miles run. Quarterly dividends of 2 per cent. were paid. A satisfactory in-

crease in receipts was reported, especially since September last. The following were re-elected directors: J. W. McRae, T. Ahearn, G. P. Brophy, W. Y. Soper, T. Workman, P. Whelen & W. Scott.

OTTAWA & METCALF.—An electric railway is being advocated between Ottawa & Metcalf, Ont. The distance is about 20 miles.

ST. CATHARINES & PORT DALHOUSIE.—Plans are said to have been completed for the building of an electric railway between these points.

ST. CLAIR TUNNEL CO.—It is said this Co. contemplates converting the motive power for the tunnel from steam to electricity. The matter is understood to be under consideration by Chief Engineer Hobson, of Montreal.

THE ST. THOMAS STREET RAILWAY CO. has awarded the Ottawa Car Co. a contract for cars, & to the Robt. Armstrong Engineering Co., Amherst, N.S., the contract for an engine.

THE SMITH'S FALLS, RIDEAU & SOUTHERN ELECTRIC RY. recently applied to the Smith's Falls Council for permission to lay rails & erect poles.

TORONTO ELEVATED RAILWAY.—An incorporated company recently submitted through its solicitors a proposition to Toronto City Council for a system of double-track elevated railways, the contract to expire 1921, fare, 10 tickets for 25c., and at least 5 miles to be in operation within 2 years.

TORONTO RAILWAY CO.—The hard-fought suit over the assessment of the poles, wires & tracks of the Toronto Ry. Co. was settled for the nonce by the Court of Appeal on March 15, giving judgment in favor of the city, Sir George Burton, C.J., dissenting. When the city made the assessment on Ward 1 last year, the Co. appealed to the Court of Revision, which sustained the assessment. Then the Co. appealed & brought the matter before three judges, County Judge McDougall of York, & the senior judges of the adjoining counties, Darnell of Ontario & McGibbon of Peel, who decided in favor of the Co., Judge McDougall dissenting. In the meantime the Assessment Department assessed the poles, wires, etc., of the Co. in the other wards of the city, & in each case the Co. appealed to the Court of Revision against the assessment, the Court of Revision, in view of the judgment of the three judges in the case of Ward 1, sustaining the appeal of the Co. This placed the city in the position of being the appellant against the decision of the Court of Revision, & an appeal was taken to Judge McDougall, it being deemed unnecessary to call in the other two judges in this instance. Judge McDougall, after hearing argument, reversed the decision of the Court of Revision & held that the Co. was liable for assessment. Then the Co. appealed from this decision to the Court of Appeal, with the above result. By the decision the assessment of \$452,277 against the Co. in Wards 2 to 6 is confirmed for 1898, which will probably yield between \$7,000 & \$8,000 in taxes. Next year a further addition to this assessment of about \$85,000 for Ward 1 will be made, making a total assessment of about \$540,000.

There is a likelihood of the Toronto Railway Co. buying out the City & Suburban Electric Line, & operating it as a separate concern, as it now does the Mimico branch. The City & Suburban Co. has 12 miles of rail laid between Toronto Jct., Weston & Lambton, & it is understood that for some time past it has been awaiting a good offer with a view to selling out. The deal between the two companies is as yet in its first stage. The Toronto Co. has not bound itself to any terms, but negotiations are pending & there is every prospect of the deal going through. At present the Toronto Railway has not running rights into Toronto Jct., & cannot take a pas-

senger within the town limits. It is also stated, on good authority, that the Toronto Railway Co. is willing to consider terms with the Metropolitan Co.

A Toronto evening paper recently started an agitation against the payment of fares on the street railway when the cars were too crowded to permit of a passenger being seated. The "no seat, no fare" agitation ended rather ingloriously when 2 passengers, who refused to pay their fare because there were no seats for them, were brought before the magistrate & assessed a maximum fine with costs.

There is every probability of an extension of the Toronto Ry. Co.'s system to Oakville. The line on Queen St. West is to be continued along Queen to Balsam Avenue, thence into Munro Park, where tracks are laid. The Kingston Road line is to be extended east at least 3 miles beyond the Country & Hunt Club. The Avenue Road line is to go as far as Heath Avenue, & a line will be built to connect with Yonge St. The Co. intends building a second line to Station St. to pass over York St. bridge & run east along Lake St. to Yonge St.

The gross earnings of the Toronto Railway Co. for the first 3 months of 1897 & 1898 are given as follows:

	1897	1898	Increase.
Jan'y.....	\$74,545.55	\$86,562.36	\$12,016.81
Feb'y.....	69,744.61	82,402.19	12,657.58
March....	78,891.45	92,818.12	13,426.67

The average operating expenses for 1897 were 48.8% of the gross earnings.

E. A. Macdonald threatens to enter suit against the Toronto Ry. Co., alleging that the franchise was obtained by fraud, bribery & corrupt means.

York Township Council & the Manager of the Toronto Railway Co. had a conference on Mar. 24 regarding the extension of the system to Mount Pleasant. The Council will have another meeting to push the project.

TORONTO TO RICHMOND HILL.—A. H. St. Germain, who proposes to establish an auto-car service between Richmond Hill & Toronto, has closed a contract with the Canadian Motor Syndicate for the 1st car. The motors are the invention of W. J. Still. The new car will be a passenger & parcel van capable of seating 25 people. It will be fitted with electric light & buttons & strong brakes.

Quebec.

HULL.—The Ottawa Car Co. recently received an order from the Hull Electric Ry. Co. for 5 open cars, one to be used as a motor. It will be of the latest design & finest finish. The other 4 are trailers. It will also remodel the parlor car of the Hull Electric Co., putting in longitudinal seats in place of the others. The 4 trailer cars & motor car will have curved seat panels, that will enable passengers to enter the car more quickly & with greater ease than with the old ones.

ISLAND OF ORLEANS.—There is a movement on foot to get an electric railway service for the Island of Orleans, near Quebec. It is reported that a charter will be asked to construct an electric railway around the Island. The power is to be obtained from Montmorency Falls.

THE MONTREAL BELT LINE RY. has established the first electric railway freight office at Moreau Street, Hochelaga, for transportation purposes. This will accommodate farmers & others shipping produce to Montreal markets. The Co. is asking the Dominion Government for an act to change the name of the Company, to extend the term for completion of branches & for enlarged powers of operation.

THE MONTREAL PARK & ISLAND RY. CO. was recently given two months by Judge Charland to comply with the condi-

tions of its contract with the town of St. Louis. This suits the residents of St. Louis are entitled to all the advantages in respect of street car transportation that citizens of Montreal enjoy, namely, under agreement with the Park & Island R. Co., passed in April, 1894, that the company provide a 5 minute service to the corner of the city of Montreal, supplying tickets at the same rates & on the same terms as those in force on the Montreal Street Ry., & give transfers.

E. M. Fulton has entered suit against the M. P. & I. Co. for \$4,000 doctors' bills, hospital attendance, etc., necessitated by an accident sustained on the line.

MONTREAL STREET RY. CO.—There was a rumor in Montreal recently that the M. S. Ry. Co. & the Park & I. Ry. would unite. The presidents of both companies denied the report. President Holt, of the P. & I. Ry. Co., said: "There has been a by-law prepared & accepted by the St. Louis du Mile End corporation, which provides for the taking over of the franchise by the Montreal Street Ry. Co. This is contingent on our acceptance, and we, of course, shall not accept unless there is an amicable agreement between ourselves and the M. S. R. for the running of our cars through the municipality, just as they now do through the city. The only difference would be that the cars would be taken in charge by the M. S. R. at about the C.P.R. crossing, instead of nearer the city limits. As to any amalgamation of the companies, such as has been talked about, that is out of the question." President Forget, of the M. St. Ry. Co., said that the rumor had been made out of whole cloth.

The M. S. R. Co.'s passenger equipment now consists of 221 closed motor cars; 149 open motors; 45 closed trailers and 30 open trailers; 60 more open cars are being built for next summer's traffic. The average daily number of full-day cars run (18 hours each per day) is 148; summer (May-October), 156; winter (November-April), 140. The average daily number of cars run during busiest hours of the day is, summer, 200; winter, 190. During the year ended Sept. 30, 1897, 32,047,367 passengers were carried; during the 4 months ended Jan. 31, 1898, there were carried 10,928,793, as against 9,935,989 in the corresponding period of 1897.

The M. S. R. Co. recently invited tenders to be sent in by April 1 for the privilege of advertising in the cars, the same to be confined to racks in the head linings of the cars. The tenders have to state a sum per year, payable in advance, the contract to run to Dec. 31, 1899, when the contractor may renew for a further 2 years, at 25% advance on the original contract.

The M. S. R. Co. has received an order from its relative the Kingston, Jamaica, Street Ry. Co. to build 20 electric motor cars for use in Kingston.

The increase in earnings of the M. S. R. Co. for Feb., 1898, over Feb., 1897, is \$12,673.81. The total receipts for Feb. amounted to \$102,625.49. The average daily earnings were \$3,663.14, an average daily increase of \$334.45. The comparative statement is as follows:

	1897	1898
October	\$116,293.09	\$109,110.38
November	110,929.60	100,818.57
December	113,128.91	103,115.02
January	110,156.46	99,636.18
February	102,625.49	89,951.68
March	114,677.91	99,441.91
	\$667,811.46	\$602,074.74

The M. S. R. Co. recently gave orders that all motormen & conductors should buy new uniforms once a year. In order to preserve some measure of uniformity, all clothing is to be issued on the same day, overcoats Nov. 15,

& uniforms May 24, an overcoat to be worn only one season. One-third the cost of the uniform is borne by the Co.

The Court of Review has confirmed the decision of the Superior Court, dismissing Dame Elizabeth Kerr's action against the M. S. R. Co. Dame Kerr sought to recover \$4,115 for injuries received while getting off a car. The accident was alleged to have taken place Dec. 16, 1894; action was not taken till Jan. 28, 1896, & the first notice the company got was Dec. 24, 1895. The courts held that the evidence was too vague to satisfactorily establish fault on the part of the Co.

On Feb. 18 the monthly drawing of the conductors & motormen of the M. S. R. Co. took place, Supt. McDonald presiding. Every year the Co. apportions \$500 for employees who have no marks against them for each month. Special prizes are also awarded men who distinguish themselves in moments of peril.

It is said the deal between the Chambly Power Co. & the M. S. R. Co. is as good as accomplished, that the street railway will lease its present power house to the Royal Electric Co., & it will be kept in reserve in case of an emergency. The M. S. R. Co. now generate its own power, using about 9,000 horse power a day. The cost of producing this is estimated at \$42 per horse power, an annual expenditure of over \$360,000, while, according to reports, the Chambly Co. has offered to furnish the necessary power at \$32 per horse power. This would mean an annual saving of \$90,000.

The M. S. R. Co. has just had 15,000,000 car tickets printed costing \$1,100. The Co. got \$3,000 for the advertising on them.

QUEBEC CITY.—It is stated by H. J. Beemer that probably in 1899 or 1900 the consolidated Quebec St. Ry. & the Quebec, Montmorency & Charlevoix Ry. will extend as far as Murray Bay. The present system will be operated as far as Cape Tournement. When Mr. Beemer transferred the franchise to the present Co. he retained a 2 years' option of the property, which he now insists on availing himself of. It is said the Co. offered \$300,000 to buy out his right, but that he demanded \$350,000, which it would not pay, & now he is about to redeem the property, paying the Co. 10% premium on the cost of construction, & 6% interest on the money invested, as agreed at the time of the transfer. It is understood that the returns of the road have been so large that Mr. Beemer has found no difficulty in selling to another company, which will also take over the Quebec & Montmorency Ry., consolidating the two lines, & running them both by electricity.

Ten years ago, on Feb. 3 last, an electric street railway service was first demonstrated to be feasible by the Union Passenger Ry. of Richmond, Va.

Many railway companies handling heavy suburban business are seriously considering the advisability of adopting electricity as the motive power for such service.

The Maisonneuve Council has obtained permission from the Belt Line Ry. to allow the tracks of the Montreal Street Ry. to cross its tracks at Lasalle street, with the view of extending the service of the latter company to Letourneux street. To complete the scheme the council has to get the sanction of the Railway Committee of the Privy Council to the right of way across the Belt Line tracks.

A considerable amount of money will be spent this summer by the Manitoba Electric Light & Gas Co. & the Street Ry. Co. on their system at Winnipeg. J. Kynoch, of the Canadian General Electric Company, when in Winnipeg recently, said it was the intention to re-organize completely the lines of the street railway & the Gas Co. New generators, new transformers, plants, etc., will be put in & the whole system gone over & improved.

The Canadian Electrical Association will meet at Montreal for its annual convention on June 28, 29 & 30. The programme, while not yet complete in all details, includes besides the business session a trip to Chambly to view the works of the electrical company, a trip on the Park & Island Ry., an evening excursion up the mountain, in order that the members may see the city illuminated, a trip to the works of the Lachine Hydraulic & Land Co., to McGill University, the Street Ry. power-house, etc. It is expected a large number will attend.

EXPRESS.

Canadian Companies' Organization.

CANADIAN EXPRESS.—Head Offices, Montreal, Que.

Chas. M. Hays, President, Montreal.
Jas. Bryce, Manager, Montreal.
J. H. Sparling, Superintendent, Toronto.
H. C. Creighton, Superintendent, St. John, N.B.

A. Maxwell, Assistant Treasurer, Montreal.
R. Burkinshaw, Traffic Auditor, Montreal.
P. Macdonald, Assistant Traffic Auditor, Montreal.

W. W. Williamson, Accountant, Montreal.
W. T. Anderson, M.D., Auditor, Montreal.
ROUTE AGENTS: E. Allen, Toronto; G. W. Hickey, Hamilton; F. H. Hackett, Montreal; Geo. Severs, Montreal; B. S. Murray, London, Ont.

DOMINION EXPRESS.—Head Offices, Toronto, Ont.

Sir G. A. Kirkpatrick, President, Toronto, Ont.
W. S. Stout, General Manager, Toronto, Ont.

Jno. Cassils, Secretary & Treasurer, Montreal, Q.
S. T. Stewart, Superintendent, Montreal, Q.
J. A. Boswell, Superintendent, Toronto, Ont.

G. Ford, Superintendent, Winnipeg, Man.
W. H. Burr, Auditor, Toronto, Ont.
G. A. Newman, Assistant Treasurer, Toronto, Ont.
H. L. Meyer, Tariff Clerk, Toronto, Ont.
W. Stinson, Supply Clerk, Toronto, Ont.

MARITIME EXPRESS.—Head Offices, Halifax, N.S.

Wm. Fraser, Manager & Treasurer, Halifax.
A. D. Stewart, Assistant Manager, St. John, N.B.
J. F. Masters, New England Agent, Boston.

WESTERN EXPRESS.—Head Offices, St. Paul, Min.

F. D. Underwood, President, Minneapolis, Min.
W. F. Fitch, Vice-President, Marquette, Mich.

W. S. Stout, General Manager, Toronto, Ont.
Chas. F. Clement, Treasurer, Minneapolis, Min.

Ronald Stewart, Superintendent, St. Paul, Min.
F. W. Allen, Assistant Treasurer, Marquette, Mich.

W. H. Burr, Auditor, Toronto, Ont.
H. L. Meyer, Tariff Clerk, Toronto, Ont.
H. E. Gilmore, Route Agent, Marquette, Mich.

A. W. Lee, Route Agent, Seattle, Wash.

G. C. Thompson, solicitor for the Ontario Express & Transportation Co., which became defunct in 1892, says the affairs of the Co. will be wound up at once, & that the employees will be paid their wages in full. The creditors of the Co. will get 8 or 10% of their claims. The shareholders will get nothing; in fact, they will be assessed to pay the claims. It is now 6 years since the winding-up order was granted.

The Canadian Express Co.

The business of this company dates back to more than 50 years ago, when the British-American Express Co. & Cheney, Fiske & Co., established a line of express connections, using the old stage lines, & then these companies consolidated & formed the present corporation. Benj. P. Cheney became the first President, retiring Feb. 1, 1880, & was succeeded by Gilman Cheney, who is now Vice-President. Chas. M. Hays, General Manager of the G.T.R., is President, & Jas. Bryce, Manager. The company's headquarters are at Montreal. The company employs about 2,800 persons. It operates on the Grand Trunk, Canada Atlantic, Lake Erie & Detroit River, Bay of Quinte, Cumberland, New Brunswick, Central, Intercolonial, Quebec & Lake St. John railways, on the Allan & Dominion Steamships, Prince Edward Island, as well as other water lines. Jas. Bryce, the Manager & Chief Executive, has long been identified with express interests, & gives an able attention to his important duties.

Collections by Express.

On April 4 the Canadian & Dominion Express Cos. put into effect an important change respecting collection of notes, drafts, accounts or bills for \$100 or under, not requiring protest, by adopting a low uniform prepaid charge of 10c. on each item for collection, thus greatly benefitting manufacturers, publishers & others having a large number of collections yearly. This amendment applies to all offices of the two companies named, likewise to all American Express Co.'s offices in Canada, as well as their offices in the U.S. common with the Canadian Express Co., but only on such collections as originate in, or are destined to, points in Canada, or such offices in the U.S. as are reached by the Canadian & Dominion Express Co.'s.

When collection has been paid, agent at destination will issue an express money order for the amount of each item collected, making same payable to order of shipper and giving name of person from whom collected as remitter. Unless instructed on wrapper to collect the money order fee of person paying collection, agent will issue money order for amount collected, less the fee for money order.

When collections are carried over the lines of more than one company, the outward prepaid charge will be 10c. for each company carrying, the collecting company also retaining the money order fee. Collections must not be held exceeding 15 days, unless specially authorized on wrapper by shipper. If agent is unable to collect, full explanation of the reasons must be given.

AMOUNT.	Outward Prepaid Charge On Each Item.	Cost of M.O. if Collected.	Total Cost if Collected.
\$4 & under	10c.	3c.	13c.
Over 3 up to \$5	10c.	4c.	14c.
" 5 " 10	10c.	6c.	16c.
" 10 " 20	10c.	10c.	20c.
" 20 " 30	10c.	12c.	22c.
" 30 " 40	10c.	15c.	25c.
" 40 " 50	10c.	18c.	28c.
" 50 " 60	10c.	20c.	30c.
" 60 " 75	10c.	25c.	35c.
" 75 " 100	10c.	30c.	40c.

The Dominion Express Co. announces the opening of a route on the C.P.R. between Slocan Junction & Slocan City, B.C. This is over the Slocan branch of the Columbia & Kootenay railway, which has been recently completed for traffic. Offices are established at Lemon Creek & Park Siding.

The Dominion Express Co. recently received at Victoria, B.C., a box weighing 8,786 lbs.,

from Bethlehem, Pa., containing a steel shaft for the S. S. Commonwealth. Agent Oliver says this is the heaviest single package that ever came to Victoria by express, although he has handled several single consignments that were in a lot of boxes that were greater weight than this. For instance, the Dominion Express Co. brought a shipment of silver coin from London, Eng., to Victoria, which weighed 5 tons. The Albion Iron Works got this shaft for the Commonwealth, & considers it paid to get it by express, as every day the ship had to lie over cost \$300.

Dominion Express Office Signs.

The Dominion Express Co. is equipping its offices with handsome enamelled iron signs, with white letters on blue ground. Some of them are lettered on one side only to place flat on a wall, the others are lettered on both sides, with a flange, so they can be put up projecting from buildings. They are very attractive & much more effective than any painted sign, in addition to which they are more economical, as they are practically indestructible, & are not affected by the weather. The Co. is also using a similar kind of sign, but smaller, for its money order business. All of them were manufactured in Wolverhampton, Eng., & supplied by The Acton Burrows Co., Toronto, who are the sole agents in Canada for the manufacturers.

TELEGRAPHS & CABLES.

The West Indian Cable.

The lack of facilities which has hitherto existed for sending cablegrams direct from England to the British West Indies, without their having to pass through foreign territory, has been removed by the extension of the Halifax-Bermuda cable to Kingston, Jamaica. This extension has recently been completed, & the first messages dispatched across the Atlantic. The West Indian & Panama Cable Co. has up to this enjoyed the undisputed privilege of conveying these cablegrams. The islanders disapproved of their cablegrams to the mother country being forwarded through the United States & Cuba & feared the position in which they would find themselves in the event of England being at war with either of these two countries. They also were dissatisfied at the reluctance of this Co. to facilitate the business of the islands by the reduction of rates, etc., & they decided some 3 years ago to approach the Halifax-Bermuda Cable Co. with a request to extend its cable, via Turk's Island, to Jamaica, the bounty hitherto paid to the West Indian & Panama Cable Co. being offered as an incentive to its doing so. This request, after some consideration & a great deal of correspondence with the Imperial Government, the Co. agreed to, & the Telegraph Construction Co. was commissioned to lay the cable, on the understanding that the work should be completed by the end of January of this year. Despite the fact that the Caribbean Sea is visited by severe storms during the winter months, the agreement was carried through fully a fortnight before the time stipulated in the agreement, & another link between England & her colonial offspring in the West Indies has become an accomplished fact. The Construction Co. reports that the work of laying the cable was carried out without the slightest hitch, & that they were favored by exceptionally fine weather for the season of the year. To facilitate the laying of the cable within the time allowed by the Imperial Government, H.M.S. Britannia, of the Surveying Department, was commissioned to perform the surveying trip, & an extensive survey of the route was made by her early in the winter. The desire of the Co. was to spare no pains nor expense in finding

the best bed in which to lay the cable, thus lessening the fear so common in similar undertakings of being called upon in the future to make repairs to it. The Co.'s steamer The Scotia was employed in the work, Capt. Cato commanding, with Mr. Lucas as Chief Electrician in charge of the laying.

The following table shows the very great reduction in the rates from Eastern Canada by the opening of this route. The first column gives the lowest rates prevailing for many years; the second the rates via the U.S. and Hayti Cable, which was laid in 1897; and the third the rates by the new route via Halifax.

Place.	Lowest rates, 1896.	Completion of U.S. & Hayti Cable, 1897.	Completion of Jamaica ex- tension, Hal- fax-Bermuda Cable.
Antigua...	\$2.19	\$1.59	90 .86
Barbadoes...	2.21	1.60	.96
Cuba (Santiago)...	.95		.73
Dominica...	2.02	1.55	.82
Grenada.....	2.20	1.67	.94
Guadaloupe....	1.97	1.37	1.32
Jamaica.....	\$1.10 to 1.22		.48
Martinique...	1.97	1.37	1.32
Porto Rico.....	1.17 to 1.19	1.00	1.17
St. Kitts.....	2.19	1.57	.94
St. Croix...	2.06	1.80	1.07
St. Lucia.....	2.03	1.63	.99
St. Thomas.....	2.01	1.74	1.01
St. Vincent.....	2.10	1.64	.91
Trinidad.....	2.31 to 2.33	1.70	1.03
United States of Colom- bia (Colon & Panama)...	1.00		.97
British Guiana.....	2.71	2.22	1.49

Commercial Cable Company.

The annual meeting of the Commercial Cable Co. was held in New York Mar. 7. The revenue for the year from the operations of the cables, after deducting all expenses and reserving \$11,750 to meet depreciation of spare cable, amounted to \$1,200,155.53, as compared with \$1,123,653 for the previous year. The revenue from the land lines, after deducting all operating expenses & setting aside \$60,000 to a land lines depreciation reserve account, amounted to \$645,185.59. The net revenue of the combined systems was \$1,845,341.12, out of which have been met interest on 1st mortgage bonds & debenture stock, \$640,000, & dividends of 7% & bonus of 1% on the capital stock, amounting to \$800,000—a total of \$1,440,000—leaving the balance of net revenue for the year \$405,341.12.

The balance to the credit of revenue at the end of 1896, after adding to the reserve fund \$250,000 invested in U. S. Government bonds, amounted to \$596,678, and it is the intention of the directors to set aside out of the total amount now standing to the credit of revenue (\$1,002,019.36) \$250,000 to be invested in high-class securities as an addition to the reserve fund, which will then stand at \$2,608,329. It is also the intention to set aside \$275,000 as a reserve for the insurance of stations, apparatus and repairing steamer and for special expenditure necessary for the maintenance of the Co.'s property. After providing these reserves the balance of net revenue to be carried forward to the next year will be \$477,019.

Notwithstanding that business on the land lines was very dull during Jan. and Feb., the net revenue of that system for the year fulfilled the expectations of the directors and was more than sufficient to meet the interest on the 1st mortgage bonds and debenture stock, and these fixed charges absorbed only 34% of the total net revenue of the combined systems.

There have been added to the land line system during the year 933 miles of new pole line & 300 miles of wire.

The directors elected for the current year are: J. W. Mackay, J. G. Bennett, G. G. Howland, Col. W. Jay, G. G. Ward, Sir W. C. Van Horne, E. C. Platt, Lord Strathcona &

Mount Royal, C. R. Hosmer, T. Skinner, C. H. Mackay, A. B. Chandler & D. Clarke. The officers are: J. W. Mackay, president; G. G. Ward, Vice-President & General Manager; C. R. Hosmer, A. B. Chandler & C. H. Mackay, Vice-Presidents; E. C. Platt, Treasurer; Albert Beck, Secretary, & J. O. Stevens, Assistant Secretary.

Canada's Telegraph History.

The semaphore telegraphic system was early in use in Canada. A semaphore was established in 1809 between Isle Vert & Quebec City for the purpose of signalling vessels.

The first telegraph wire strung in the Dominion was put up by the Toronto, Hamilton, Niagara & St. Catharines Telegraph Co. in 1847. It was a simple insulated wire. In the same year a line connected Montreal and Quebec. In 1848 Nova Scotia & New Brunswick were supplied with their first telegraphic communication. The first electric telegraph office in St. John, N.B., was opened in Jan., 1849. The first month's receipts were \$56.

The first proposal to the Government to build a telegraphic line across the continent from Montreal to the Pacific Ocean was made by the Atlantic & Pacific Transit Telegraph Co. The proposal was made to the Imperial Government & was recommended by the Governor-General in his speech on the opening of Parliament in 1863. It was not entertained by the Canadian Legislature because that body thought that a post-road ought to be built simultaneously with the telegraph line.

The Montreal Telegraph Co. paid its first dividend on Jan. 14, 1848. On Aug. 17, 1881, it agreed to an arrangement with the Western Union, by virtue of which the latter company guaranteed for 97 years 8% annual dividends. The Western Union in 1867 leased the New Brunswick & Nova Scotia lines.

The charter of the C.P.R. Co., granted in 1881, conferred upon that Co. the franchise of a telegraphic system for general business.

When the Dominion began in 1867, there were within its borders 497 offices, 7,227 miles of line and 9,040 miles of wire. During the year 600,770 messages were sent.—From Alphabet of First Things in Canada, by Geo. Johnson, F.S.S.

Government Telegraph Lines.

The estimates recently submitted to the Dominion Parliament for the fiscal year 1898-9, provide for \$20,600 for telegraph lines as follows:

Land line on north shore of St. Lawrence, Que., to improve roadway, repair line & increase operating facilities generally, between Godbout & Pointe aux Esquimaux \$1,000.00.

Land line on the north shore of St. Lawrence—Extension from Pointe aux Esquimaux eastward, \$15,000.00.

Alternative line connecting Cape Beale & Carmenah with Victoria, B.C., by extending the French Creek, Alberni Line, southwardly to the south-west coast of Vancouver Island, \$4,600.00.

The 1st item is a decrease of \$2,000 as compared with 1897-8, the 2nd item is a decrease of \$4,000, & the 3rd item is a revote. The total appropriation is \$11,600 less than for 1897-8.

VANCOUVER-NANAIMO CABLE.—The C.P.R. Co's S.S. Tartar arrived at Vancouver, April 1, from Southampton, having on board the C.P.R. Co's cable to be laid between Vancouver City & Vancouver Island. The cable was successfully laid on April 6, under the supervision of F. B. Gerrard, of the Commercial Cable Co.'s staff.

Telegraph Office Changes.

GREAT NORTHWESTERN.

Opened: St. Brigide, Que.

Closed: Massawippi, Que.; Notre Dame des Anges, Que.; St. Placide, Que.

CANADIAN PACIFIC.

OPENED:—Bathurst, Ont.; Blairton, Ont.; Hammond, Ont.; St. Polycarpe, Que.

CLOSED:—Garicola, B.C.; Ross Peak, B.C.; Midway, Man.; Rosebank, Man.; Pasqua, Assa.; Lansdowne, Ont.; Maitland, Ont.; Deschambault Station, Que.; Piles Jct., Que.; St. Sebastian, Que.

The Western Union Telegraph Co. has declared a dividend of 1¼% payable April 15.

The Train Dispatchers' Association of America will hold its convention in Montreal June 14.

It is said the increases to telegraphers on the C.P.R. under the recent arrangement will amount in the aggregate to \$73,000 a year.

The Dominion Telegraph Co's. guaranteed dividend at the rate of 6% per annum, for the quarter ended March 31, will be payable April 15.

The Manitoba District Telegraph & Delivery Co., particulars of which were published last month on page 20, has been granted incorporation by the Manitoba Government.

The Compagnie Francaise des Cables Télégraphiques has agreed to lay a new cable immediately from Brest to New York, in consideration of an annual subsidy of about \$150,000.

At the recent conference of Colonial premiers in Melbourne, Australia, it was resolved that if Great Britain and Canada contributed ⅓ of the cost of the proposed Pacific cable, Australia should contribute the remainder.

Superintendent Jaynes says the Western Union Telegraph Co. has not abandoned its proposed extension to Victoria, B.C., but that the cable is being manufactured, & will be laid by the time that the land line from Seattle, now under construction, is completed.

The Spanish Government is arranging for communication with Cuba over neutral cables in the event of a rupture of relations with the U.S. This is feasible by way of Halifax, Bermuda & Jamaica, using the new British cable, but the French Co., possessing an unladen cable, offers to connect Spain direct with Cuba within a few weeks. Negotiations with this company are proceeding.

VANCOUVER ISLAND CABLE.—The Western Union Telegraph Co. expects to have its line to Victoria, B.C., in operation by May 1. The line will be constructed via Port Gamble & Port Ludlow. Seven cable connections, ranging from ½ a mile to 17½ miles, or a total of 30½ miles of cable, will be necessary. The longest stretch of cable will be from Port Angeles to Victoria, 17½ miles.

At the last annual meeting of the Montreal Telegraph Co., the assets were stated to be \$2,263,030, the excess over shareholders' capital being \$151,823.85. The contingent fund is \$70,869.11. It was decided that when the contingent fund reaches such a figure as will yield a yearly revenue of \$5,000, that amount shall be divided among the shareholders, which will give 3 additional dividends of about ¼ of 1%. A. Allan, H. Mackenzie, J. Joseph, W. Wainwright, H. Archibald, W. J. Withall & H. A. Allan were elected directors.

A. C. HENRY, Purchasing Agent C.P.R.:—"I am glad to hear you intend bringing out a publication devoted to the railway & shipping interests of Canada. It seems to me there should be a good field for it, & I should consider it a good medium for advertisers wishing to reach those classes."

TELEPHONES.

The Bell Telephone Co.'s Annual.

The report presented at the recent 18th annual meeting in Montreal gives these facts:—983 subscribers have been added during the year, the total number of sets of instruments now earning rental being 30,445. The Co. now owns & operates 349 exchanges & 261 agencies. 35 miles of poles & 703 miles of wire were added to the long distance system in 1897; of these 5 pole miles & 209 wire miles are in the Ontario department, & 30 pole miles & 494 wire miles are in the Eastern department. The long distance lines, now owned & operated by the Co., comprise 16,567 miles of wire on 6,095 miles of poles. Under authority of the shareholders, \$66,500 bonds were sold during the year, the premium thereon being 10%. Continuing the policy adopted in past years, the directors have charged to contingent fund \$150,000, that amount having been expended during the year on construction rendered necessary by the introduction of trolley & other strong current wires, but which has not increased the earning power of the plant.

REVENUE ACCOUNT, DECEMBER 31, 1897.

RECEIPTS.	
Exchanges	\$ 862,319 29
Long Distance Lines	229,917 95
Private Lines	12,010 01
Miscellaneous	80,828 93
	\$1,185,085 21

EXPENSES.	
Operating	\$ 825,038 94
Legal	7,725 51
Insurance	23,733 68
Bond Interest	45,683 30
Miscellaneous	3,752 21
	\$ 905,933 64

Net Revenue for 1897	\$ 279,751 57
Less Dividends (inc. Jan. 15, 1898)	253,440 00
	\$ 26,311 57
Balance Revenue from 1896	\$ 56,025 00
Carried forward to 1898	\$ 82,336 17

BALANCE SHEET, DECEMBER 31, 1897.

Stock Account	\$3,168,000 00
Bond Account	940,000 00
Contingent Fund	\$ 950,000 00
Less transferred to Construction Account	150,000 00
	\$ 800,000 00
Revenue Account	82,336 17
Unearned Rental Reserve	103,541 06
Insurance Reserve	68,037 12
Accident Reserve	15,574 06
Bond Interest Reserve	11,750 00
Sundry Creditors	287,789 09
Bond Premium	6,650 00
	\$5,543,706 10

Plant & Patents, 31st December, 1896	\$4,202,567 00
Purchase of Patents, 1897	1,767 00
Construction, 1897	\$311,214 09
Less Contingent Fund	150,000 00
	191,214 09

Plant & Patents, 31st December, 1897	\$4,395,548 88
Stores on hand	160,079 44
Real Estate	649,295 73
Stock in other Companies	104,731 50
Sundry Debtors	40,807 87
Due from Agencies	74,858 91
Cash	49,293 77
	\$5,543,706 10

The following were elected directors:—C. F. Sise, R. Mackay, J. E. Hudson, R. Archer, W. R. Driver, H. Paton, C. Cassils, T. Sherwin.

The Co. has declared a dividend of 2% payable April 15.

The Bell Telephone Co. is having plans prepared for an exchange building to be built on St. John Street, Quebec.

BURN

E. B. EDDY'S

MATCHES

RUBBER STAMPS

**RUBBER TYPE
SEALS and SEAL PRESSES
CHECK PROTECTORS
AND ALL KINDRED GOODS**

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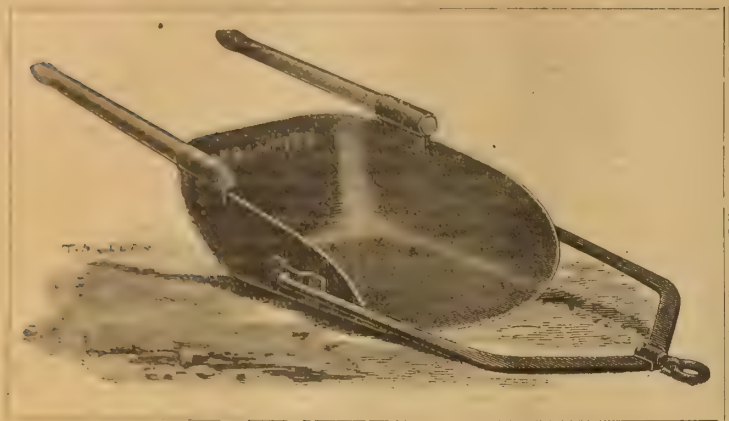
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VOL. I. No. 3.

TORONTO, CANADA, MAY, 1898.

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Devoted to Steam & Electric Railway, Shipping, Express, Telegraph & Telephone Interests.

VOL. I. No. 3.

TORONTO, CANADA, MAY, 1898.

51 A YEAR.

A CHARACTER SKETCH.

The President of the C. P. R.

Sir William Van Horne, President of the C. P. R. Co., is one of those men who make history. It had been the custom of historians (until Knight & then Greenbroke away from it) to tell the story of kings & queens, countries & statesmen, to chronicle wars & battles, treaties & treacherous evasions of them, & then in a supplementary way, as if it were a matter of secondary importance, a chapter that might be skipped, to relate the much more important progress of science, commerce & art.

Sir Wm. Van Horne is not yet known in the politics of Canada: that is to say officially known. The railway of which he is President has at times evoked the eloquence, either in denunciation or commendation, of reasoners & of talkers, & is credited with having at times conduced to the victory of one parliamentary candidate over another, but Sir William has never stepped upon the quarter deck of any ship of state as an accredited pilot. He has not made history in that way. There is always a sufficiency of great minds for this purpose. Van Horne has confined himself to the more practical work of developing the machinery of travel, & as in the nineteenth century the prosperity of a country depends upon its facility of transport, & as its stagnation is usually the result of bad roads & high prices, his services to the Dominion of Canada & indirectly to the British Empire have now passed beyond question.

When the famous Syndicate of 1881 had undertaken to build the C. P. R. through the wilderness on the shore of Lake Superior & through the Rocky Mountains to the Pacific shore, the gigantic nature of their

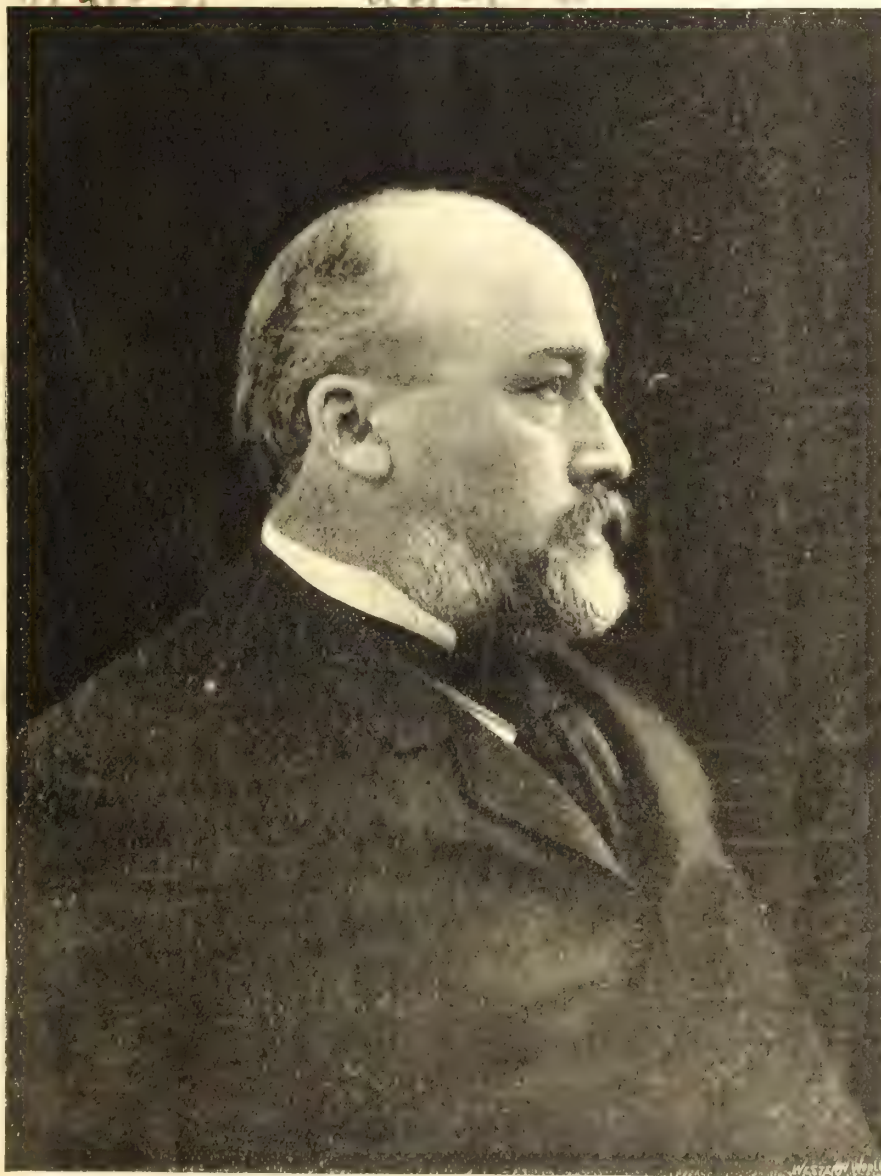
undertaking may well have appalled them. Railway Frankensteins were they, with the monster their signatures had created before them, & the certainty that unless handled with exceptional skill it would prove as baneful as the creature of Mrs. Shelley's im-

to the roll of Knights Commanders of St. Michael & St. George is a big jump when the gulf has been bridged by personal ability, & the achievement of success in the face of enormous difficulties. Of the smiling incredulity with which mention of the through

route of the C. P. R. from ocean to ocean in 10 years was received, it is not necessary to speak at length. Aladdin's lamp was out of reach, so that the time mentioned was regarded as a pleasant-ry; when the road was opened through to the Pacific in half the stipulated time people elsewhere than in Canada began to ask, who is this Van Horne? Those who knew him in 1881, when he went to Winnipeg to tackle his work, were already satisfied on this point.

But the construction of this via Canadensis is not the feature of its existence that most astonishes reflecting persons. A happy understanding and perfect confidence between bankers & engineers can make light of startling physical difficulties; even the Panama Canal may be built if the bankers hold out; it is the business success of the C. P. R. that supplies the food for wonder to live on. To build a railway is one thing; to create the traffic for it is another. On this point the world requires to be told very little. The annual reports of the C. P. R. speak for themselves, & for the work that has been done. It all looks easy when done, but the number of railways in financial difficulties are silent witnesses to the existence of something more than ordinary capacity in the management of the C. P. R.

"Canada is doing business on a back street," said Van Horne, "she ought to be on a thoroughfare," and he set to work to make one. The "Great Highway to the Orient" is the result. The majority of European & American travellers had a very identical opinion was "out there, somewhere," that China was



SIR WILLIAM C. VAN HORNE, K. C. M. G.

agination. They sought a guiding hand & found Van Horne, of whom even the railway world then knew comparatively little, but who can now felicitate himself on the fact that he is sworn at in many vernaculars. From the pay roll of a Western States railway office

was away off in the East, either 500 or 5,000 miles from India, & that while regular steamers sailed for the latter the former was reached by a ship when she went there. A line of fast steamships of the Atlantic greyhound order from Vancouver to Yokohama (which is now known to be the chief trading port of Japan) gave form to the nebulous ideas that had existed on the geographical position of Japan, & this route continued to Shanghai & Hong Kong, established a commercial highway that, figuratively speaking, bends beneath its weight of business. It has been a refutation of the axiom *ex nihilo nihil fit*, & has driven the pessimist into other fields for mournful incredulity. Japan with its strange incongruities is now familiar in our mouths as household words, & we have realized by observation that China is more Chinese than ever; & by its example the great highway has awakened the ambition of Australia. Enterprise & energy are contagious virtues. If Japan, said Mr. Huddart, why not Australasia, & the regular line from Vancouver to Honolulu & Sydney was the answer, a line which has added to the nautical disturbance of a Canadian harbor which, until the coming of Van Horne, was ploughed only by the keel of the Indian canoe; a figure of speech which must be taken as meant, by reason of the absence of keels on Indian canoes. Thus the back street has been brought into a more business-like condition, but still is short of that condition of a perfect thoroughfare which the untiring ambition of the President of the C.P.R. is working to secure. It is not yet the Regent Street of Eastern traffic, still less the Strand or Oxford Street, but it now actively competes for the best class of business. To further increase its attractiveness & usefulness Van Horne—for the name, thus used now signifies something more than an individual—has urged the establishment of a fast line of steamers across the Atlantic. The St. Lawrence route, he holds to be vastly superior to that by New York; more beautiful, more expeditious, & with a large proportion of smooth-water navigation. Gilbert, in one of his charming operettas, says that "to lay aloft in a howling breeze may tickle a landsman's taste," but ladies are not partial to howling breezes, very seldom lay aloft except in an upper berth, & even the accustomed traveller usually prefers to promenade the deck of a vessel on an even keel. Therefore, says the exploiter of new paths, establish a fast route which will attract American as well as European voyageurs. On the pros & cons of this question it is not our purpose to argue; it is mentioned merely as a branch of the main idea which it has been Sir Wm. Van Horne's desire to impress upon Canada.

This is Van Horne as the world of strangers, seeking a concrete personality of a great enterprise, knows the President of the C.P.R. But there yet remains Sir William as known by his friends & business associates. In the purview of their experience there is Sir William in his office, at his home in Montreal, at his summer house at St. Andrews, N.B., & in the "Saskatchewan"—that is the name of the private car from the rear window of which he has made himself familiar with each section of the many that are comprised in the road from St. John, N.B., to Vancouver, & in which many distinguished persons have travelled "from ocean to ocean;" & concerning his idiosyncrasies when found at headquarters, we may borrow what has already been said elsewhere with reasonable accuracy.

On the second floor of that great, grey, Norman castle-like building, at the corner of Windsor Street, Montreal—a stone's throw, if you can throw a stone that far, below the Windsor Hotel—are the offices of the C.P.R.'s executive. Time was when one door only stood between the visitor & the man whom so many wanted to reach, & when the bolder pushed it open & got ahead of the

more diffident. Now it is another matter. The man who desires to sell a patent corkscrew for opening ginger ale in the dining-car, or has a scheme for crossing to Vancouver Island under the straits, must pass more than one official Cerberus. But assuming him to be one whose business requires the here & now personal consideration of the C.P.R.'s President, he is shown into Sir Wm. Van Horne's room. His first view of that gentleman is a back view. Seated—no, not seated, but astride a peculiar chair, such as no man ever before sat in—before a cylindrical desk, he will see a man of middle height, stout, dark-haired, slightly bald, smoking a cigar & dictating to a secretary at an adjoining table. The sentence finished, this gentleman, using his foot on the ground as a lever, spins his chair round and faces his visitor. If his eye rests on a friend, the usually calm, unreadable countenance lightens up with a smile of welcome, & a cheerful word of recognition having been uttered, an acrobatic movement empties the chair, & Van Horne, settling the cigar more comfortably in his mouth by a rapid movement of his lips, extends his hand to greet his acquaintance. Having seated his friend he seats himself—no, he re-straddles. How he manages that chair no one knows. The unwary who attempt to sit in it are thrown, as surely as if they tried to sit on one of Buffalo Bill's bronchos, but it is as gentle as a lamb beneath Van Horne. Now the visitor is either a friend of the C.P.R. or he is not. Van Horne recognizes no intermediary sentiment. If he be one unsound in faith, then he has to deal with a polite but inscrutable being, who will pleasantly guide the inquirer into mazes of irreconcilable conclusions, from which he can find no outlet. He will obtain the facts, possibly, of which he is in search, but at such angles, so to speak, that he will never be able to put them into shape, & the last stage of that man's understanding will be worse than the first. If he is a friend he will find a mentor to whom all things appertaining to railways, & many other subjects, are familiar, & that which he desires to know will be made clear & easy of comprehension.

Van Horne is thorough. He goes to the root of the matter, & by word & diagram he explains it up to the flower. He is great at the use of the diagram. He is an artist & likes to illustrate. Settling the cigar which has gone out, in his mouth, taking a pencil in his hand & balancing that most peculiar chair, he illustrates his information as he proceeds, occasionally making a dash into figures on a supplementary sheet of paper, until his story & his picture is complete, & the information sought is so plain that he who runs may read. He never thinks it too much trouble to explain. He does not wonder why the question is asked, or why he is asked to answer it. He may decline to give information for reasons which are sufficient to himself, but the "I can't be bothered" plea is never urged; & the lucidity of his explanations is equalled by the extent of his knowledge. Tackle him on what you will & you will find that from personal investigation or from the resources of his library he knows it, probably more about it than his questioner. To nonplus him you must ask him about something that has gone wrong, some false report about the railway; some stupidity of the employees having serious consequences, or some scheme which is intended to "get ahead" of the C.P.R. Then the chair spins round, the acrobatic movement takes place & Van Horne, rubbing the top of his head, drawing heavily at his cigar, paces his room, troubled in his mind & uncertain whether to let fly in western vernacular or to comment on the circumstance with deceptive moderation. Sometimes moderation carries the day; sometimes his opinion is given in language of startling originality. Except when thus put out he is good temper personified. The clerks in the next room hear sud-

den bursts of laughter or continued chuckling as the business is transacted in the President's room. Van Horne is keenly alive to humor, & likes to tell or hear of a good joke. In the once celebrated correspondence regarding a timber limit in the Cypress Hills, a certain member of Parliament informed his correspondent that he could carry out a plan that he had in view were it not that "that old brute Van Horne would not agree to it." Some time after the same member wrote to the C.P.R. office for a pass or some other favor, & Van Horne dictated the reply. The member was informed that the secretary would be happy to comply with his request, but "that that old brute Van Horne would not agree to it."

In his home on Sherbrook Street, Montreal, Sir William is one of the most genial & hospitable of hosts. He is a lover of comforts & of art. In his business he is anxious for the comfort of his passengers, in his house for that of his friends. He is not a bookworm, or a collector of many volumes, but a lover of books, & fanciful as to their make-up. Their contents are the first consideration with him, but their ease of handling & neatness of appearance follow hard upon it. In the low & convenient cases that surround his cosy working room are copies of every procurable work on the Northwest from the time of Charles II. to the present day. He is a connoisseur of Japanese art, of which he has an almost priceless collection, including personal presents from the Emperor, & his pictures hanging here, there & all over the house, are not only to the uninitiated beautiful examples of well-known painters, but also, I understand, meet the approbation of the judges. Several rooms now supply the accommodation that in his former house on Dorchester Street was found ex-necessitate in the one he called his "den." The library already alluded to has solid modern British comfort somewhat etherealized by suggestions of Japan, & here & there of mediæval Europe. A casual glance round shows a pair of rare old Italian daggers, something from Tokio, the latest art publications from London or Paris, a bundle of type-written letters to be signed, or an architect's tracing waiting the experimental corrections of that inevitable blue pencil which so many connected with the President of the C.P.R. regard as the gift of Satan for their persecution. There is enough of each to make the room pleasing to the eye & artistic intelligence, while grateful to the ease of the Philistine. Recent years have added largely to Sir William's stock of paintings, in which are included some of Monticelli, Rembrandt, Labrador & not a few from the newest school of impressionists. Sir William is himself a painter; a self-taught one, & produces not only clever caricatures of his friends, but charming little landscapes of fancy or familiar spots. Some of these you may first meet in the raw, so to say, in the painting room, looking like mad escapades of unruly paint, & afterwards find framed & in their right mind in some corner down stairs, looking as pretty as a picture. There is one landscape which hangs in a corner of his drawing-room easy of access, & which is one of his most successful works. He is fond of showing these paintings of master hands which he possesses, & ready in answering questions about them. When he has taken a visitor around the walls he generally manages to halt him opposite his own landscape & then leave him for a minute, & on his return he usually hears, "This is a very pretty picture," or as one picture collector put it, "This is one of the best pictures in the room; who is it by?" "That," says Van Horne, "is a landscape by a Dutch painter. It is not signed, but it is by a well-known man in some circles, some Dutch name." Sometimes he does & sometimes he does not inform his visitor that the Dutch name is W. C. Van Horne.

Failing to find Sir William in his study you

will, if your business or intimacy warrants, find yourself shown or directed upstairs to his painting room, or to the billiard room. If, however, you are not a brother of the brush you will not be much interested in the former, unless perchance the occupant has some pictorial joke on hand, such as the painting of a picture that may be looked at any way you like with equal satisfaction, or a political allusion conveyed in a picture of eminent politicians in a poker duel. But in the billiard room the interest is more general, for your host will be equally ready there to play with you at billiards, chess, or anything else you may suggest in which skill is the principal factor. To chess Sir William is very partial; the nature of it, that of devising more ingenious plots than one's opponent, has peculiar charms for him, & when his schemes like those of Burns' mice gang aft a'glee, the resulting expletives are always directed against himself. In playing chess or billiards he is in serious earnest, reserving the jokes & stories for between times & afterwards; only does he relapse when some stroke at billiards is too obviously unexpected to permit even his countenance to play hypocrite over the accidental success; & sometimes he does fluke like the —. Smoking, laughing & playing are eminent manufacturers of thirst, & in the billiard room the strict observer of seasons may remain thirsty in Lent—if he insists upon doing so.

It is not only in Sherbrook Street that Sir Wm. Van Horne's qualities as a host are known; perhaps not so well known as in his car. Not infrequently when the President makes his periodical tours of inspection the commodious "Saskatchewan" is filled with friends & officials; of the road; those of the one class happy in anticipation of viewing the prairies & the mountains, the others heavy with thought of the business that brings them from their homes. Straddled across a chair at the rear window of the car, the eye of the master surveys the work of the combination of employees, while muttered conferences with the engineer or superintendent of the division are heard as bridges are crossed or tunnels passed. Suddenly a cry of "Whoa, Jim!" bursts over the hum of conversation, & is answered by the important functionary of that name, who enters bearing a well-filled tray of glasses & other vessels & a box of cigars. When all is plain sailing on the road, & easy & familiar sections are being traversed, the relaxation of mind is accompanied by such athletic or mental freaks as may be uppermost in the President's mind. Speculations as to what may be the condition of some particular matter at that moment in Montreal, New York, or elsewhere, opinion to be supported by wager, & correctness to be settled by telegraph from the next station, alternate with trials of agility about the seats of the car, or competitions for pre-eminence in feats which no one has tried since boyhood. When the stations are reached & the tourists are wandering about inspecting novelties; it may be Red Indians, otherwise colored by dirt & paint, piles of collected buffalo bones, relics of the hunters age of the country, or what not; the officials are talking, frowning or smiling, questioning or answering until the "all aboard" is called & the car life is resumed. When the shades of night have fallen upon the twin streaks of steel, & when at a central point friends drop in during the evening to call upon the party, the business of the day is for the moment forgotten & pleasing recreation takes its place.

G. A. Harris, Vice-President of the Ottawa Forwarding Company, died April 5, aged 47. For many years he was Manager of the Company. He was also a director of the Ottawa Transportation Co., & conducted an extensive wood & coal business.

RAILWAY APPOINTMENTS, &C.

CANADIAN PACIFIC.—H. B. Spencer is appointed Superintendent of the Chalk River Section, of the Brockville, Prescott & Eganville branches, & of Ottawa Terminals, with office at Ottawa. Until about two years ago, when he resigned to take the management of the Hull & Aylmer Electric Ry., he was Superintendent of all lines east of Chalk River on the Eastern Division.

J. E. A. Robillard is appointed Superintendent of the Ottawa Section, & of the St. Lin, St. Eustache and Labelle branches, with office at Montreal. When H. B. Spencer left the C.P.R., as above mentioned, Mr. Robillard, who was Chief Dispatcher at Ottawa, succeeded him as Superintendent of all lines east of Chalk River on the Eastern Division.

Montreal Terminal District is extended to include the line from Outremont to Windsor St. Station, including St. Luc Jct., Montreal Jct. & Windsor St. stations & yards, & W. J. Singleton, Superintendent of Montreal Terminals, having been granted leave of absence, D. R. Bell, heretofore Trainmaster at Toronto, is appointed Acting Superintendent of Montreal Terminals, reporting to the General Superintendent of the Eastern Division.

F. G. Martyn, heretofore Trainmaster at Smith's Falls, is appointed Trainmaster west & north of Toronto, including Toronto terminals; office, Toronto Junction.

W. Hassard, heretofore Conductor between Toronto & Hamilton, is appointed Trainmaster, Smith's Falls, Havelock & Toronto Sections, & M. & O. Branch; office, Smith's Falls Junction. Trainmen and yardmen will report to trainmasters.

J. W. Harkom is appointed Assistant to the Mechanical Superintendent, with office at Montreal. Up to the time of this appointment he was Master Mechanic of the G.T.R. at Montreal.

GRAND TRUNK.—T. McHattie, Locomotive Foreman at London, has been appointed Acting Master Mechanic of the Eastern Division, with headquarters at Montreal, in place of J. W. Harkom, Master Mechanic, who has gone to the C.P.R. A. A. Maver is appointed Locomotive Foreman at London, vice McHattie promoted, & W. Turnbull is appointed Repair Shop Foreman at Toronto, vice J. McGrath, who is appointed Erecting Shop Foreman at Stratford, Ont., vice Maver transferred.

J. A. Sheedy, formerly connected with the Illinois Bridge Co., Chicago, is appointed Master of Bridges & Buildings for the Middle Division, vice W. Crawford resigned; office at Toronto.

The headquarters of H. Ferguson, General Roadmaster, have been transferred from London to Toronto.

GRAND TRUNK & WABASH.—J. C. Sander-son is appointed Inspector of Bridges & Buildings, including turn-tables, water service, &c. Headquarters St. Thomas, Ont.

LAKE ERIE & DETROIT RIVER.—Owen McKay has been appointed Engineer, with office at Windsor, Ont., succeeding the late Jos. de Gurse.

TILSONBURG, LAKE ERIE & PACIFIC.—A. L. Baker is appointed General Freight & Passenger Agent. Headquarters, Tilsonburg, Ont.

Commencing May 16, L. E. Tillson will resume his duties as travelling freight & passenger agent for the L. E. & D. R. R., & between Port Stanley & Cleveland. He will have charge of all territory in Canada west of Toronto, & also the excursion business on all points on the G.T.R., C.P.R. & Wabash to Port Stanley.

I.C.R. Mechanical Superintendency.

F. R. F. Brown has retired from the mechanical superintendency of the Intercolonial, & it is stated he will open an office at Montreal as consulting engineer. He has been with the Intercolonial since Nov., 1892, & was formerly for 6 years Mechanical Superintendent of the C.P.R. G. R. Joughins has been appointed to succeed Mr. Brown. Until recently he has been Superintendent of Motive Power of the Norfolk & Southern Ry. at Berkley, Va. Some 8 or 10 years ago he was in the employ of the G.T.R.

The Railroad Car Journal, New York, says: While the Intercolonial is to be congratulated on having secured the services of Mr. Joughins, it is with regret we record the departure from the U.S. of one of our most able & progressive railroad mechanical officials. He has an admirable record in railroad service, & has done some excellent work as a member of our railroad clubs, & of the Master Car Builders' & Master Mechanics' Associations. To his investigations & experiments is due, in no small degree, the evolution of car work which is materializing in the extensive & growing use of steel cars of large capacity. This development dates from January, 1894, when he read before the New York Railroad Club his now historic paper on 'Metal Underframes for Freight Cars,' in which he recited the results of a test of metal underframes, & drew the attention of the mechanical world to the possibilities of steel in this respect."

Personal Mention.

G. H. Ward has been appointed Road Foreman for the Lake Manitoba Railway & Canal Co's line.

A. A. Strout, of Portland, Me., Solicitor for the G.T.R. for Maine, New Hampshire & Vermont, died at the end of April.

Mrs. D. B. Lindsay, wife of the General Passenger Agent of the Temiscouata Ry., died at River du Loup, Que., April 30.

H. Varnes, of the Grand Trunk shops at Lindsay, Ont., has gone to Revelstoke, B.C., as foreman in the C.P.R. car department.

C. B. Smith, Assistant Professor in civil engineering, has resigned his position in McGill University, Montreal, and has been given a position in the engineering department of the C.P.R.

The historic silk rug formerly the property of the Shah of Persia, which was secured by the celebrated rug collector, Levien Babayan, of Constantinople, has been sold to Sir William Van Horne for \$2,000.

Superintendent Murray, of the C.P.R., Western Division, who has been on sick leave, recently returned to Winnipeg from a visit to his brother, the celebrated Dr. John Murray, of Edinburgh University.

"Kit" Carson, who was formerly Traveling Passenger Agent of the C.P.R. in San Francisco & the Kootenay, was recently, it is said, elected Mayor of Wrangel. He is running an hotel under canvas there.

J. B. McKay, formerly in charge of the construction of the Niagara Falls Park River Ry., is now engaged in the construction of the Sticken & Lake Teslin Ry., with headquarters at Telegraph Creek, B.C.

Sumner Hopkins, Commercial Agent of the G.T.R. at Detroit, Mich., has been appointed Manager of the G. T. Despatch, with office at Detroit. W. K. Evans has been appointed Accountant of the G. T. Despatch at Detroit.

A. Branin, who has been Assistant Superintendent of the Bellingham Bay & British Columbia Ry. since 1891, has resigned, & is succeeded by W. H. Lawson, heretofore Cashier of the Bellingham Bay Improvement Co.

H. G. M. Mcken, the widely known & popular railway agent, latterly of Toronto & formerly of Winnipeg, in his new position as first European Traffic Agent of the Great Northern Ry., has opened offices at 122 Pall Mall, London.

Owing to the amalgamation of the stores & mechanical departments of the Intercolonial, J. H. McMackin's services will be dispensed with after May 6, his work as an issuer of stores being added to that of J. M. Cameron, clerk in the Mechanical Dept.

S. S. Russell, Secretary to Superintendent Fitzhugh of the G.T.R., Middle Division, at Toronto, having been appointed Chief Clerk to Superintendent Jones, of the Southern Division, is succeeded by E. Walton, who has been stenographer to Chief Clerk Mullins in Mr. Fitzhugh's office.

C. W. Graves, Canadian Agent of the Wisconsin Central, has been appointed Travelling Freight & Passenger Agent of the Great Northern, with headquarters at Toronto, a position formerly held by H. G. McMacken, now in charge of the London, Eng., office of the Great Northern.

W. J. Gilkerson, formerly Travelling Passenger Agent for the G.T.R., has been appointed Soliciting City Passenger Agent in the Toronto office on the staff of City Passenger & Ticket Agent Keating, of the road. S. O. Perry, City Ticket Agent of the G.T. at St. Thomas, has resigned, & A. S. Overend has been appointed in his place.

It is rumored J. E. Price is to be made Superintendent of all the I.C.R'y. in Nova Scotia, east of Springhill, with headquarters at Truro. He is now Superintendent from St. John to Halifax. The change would take from him the charge of the road from Springhill to St. John & give him the Oxford & New Glasgow line, & the Eastern Division, now superintended by Mr. Campbell.

Edward Pennington, heretofore Superintendent of the Minneapolis, St. Paul & Sault Ste. Marie, recently appointed General Superintendent, has made the following appointments: D. Willard, Superintendent of Wisconsin & Peninsular divisions, including Minneapolis Terminals, with office at Minneapolis; F. C. Batchelder, Superintendent of Minnesota Division at Enderlin, N.D.; the offices of assistant superintendent of the Wisconsin, Peninsular & Minnesota Divisions have been abolished.

Cornelius Sheehy died at his residence, Detroit, Mich., April 27 after a few days' attack of pneumonia. Mr. Sheehy came to Canada from Ireland when young & entered the service of the Northern Ry., of Canada as a brakeman. He gradually worked his way up, & 8 years ago became district passenger agent of the Canadian Pacific at Detroit, resigning about a year ago. He was a stockholder in the Kingston & Pembroke Ry., & was also largely interested in Eastern Canadian iron manufactories.

The investigating governors of the Royal Canadian Humane Association have decided to award the Association's parchment to John Meyer, the colored G.T.R. porter, who worked very hard to get the late Engineer Hutchinson & Fireman Clark out of their engine cab at the time of the fatal accident at Burlington, Ont., on March 1 last. Mr. Meyers has been presented by the Brotherhood of Trainmen & Locomotive Engineers with a gold locket & chain, suitably inscribed, as a mark of appreciation of his heroic conduct.

C. Shields, General Superintendent of the Chicago Great Western, has resigned. Mr. Shields was one of the first C.P.R. dispatchers at Winnipeg, & was afterwards superintendent at Moose Jaw. He followed J. M. Egan from the C.P.R. to the Great Northern as Superintendent of Construction, again following Mr. Egan to the Chicago Great Western, of which he became Asst. Gen. Supt. in 1888, resigning in 1891 to take the general superintendency of the Great Northern in 1891 & returning to the Chicago Great Western in 1893.

W. T. Jennings, C.E., whose report on the Stikine-Teslin route appeared in our March issue, is a native of Toronto. His father was a well-known clergyman of the Presbyterian Church here. He was born May 19, 1846, & educated at the Model Grammar School & at Upper Canada College. He began his studies of engineering under Mr. Molesworth, C.E. In 1870 he entered the engineering service of the Great Western Ry., subsequently becoming connected with the Dominion Government railway service, & still later joining the staff of the C.P.R. In 1890 he was appointed City Engineer of Toronto, but, much to the regret of those who have the true interests of the city at heart, he threw it up after serving two years. Brief as the time was, he dealt with some of the largest administrative problems that have ever come before the citizens.

EQUIPMENT.

Equipping With Safety Appliances.

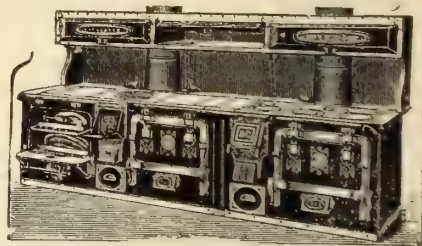
There probably is nothing more important in railway enterprise at the present time than the efforts which are being made by the various railway companies to apply the most modern safety appliances to their rolling stock, the most important of which are probably air brakes & automatic couplers, & the importance of both can hardly be overestimated. The loss of life & property which has resulted from the absence of apparatus of this character in the former experience of railroad men, & the general public, can only be considered as abnormally large; & it would be difficult to make an estimate of the many thousands of brave men who have come to an untimely end by being crushed to death in coupling & uncoupling cars equipped with the old-time link & pin coupler, which should long ago have been abandoned & buried as one of the antiquities of railway practice.

The air brake as a safety appliance is very thoroughly recognized, & the Governments of several countries are enforcing its application to all rolling stock; & while it may for the present mean for the various railways an outlay of considerable funds, there is little doubt that it will prove to be an investment of great profit & appreciable gain; as in addition to enhancing the safety of their property it practically increases the capacity of the roads by making it possible to increase the schedule, or time, in which trains can be safely handled & properly controlled. Freight trains are now being conveyed over many of the principal roads at a speed only known as passenger schedule in days gone by, simply from the fact that they can be controlled & handled with absolute safety.

It is just possible that comparatively few of the many thousands of the travelling public fully appreciate the advantages of the various appliances for their safety & comfort which have been worked out & successfully applied to the modern railway vehicle. The sleeping car, with its conveniently arranged compartments and dressing rooms, & the vestibule connection between cars, making the transit from one car to another perfectly safe by connecting the cars in such a manner that the several cars become practically one. The old-time pump in the washroom has been supplanted by a water service, under air pressure, which is practically equivalent to ordin-

RANGES

Made to order—of any dimension—to suit any space—for use in dining cars, steamboats, yachts, etc.



Our Heavy Steel Plate Ranges are noted for their superior excellence in every detail—they give unfailing satisfaction.

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Ranges, Steam Cookers, Heavy Kitchen Furnishings for Hotels, &c.,—let us provide them all.

WE GUARANTEE SATISFACTION.

The GURNEY FOUNDRY COMPANY, Limited, Toronto

closed a contract with the Pontiac & Pacific Jet. Manager, who has been running his trains since January last lighted with acetylene to light the Gattineau Valley trains. The Canada Atlantic has asked us to make an offer to light the cars on its two lines.

Twelve hundred freight cars will be equipped at the C.P.R. shops in Winnipeg this year with Westinghouse air brakes. This will reduce the running time of a freight train of these cars between Winnipeg & Fort William by fully one-third, as there is little time lost in slowing up a freight with an air brake attachment as compared to when stopped by the trainman. The freedom from accidents is also a great consideration.

The Canadian Pacific will build at its Perth, Ont., shops 300 flat & 500 box cars for delivery between now & August. They will be of 60,000 lbs. capacity & 35 ft. long; the flat cars will be 8 ft. 6 in. wide over frames & 4 ft. 2 in. high, & the box cars 8 ft. 11 in. wide over frames & 7 ft. 2 in. high inside. All cars will have M.C.B. 4 1/4 in. x 8 in. steel axles, C.P. standard bolsters, Westinghouse air brakes, M.C.B. cast-iron journal boxes & journal box lids, C.P. standard five-coil springs & 30-ton trucks & cast-iron wheels to weigh 600 lbs. each. The cars are now being turned out at the rate of 8 flat & 6 box cars a day.

FINANCE, REPORTS, ETC.

Canadian Pacific Fixed Charges.

Following is a statement of the fixed charges as presented with the last annual report :

FIXED CHARGES 1897.	
£7,101,500	1st Mortgage Bonds 5% ..\$1,749,931.66
\$7,000,000	Province of Quebec, 4 1/2% .. 283,500.00
£1,100	North Shore 1st Mortgage 5% .. 267.66
£200,000	Canada Central and Mortgage 6% .. 58,400.00
	Canada Central 1st Mortgage Sinking Fund.... 51,100.00
£200,000	St. Lawrence & Ottawa 4% .. 38,933.34
\$2,544,000	Man. S. W. Col. Ry. 1st Mortgage 5% .. 127,200.00
	Toronto, Grey & Bruce Rental .. 140,000.00
£4,007,381 15s. 5d.	Ontario & Quebec Debentures 5% .. 975,129.56
\$2,000,000	Ontario & Quebec (ordinary) 6% .. 120,000.00
£1,330,000	Atlantic & Northwest Ry. 1st Mortgage, less Government proportion ... 136,333.34
£750,000	Algoma Branch 5% .. 182,500.00
	Rental, Farnham to Brigham Jct. 1,400.00

Rental Mattawamkeag to Vanceboro	23,800.00
Rental New Brunswick Railway system.....	370,799.75
Rental of Terminals at Toronto	35,149.22
Rental of Terminals at Hamilton	17,931.35
Rental Hamilton Junction to Toronto	23,548.36
Rental St. Stephen & Milltown Ry	1,366.66
Interest on Montreal & Western Ry. purchase.	17,097.28

4. DEBENTURE STOCK.

Issues for general purposes.....	£3,933,748
Issue for China & Japan Steamers	720,000
Issue for Souris Branch	1,004,000
	£5,657,748 \$1,101,374.95

Issue for acquiring Mortgage Bonds of Roads of which principal or interest is guaranteed by C.P.R.:—	
1 year on.....	£3,756,235
6 mos. on.....	49,552
	3,805,787 736,036.80

Interest on Land Grant Bonds.....	£9,493,535 \$1,837,411.75
	591,567.33
	\$6,783,367.26

Canadian Pacific Land Grants.

SALES—	ACRES.	AMOUNT REALIZED.	AVERAGE PER ACRE.
Can. Pac. Land Grant, 1897	135,682	\$431,096	\$3.18
	1896	66,624	220,360
Man. S. West. Grant, 1897	63,800	234,644	3.68
	1896	21,254	88,568
Total sales.....	1897 199,482	665,740	3.33 1/4
	1896 87,878	308,928	3.51 1/2

POSITION OF LAND GRANTS AT DEC. 31, 1897.	
CANADIAN PACIFIC—	Acres.
Original Grant	25,000,000
Surrendered to Government under agreement of March 30, 1886....	6,793,014
	18,206,986
Souris Branch Land grants.....	1,611,520
	19,818,506
Sales to Dec. 31, 1897....	3,758,748
Less cancelled in 1897....	49,898
	3,711,850

Quantity of land unsold.....	16,106,656
MANITOBA SOUTH WESTERN—	
Total Grant.....	Acres.
	1,396,800
Sales to Dec. 31, 1897....	235,758
Less cancelled in 1897....	12,529
	223,229

Quantity of land unsold.....	1,173,571
COLUMBIA & KOOTENAY—	
Total Grant	Acres.
	190,000
Sales to Dec. 31, 1897.....	1,888
	188,112
Total land owned by the Company.....	17,468,339

C.P.R. Traffic Train Earnings, 1897.

	Mileage.	Earnings.	Earnings per traffic train mile.
Passenger.....	6,273,999	\$7,039,001.37	\$1.12
Freight.....	9,826,734	14,744,181.91	1.50
Total.....	16,100,733	\$21,783,183.28	\$1.35

The above includes earnings from mails, express & sleeping cars, but not lake steamers, Pacific steamers, British Columbia lake & river steamers, telegraph, elevators, rents, &c., the net earnings from which amounted to \$1,555,393.

EXPENSES PER TRAFFIC TRAIN MILE, 1897.

	Expenses.	Expenses per traffic train mile.
Maintenance of way and structures.....	\$3,018,748.90	0.187
Motive power.....	4,211,586.61	0.262
Maintenance of cars.....	955,013.12	0.059
Traffic and general expenses.....	4,849,451.76	0.301
	\$13,034,800.39	\$0.809

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases over 1897 from Jan. 1, 1898, are as under :

	Earnings.	Expenses.	Net Profits.	Increase.
Jan. ..	\$1,672,372.04	\$1,156,744.45	\$515,627.59	\$142,284.49
Feb. ..	1,494,596.98	1,070,929.62	423,667.36	38,844.28
Mar. ..	2,079,479.06	1,326,245.55	753,233.51	233,020.67
	\$5,246,448.08	\$3,553,919.62	\$1,692,528.46	\$414,149.44

The traffic earnings for April, 1898, were \$1,925,000, against \$1,601,000 in April, 1897, an increase of \$324,000.

C.P.R. Land Sales.

	Acres.	Amount.
	1898	1897
Jan.....	22,044	9,043
Feb.....	20,550	8,163
Mar.....	35,421	8,727
April.....	43,145	10,785
	1898	1897
	\$77,924.00	\$33,872.00
	66,399.00	27,573.00
	109,010.00	29,080.33
	140,275.84	37,745.00

Grand Trunk Earnings.

These figures include the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.

	1898	1897	Increase.
Jan.....	\$1,916,332	\$1,630,614	\$275,718
Feb.....	1,674,453	1,322,236	152,207
Mar.....	2,048,970	1,803,279	245,691
April.....	1,918,477	1,776,840	141,637
	\$6,558,232	\$6,741,979	\$816,253

MADE IN THE
FOLLOWING WIDTHS
24, 27, 32, 36, 50 & 72 inches.
STANDARD
SHADES
ALWAYS IN STOCK.

PURE MOHAIR
VELVET
"LISANGO"
REGISTERED-PATENTED.
Always Stamped "Lisango," and
Lister & Co., Ltd., Manningham.
Every yard on the selvages.

THE IDEAL FABRIC
FOR FURNISHING
PURPOSES
Specially Suitable
for Upholstering, Railway
Cars and Steamship
Saloons.

"LISANGO" is very strong, durable, and altogether the richest velvet extant.
MAY BE HAD OF ALL LEADING WAREHOUSEMEN.

Financial Notes, &c.

CALGARY & EDMONTON RY. net earnings for Mar. were \$21,310.33, as against \$6,740.86 for Mar., 1897.

DOMINION ATLANTIC receipts for the 3 mos. to the end of March were \$98,699, against \$93,002 for corresponding period of 1897.

DULUTH, SOUTH SHORE & ATLANTIC, net earnings for the 2 mos. to the end of Feb. were \$61,373, as against \$30,653 for corresponding period of 1897.

HAMILTON & NORTHWESTERN.—It was recently announced in England that the directors of the G.T.R. had decided to give to the holders of the Hamilton & Northwestern 6% 1st mortgage bonds maturing on June 1 next the option, until May 10, of accepting £98 of perpetual 4% consolidated debenture stock for each £100 bond, in addition to the ½ interest of 3% payable on June 1. The debenture stock offered will be entitled to the 1st quarter's interest, payable on July 14. The Co.

enable it to make some necessary repairs on the roadbed which the receiver is not authorized to pay out of earnings. Considerable improvements are necessary to the road this year & if some such arrangement as this is not made, it is regarded as improbable that these can go on.

MICHIGAN CENTRAL.—At the annual meeting of the stockholders at Detroit, Mich., May 5, the report of the directors showed that, while the receipts of 1897 fell somewhat below those of 1896, the net earnings were increased by the reduction of operating expenses. After paying the Canada Southern its proportion of net income, \$282,402, & a 4% dividend, the balance to the good is \$45,402. The annual report of the Lake Shore & Michigan Southern for 1897 showed net earnings of \$6,755,231, an increase of \$287,428; 6% dividends paid, \$2,967,990; surplus earnings, credited to income account, \$777,269.

MINNEAPOLIS, ST. PAUL & SAULT STE MARIE, gross earnings for the 2 mos. to the

Confederation in 1873, \$3,144,000 spent by the province in railway construction was charged against it, & that that debt had been paid. Ontario had expended only \$8 a head towards railway construction since Confederation, but had received from the Dominion for that purpose \$14 a head. On the other hand, P.E.I. had spent \$28 a head in building railways, but had only been aided to the extent of \$5 a head by the Dominion. Sir Richard Cartwright asked if P.E.I. would take back the Island railway as a free gift. Mr. Martin replied that if Ontario would take the canals P.E.I. would take the railways. It was often said that Government railways should be self-sustaining, but the revenues from the canals yielded far less than the railways in comparison with the expenditure upon them.

QU'APPELLE, LONG LAKE & SASKATCHEWAN Ry. & Steamboat Co.'s net earnings for Mar. were \$494.47, as against a loss of \$1,529.76 for Mar., 1897.

N. S. Ry. Co. N.E.C. 420



STONE ARCH ACROSS VERMILLION RIVER, CANADIAN PACIFIC RAILWAY.

will allot, at the price of £102 10s. per £100 of debenture stock, any extra amounts of that stock required by bondholders to enable them to register even amounts.

THE KINGSTON & PEMBROKE RY. has secured legislation to reduce its capital stock, & to authorize issue of 3% bonds in place of the 6% bonds now in the possession of bondholders. It is intended by means of preference stock to create a fund for wiping out liabilities to the amount of \$150,000, and for paying the arrears of interest on the 6% stock.

THE MANITOBA & NORTHWESTERN RY. owes Manitoba \$1,185,000 for which the government holds as security a lien upon 700,000 acres of the Co.'s lands, which cannot be sold by the government at a less price than \$2.50 an acre. Of this debt \$124,000 is for compound interest. The Co. wants the government to take over 590,000 acres at \$2 an acre and extinguish the debt, leaving the Co. 110,000 acres to sell. This arrangement would assist the Co. in re-organizing & would

end of Feb. were \$516,590, against \$417,272 for corresponding period of 1897.

ONTARIO & QUEBEC RY.—Interest due on June 1 on the 5% debenture stock of this Co. will be paid by Morton, Chaplin & Co., 6 Princes Street, London, Eng., on & after that date. The ½ interest on the shares at the rate of 6% per annum will be paid on June 1 at the Bank of Montreal, in Montreal, or by Morton, Chaplin & Co. in London, at the option of the holder. The debenture stock transfer books closed in London & Montreal on May 3, & the share transfer books closed in Montreal on the same date, all books re-opening on June 26. This line is leased in perpetuity to the C.P.R. for a rental sufficient to pay interest on the debenture stock & 6% dividend on the share capital.

PRINCE EDWARD ISLAND RAILWAY. In the House of Commons recently Mr. Martin repudiated a charge that P.E.I. had paid nothing towards railway construction. He claimed that at the time the Island joined

THE QU'APPELLE, LONG LAKE & SASKATCHEWAN Ry. & Steamboat Co. has issued its accounts for the year ended Nov. 30 last. The gross earnings were \$63,785; working expenses, \$60,715; net earnings of \$3,070, these figures comparing with \$40,869, \$41,856, & \$8,013, respectively, in the previous year. The increase in expenses "is attributable mostly to expenditure under the heading of maintenance of way & structures, which includes renewal of ties, repairs of track & roadbed, & snow expenses, which latter were very heavy during the winter of 1896-7. The road may now be considered to be in fairly good condition, although it has been found necessary to contract for a considerable number of ties to be put in during the coming summer."

QUEBEC CENTRAL net earnings for 1897 were \$139,993, against \$128,311 for 1896, & for the 2 mos. to Feb., 1898, \$2,858, as against \$13,262 for corresponding period of 1897.

CONSTRUCTION & BETTERMENT.**Montreal & Ottawa Railway.**

This line, which is leased to the C.P.R., leaves the Montreal & Toronto line at Vaudreuil 23.7 miles west of Montreal. The first portion, from Vaudreuil to Rigaud, 17 miles, was built about 4 years ago, with an extension to Point Fortine 7 miles. In 1896 the line was extended from Rigaud to Alfred 29 miles, & during last year this work has been going on on the extension to Ottawa. It is now nearly completed, & is expected to be opened for passenger traffic early in July, when express trains are expected to make the time between Montreal & Ottawa in 2½ hours with the greatest security and comfort. The distance from Windsor Street Station, Montreal, to the Central Station, Ottawa, is 111 miles, being 5 miles shorter than any other route. We are indebted to the Manager of Construction, R. W. Leonard, for the following particulars:

The line passes along the south shore of the Ottawa River & Lake of Two Mountains from Vaudreuil to Hudson, passing the summer resorts at Como & Hudson, thence somewhat inland through a beautiful agricultural country past Rigaud & Vankleek Hill to the celebrated mineral springs and summer resorts at Caledonia and Plantagenet, from which latter point the Nation River is navigable for small steamers up to Casselman on the C.A.Ry., a distance of about 20 miles. To the south of Navan & Blackburn is the enormous peat swamp known as the Mere Bleu, extending southward to Eastman Springs on the C.A.Ry.

The stations on the line, with distances from Montreal, are as follows:

Vaudreuil	23.8 Miles.
Little River	26 "
Isle Cadieux	28 "
Como	31 "
Hudson	33 "
Hudson Heights	33 "
Lavigne	37 "
Rigaud	41 "
St. Eugene	49 "
Stardale	54 "
Vankleek Hill	58 " Crosses Hawkes-
bury Branch C.A.Ry.	
McAlpins	61 "
Caledonia Springs	66 "
Alfred	70 "
Plantagenet	75 "
Pendleton	80 "
The Brook	86 "

Hammond	89 Miles. Crosses Rock-
land Branch C.A.Ry.	
Leonard	95 "
Navan	99 "
Blackburn	105 "
Ottawa	111 " Central Station.

The maximum grades are 0.80 per 100 or 42 feet per mile, & the curves are, with very few exceptions, not sharper than 1 degree. It is laid throughout with 73 lb. rails with flat head (section similar to that adopted by Am. Soc. C. E.). Many of the sidings at flag stations are fitted with patent switches & frogs, leaving the main line absolutely unbroken at these points, & making it particularly safe for fast running.

The principal structures are, Nation River Bridge at Plantagenet Springs, 4 steel spans of 100 feet on masonry substructure, Green's Creek, 30 ft. masonry arch culvert, about 4 miles from Ottawa; Rideau River Bridge at Ottawa, 8 spans half-deck plate girders of 65 feet on masonry substructure. There are many other smaller steel or masonry structures, timber being used only in smaller culverts & temporary work.

The line is fenced throughout with Page wire fence, posts set 25 feet apart.

Grand Trunk Improvements.

Chief Engineer Hobson informs us that the erection of the superstructure of the Victoria Jubilee bridge is progressing very well. Five spans at the west end are practically completed, excepting the back stringers, & the 1st span at the east end is in progress. As previously mentioned, the pier masonry has been finished.

General Manager Hays writes us:—"In addition to the reconstruction of the Victoria bridge, we have in progress & about completed the work on the Richelieu River bridge at Belœil, P. Q., a structure of 7 spans. We are also renewing the bridge over the River Rouge, near Coteau Junction, as well as preparing foundations for replacing the bridge across the Grand River (4 spans) east of Paris, Ont. All of these bridges are new & modern structures.

"Preparations are being made for putting in the foundation for an elevator at Midland, which will be erected under the auspices of this Co. Similar arrangements are being made at Goderich for the erection of an elevator there by the people of Goderich in connection with this Co.'s facilities.

"We propose to lay, during the course of

the next 2 or 3 months, some 80 miles of new 80-lbs. steel rail, on the southern division of the line, between St. Thomas, Niagara Falls & Fort Erie.

"Bids have been taken & contract made for the construction of an office building for our Point St. Charles shops, Montreal, to be located on the present shop grounds at the Congregation Street entrance. This will be a commodious structure, & will provide office rooms for the Superintendent of Motive Power, the master mechanics, & their respective staffs.

"There is also under construction at Niagara Falls, on property leased from this Co., a Railway Y.M.C.A. building, to the cost of which this Co. has contributed, & which will be utilized primarily by G. T. employees. A similar building is also under construction at Elsdon Station, Chicago, Ill."

Superintendent Jones, St. Thomas, Ont., writes us:—"We are now engaged in laying the first of the 80 miles of new steel it is the intention to put down this summer. Men are working westward from Niagara Falls toward Welland Jct. & St. Thomas. A ballast train has been employed & will continue throughout the season."

Chief Engineer Hobson informs us that the Belœil & Rouge River structures are ordinary deck truss bridges. The Belœil one consists of 6 fixed spans of 155 ft. each, with a draw span of 149 ft. the total length in all of the bridge being 1,107 ft. It is a single track structure. The River Rouge bridge, near Port Union, is a double track structure, consisting of one 135 ft. span.

Stone Arches on the C.P.R.

The view on page 63 shows the stone arch across the Vermillion River on the C.P.R. Sault Ste. Marie Branch. This structure has 1 span of 50 ft. & 4 of 20 ft., having a height of 36 ft. Chief Engineer Peterson, to whom we are indebted for the photograph, writes: "We have adopted stone structures at a good many of our crossings, instead of iron, as we find that by building these structures under a rubble masonry specification they can be built as cheaply as iron, besides being much more substantial, & while being as cheap, & in some cases cheaper, are much more economical, as they do not require painting, special floors or any repairs. A structure on the same general lines, but very much larger, is being built this year across the Kaministiquia River, west of Fort William."

MICA BOILER COVERING

For Locomotive, Marine and Stationary Boilers

Tested by Mechanical Experts of the C.P.Ry. Co., G.T.Ry. Co., M.C.Ry. Co., Boiler Inspection Insurance Co., and proved to be the

= = Best of All Non-Conductors = =

All Steam users should see the Mica Boiler and Pipe Covering—Flexible, Durable and Highest non-Conductor of Heat in the Market.

Full particulars, reports of trials, testimonials, prices, etc., from

Mica Boiler Covering Co., Limited, 9 Jordan St., Toronto, Ont.

Railway Construction in Manitoba.

From a railway point of view, the recent session of the Manitoba Legislature was the most important for many years, provision having been made for the extension of the Dauphin line to the great Saskatchewan River, for a line from Winnipeg to the Lake of the Woods, or Rainy River, to meet the Ontario & Rainy River Ry., thus providing an alternative line to Lake Superior; & for a 50-mile extension of the Northern Pacific system. Opposite the first page of this issue is a recent map of Manitoba, which will be found convenient to refer to in reading what follows here:

The Lake Manitoba Ry. & Canal Co.'s road, popularly known as the Dauphin line, runs from Gladstone on the Manitoba & Northwestern Ry., 35 miles northwest of Portage la Prairie, though the latter town is really its starting point as it has running powers over the M. & N.W., and runs to Sifton, 101 miles from Gladstone, near the west side of Lake Dauphin. From Sifton, connection is made with Lake Winnipegosis by a line of 23 miles, as shown by a dotted line on the map. The Dauphin line has done remarkably well, the Manitoba Government not having been called on to pay any of the interest on the bonds it guaranteed. The Legislature has authorized the Government to aid the Co. to extend its line from a point north of Sifton, northerly or northeasterly to the Great Saskatchewan River, which will probably be reached in the vicinity of the Pas, an approximate distance of about 140 miles from Sifton, by guaranteeing the principal & interest of the Co.'s 1st mortgage bonds for \$8,000 a mile, the bonds bearing 4% interest & maturing in 30 years, & by exempting the Co. from taxation for the same period, the bonds & interest to be a 1st mortgage on all the Co.'s property on the line. As security for payment of interest the Co. gives the Government a lien on 2,133 acres of its land grant inside the Province, for every mile built outside of Manitoba. Out of the land grant to be earned by the railway, the Co. is to convey to the Province 256,000 acres, for which the Province is to release its claims against the Hudson's Bay Ry. Co. & the Winnipeg & Great Northern Ry. Co., for bonds of the Province issued in 1886, to build some 40 miles of the Hudson's Bay Ry. from Winnipeg. In discussing the matter in the Legislature, Premier Greenway referred to the steps being taken in the Dominion Parliament to amalgamate the Lake Manitoba Ry. & Canal Co. with the Hudson's Bay Ry. Co., now known as the Winnipeg & Great Northern, & pointed out that the extension of the Dauphin line to the Saskatchewan will really be an important section of a direct line to Hudson's Bay, & will open up a very rich agricultural district, the Swan River Valley, in which every acre of homestead land will be taken up by July 1. It will also traverse the Carrot River and Red Deer districts.

J. H. Ross, Commissioner of Public Works in the Northwest Territorial Government, in addressing his constituents at Moose Jaw early this month, said W. Mackenzie had assured him that Prince Albert would be reached within two years & Hudson's Bay within four.

WINNIPEG TO LAKE SUPERIOR.

The much talked of proposal for the Manitoba Government to aid in the construction of an air line to Duluth has been abandoned in favor of another line to Thunder Bay. Premier Greenway says that from a commercial standpoint he was in favor of the Duluth route, but that as a considerable portion of the line would be in U.S. territory, it had been found impossible to secure absolute control, so that the maximum rates of freight provided for should be maintained. The Legislature has authorized the Government to aid

the Manitoba & Southeastern Ry. Co. to build, as the first link, a line southeasterly from Winnipeg 80 miles, to near Whitemouth Lake in township 4, range 14, east of the principal meridian & thence to the Lake of the Woods, or to near the mouth of Rainy River. The same bonus & exemption are given as to the Dauphin line above mentioned. Whitemouth Lake has been selected as a common point from which the line can run either across the narrows of the Lake of the Woods, entirely within Canadian territory, or go round the southwest corner of the Lake of the Woods, passing for some 35 or 40 miles through Minnesota. From Whitemouth Lake to Lake of the Woods is about 25 miles, & to the mouth of Rainy River about 60 miles, making the distance from Winnipeg to the Lake of the Woods by the Canadian line 103 miles, & by way of Minnesota 140 miles. It is not likely the line will go by way of Fort Frances, which is near Rainy Lake, as the most direct route is to keep north of Rainy Lake. The intention, of course, is to connect with the Ontario & Rainy River Ry. which is projected from Lake Superior westerly. In the event of the Government requiring the Co. to construct the line to a point on Rainy River, it may similarly bonus the portion of the line in the U.S., taking as security a mortgage on the line within Manitoba.

Some 50 or 60 miles from Winnipeg the line will traverse a district which will furnish a large supply of cordwood, & the Co. is to bind itself that, during the term of the guarantee, the rates on cordwood in car lots of a minimum of 30,000 lbs. to points on its line shall not exceed as follows per 100 lbs:

25 miles or less.....	2½ cents
50 " "	3 " "
75 " "	3½ " "
100 " "	4 " "
150 " "	4½ " "
200 " "	5 " "

On pine & spruce sawlogs for 150 miles, or from the point where the railway touches Rainy River, to Winnipeg, the rate is not to exceed \$2.50 per 1,000 feet, board measure. Mr. Greenway contends this will transfer the manufacture of lumber from Keewatin & Rat Portage to Winnipeg, as the logs used at the former points come down Rainy River, & it costs 75c. a thousand feet to raft them across Lake of the Woods. He also claims that in Winnipeg the offal will pay for the cost of manufacturing, & points out that lumber can be distributed from Winnipeg to prairie points at a less rate than from Keewatin.

In connection with this guarantee of rates Mr. Greenway says he has not been entirely successful, & that he has not been able to make a bargain which includes all that would be necessary to secure the through line to Lake Superior. This refers to the proposal for a wheat rate of 10c. per 100 lbs. from Winnipeg to Lake Superior.

When this was written (May 14) Mr. Mackenzie was in Winnipeg arranging for the work to be gone on with. T. Turnbull, C.E., who has been in charge of one of the survey parties for the Toronto-Sudbury line under H. Lumsden, C.E., has gone west with another engineer, Mr. Bruce, & they will have charge of the surveys, etc., for both the Dauphin extension & the line from Winnipeg southeasterly, which will be built under the charter of the Winnipeg & Southeastern Ry. Co., which has a land grant from the Dominion Government. Mr. Mackenzie's son, R. J., will have charge of construction. It is expected that the 80 miles from Winnipeg to Whitemouth Lake will be built first & then some 70 or 80 miles of the Dauphin extension. Both the Lake Manitoba Ry. & Canal Co. & the Winnipeg & Southeastern are controlled by Mackenzie & Mann; of the former line the officers are: President, F. Nichols, Toronto; Secretary, C. E. L. Porteous, Toronto; Superintendent,

D. B. Hanna, Winnipeg. It is probable Mr. Hanna will also operate the Winnipeg & Southeastern.

NORTHERN PACIFIC EXTENSION.

This Co. now has 268 miles of lines in Manitoba, its connection from its Dakota system at Pembina, along the west side of the Red River to Winnipeg, 68 miles; the Brandon branch, 145 miles, & the Portage la Prairie branch, from Winnipeg along the south side of the Assiniboine River to Portage la Prairie 55 miles. The province gave \$532,250 towards the construction of these lines. The Brandon branch starts from the Pembina-Winnipeg line at Morris, 25 miles north of the International Boundary, & runs almost due west for 102 miles to Belmont, whence it goes northwest to Brandon, crossing the C.P.R. Southwestern branch near Methven. The N.P.'s Brandon branch, as far as Belmont, is about midway between the C.P.R. Southwestern & Pembina Mountain branches. The Manitoba Legislature has now granted the N.P. a cash bonus of \$1,750 a mile to aid in building a branch from near Belmont, westerly, to a point at or near Hartney, on the C.P.R. Souris branch, a distance of some 50 miles, with an additional \$20,000 for the heavy work of crossing Lang's Valley. The Ry. Co. & its property & franchises are to be exempt from taxation for 20 years. The N. P. Ry. is represented in Manitoba by G. W. Vanderslice, Superintendent at Winnipeg.

G. A. Simpson, Engineer of the N.P. at Winnipeg, is already running a line for the branch. After Lang's Valley is crossed the work does not present any particular difficulties, but the crossing of the valley will be difficult & expensive. The valley is deep on both sides & is cut into by steep ravines. The work of finding a good roadway into & out of the valley is not an easy one. It is expected everything will be ready so that construction can be started early in June.

E. H. McHenry, Chief Engineer of the N. P.R., writes us in reference to this work as follows: The survey is now in progress, & the contracts for construction will be let very soon. The character of the work is the ordinary prairie construction, with the exception of a short section of heavy cutting in embankments across Lang's Valley. No bridges or other special structures of importance are required. Rails and rolling stock will be furnished by the N.P.R. Co.

It is said that a committee is asking farmers in the territory to be served by the branch to give \$8 for each 160 acres they occupy towards buying right of way for the line.

Mr. Greenway estimates that Manitoba may have to guarantee another \$1,000,000 to complete the link between the Winnipeg & Southeastern & the Ontario & Rainy River Rys., & that some branches will be necessary in Southern Manitoba & other parts of the province, to the extent of about 200 miles, for which \$350,000 would be required.

THE RAILWAY COMMITTEE of the Privy Council has granted the application of Massey Harris Co. to extend its tracks up Strachan Avenue, Toronto.

CANADIAN GOVERNMENT SYSTEM. The Dominion estimates for the fiscal year beginning June 1 next contain the following principal items: Intercolonial Ry., increased accommodation at Halifax, \$135,000; to increase strength of iron bridges, \$50,000; extension to deep water at North Sydney, for the Newfoundland Steamship Service, \$30,100; increased accommodation at Moncton, \$30,000; increased station & other accommodation at various points, \$6,000; new fences on Oxford & New Glasgow & Cape Breton divisions, \$6,000 each; for the P. E. Island Ry. \$15,000 is provided to shorten the main line by removing all curves.

Coast Railway of Nova Scotia.

The statements about this line made in our last issue on the authority of the Chief Engineer & Superintendent, L. H. Wheaton, were questioned, it being alleged that location had not been completed to Lockeport, but on the contrary no location had been made over, or around, the Birchtown Hills, west of Shelburne, where the engineering difficulties were said to be very serious; that the statement that the charter of the N. S. Southern Ry. having expired should be modified by a further statement that a bill extending the charter had been passed by the Legislature & assented to on March 11; that no progress had been made on the line between Lockeport & Halifax, not a sod having been turned; that the statement that "free right of way had been secured for the entire distance" was untrue, application to the County Councils of Queen's & Lunenburg, at the January sessions, to have the right of way made a charge on those counties having been refused, at least for the time being.

We referred the matter to Mr. Wheaton, who has sent us the following information in reply: Location has been substantially completed from Yarmouth to Lockeport. Regarding the Birchtown Hills, location was not fully completed, so far as the instrumental work was concerned, on 7 miles of this district, owing to the fact that work was closed down in the latter part of November on account of bad weather, before this portion had been completed; but a preliminary line had been run, which was entirely satisfactory to this Co., & sufficient cross sections were taken to project a location, which was so satisfactory that we have not since considered the matter, but will complete this location as soon as surveys are completed from Lockeport to Halifax. The profile & plan of this 7 miles are on file in the Provincial Government Engineer's office, as well as my own, & I would be happy to refer the correspondent to a view of either.

With regard to the fact that the N.S. Southern Railway charter had expired, this was correct at the time of my statement. They applied for a renewal of their charter at the February session of the Legislature, but it was not granted. The charter which they did secure after my statement of Mar. 5 was over an entirely different portion of the country, & the reasons for granting which I am



not free to discuss at this time, nor do I believe are they.

I did not state that considerable progress had been made on the line between Lockeport & Halifax. (Mr. Wheaton is correct as to this. It was a mistake in editing his copy.—Editor.) Ninety-seven miles of the proposed line between Yarmouth & Halifax is under contract with the Nova Scotia Development Co., which has completed 31 miles between Yarmouth & East Pubnico, which has been accepted by this Co., & has been in successful operation since Aug. last. Twenty miles of work beyond East Pubnico have been sub-let to H. J. Townsend & Co., of New Glasgow, N.S., who have up to May 4 (counting the work done since April 1, when construction

was resumed) completed 5 miles of grading, & masonry on over 12 miles. The location had been completed to Lockeport, 97 miles from Yarmouth, in 1895 & 1896, & 2 parties are now in the field pushing forward the surveys between Lockeport & Halifax, one party being at each end working towards each other. As intimated above, construction work was commenced on April 1, but we have had considerable bad weather during the month & have not made as satisfactory progress as we would desire, but the forces are being daily increased & work will be actively pushed.

Right of way has been granted us as follows: Town of Yarmouth, municipalities of Yarmouth, Argyle, Barrington, Shelburne, Queens, Chester & Halifax. In the municipality of Lunenburg, the vote was left open over a distance of 21 miles, until the route is decided upon, as we have in contemplation 2 different lines. In the event of the adoption of 1 of the 2 lines, 9 miles of this distance would be trackage rights over the N. S. Central Railway, for which no right of way has been required from the municipality.

At the last session of the Legislature the time for the completion of the line from Yarmouth to Lockeport was extended from Oct. 1 of this year, to Oct., 1899.

The total distance of the line between Yarmouth & Halifax will be slightly less than 215 miles, & will serve a population of 440 per mile, or a total of about 88,000. This line will open up one of the best tourists' resorts on the continent, & I think the climate here in summer cannot be equalled, in fact, it is an equable climate the entire year; & with the railway facilities which we propose to offer, I have no doubt that the business interests of the south coast of N.S. will be very materially advanced, & new industries established as fast as the line progresses.

Ambrose Kent & Sons

Manufacturing Jewellers,
156 Yonge St., Toronto.



We have been appointed official watch inspectors to the Grand Trunk Railway for Toronto and York.

CANADA SOUTHERN RAILWAY CO'Y.

The Annual General Meeting of the Canada Southern Railway Company, for the election of Directors, and other general purposes, will be held on Wednesday, the 1st day of June, 1898, at the hour of eleven o'clock in the forenoon, at the Company's Head Office in the City of St. Thomas.

NICOL KINGSMILL,

May 2nd, 1898.

Secretary C. S. Ry. Co.

LEAMINGTON & ST. CLAIR RAILWAY COMPANY.

The Annual General Meeting of the Leamington and St. Clair Railway Company, for the election of Directors and other general purposes, will be held on Wednesday, the 1st day of June, 1898, at the hour of eleven o'clock in the forenoon, at the offices of the Canada Southern Railway Company, in the City of St. Thomas.

NICOL KINGSMILL,

May 2nd, 1898.

Secretary L. & St. C. Ry. Co.

SARNIA, CHATHAM & ERIE RAILWAY COMPANY.

The Annual General Meeting of the Sarnia, Chatham and Erie Railway Company, for the election of Directors, and other general purposes, will be held on Wednesday, the 1st day of June, 1898, at the hour of eleven o'clock in the forenoon, at the Company's Head Office, in the City of St. Thomas.

NICOL KINGSMILL,

May 2nd, 1898.

Secretary S. C. & E. Ry. Co.



MONTREAL AND OTTAWA RAILWAY. ENTIRE LINE ENCLOSED WITH THE PAGE FENCING.

Almost every one of the leading railroads of Canada & the United States are using this fencing exclusively. It is the best, & still it costs much less than any other good fence. It is manufactured by the Page Wire Fence Co., Limited, Walkerville, Ont.

Mr. Wheaton's statements certainly appear conclusive, & we cannot help thinking that the questions raised, as indicated at the commencement of this article, were for the purpose of injuring the Co. by some one who had an interest to serve thereby.

The Stikine-Teslin Railway.

Since the defeat by the Senate of the bill



ON THE TRAIL NEAR TELEGRAPH CREEK, B.C.

confirming the agreement between the Dominion Government & Mackenzie & Mann for the construction of a railway from Glenora or Telegraph Creek to Teslin Lake & up to the time of writing (May 14) no further action has been taken by the Government in connection with the matter. In an interview on May 3, Mr. Mackenzie said there was still a large force of their men at work which had not yet been recalled, for the reason that it was impossible to reach them at the present time owing to the conditions of travel in that part of the country. They had received their instructions when they went north, & as they had not been countermanded, he supposed they were still at work, & would remain there until such time as it was possible to get word of the condition of affairs to them. Communication would soon be opened again, & they hoped to be able to recall the force at an early date. This recall is not, however, likely to take place as the British Columbia Government has acted with considerable promptitude. Early in April this Government determined to go on with the construction of a wagon road between Glenora & Teslin Lake, & this was followed by a decision to secure the construction of a through line of railway from an ocean port in B.C. to Teslin Lake.

The B.C. Government at the end of April entered into an agreement with Mackenzie, Mann & Co., represented by Lewis Lukes, for the construction of a through narrow-gauge line from Teslin Lake to an ocean port in B.C., to be selected jointly by the Dominion & B.C. Governments. Following are the principal provisions of the contract:—The railway to be divided into 2 sections. The northern section from the Stikine River to Teslin Lake. The southern section from the Stikine to the ocean port. Work to be commenced simultaneously on both sections at the Stikine before June 1, next. Northern section to be finished by Aug. 31, 1899. Southern section to be finished within 2½ years after selection of ocean port. Government to grant cash subsidy of \$4,000 a mile for both sections, the whole of such subsidy not to exceed \$1,600,000. The subsidy to be pay-

able upon completion of each section. The railway to be assessed at \$2,000 a mile when completed. The Government to receive 4% of the gross receipts of the railway. The Railway Company to have the option of repaying at any time the total subsidy. Mackenzie, Mann & Co. to immediately construct, for the purposes of the railway, a wagon road over the northern section along the located line of railway. The wagon road to be free to the public for transportation purposes during the construction of the railway. Mackenzie, Mann & Co. to take over & assume all expenditure in respect of any such wagon road under construction by the Government at date of contract with them. Security for the due performance of the whole work to be given to the satisfaction of the Government in the sum of \$75,000 for each section forthwith upon the execution of the contract. The Government to have supervision of the construction of the wagon road, also of the railway rates.

The impression prevails that the Dominion Parliament will also be asked to aid the work, & a pretty well informed Ottawa correspondent says there is likely to be a postal subsidy of \$80,000 a year for 20 years, & a land grant in the Yukon of 10,000 acres a mile, or about 5,000,000 acres.

Work on the Canadian Pacific.

The spur from Outremont to Montreal Junction, a distance of 6 miles, is being double-tracked. When this is completed the entire line between Viger Square & Windsor Street Stations will be double-tracked. This has been rendered necessary on account of the demand for more convenient connection between the two stations.

The great increase in passenger traffic has made it necessary for the C.P.R. to increase the accommodation at nearly all its hotels. The principal addition is at Quebec, where over 100 bedrooms have been added to the Chateau Frontenac. A number of improvements are being made in the Hotel Vancouver. The chalet hotels at Field, Glacier & North Bend are having their dining-room accommodation increased. At Glacier the annex is having an additional story put on to provide more bedrooms, & a billiard room is being built. At Revelstoke the hotel built last year has already proved too small & is being enlarged. At Moose Jaw a station & dining-hall is being built. The Moose Jaw, Revelstoke, Field, Glacier & North Bend places will be heated with hot water & lit with acetylene gas.

The Co. has recently built a small dock at Wabigoon, as several boats will be plying there this year for mining traffic.

The Co. has leased the Caldwell Block, opposite the post-office, Winnipeg, for a term of years, & it is having it fitted up as an uptown ticket office, & for the commercial telegraph office.

The Dominion Estimates of 1899 provide

\$8,600 to pay the C.P.R. balance for work in B.C. under award.

Estimates have been prepared for changing the line from Trail to Rossland, recently bought from the Columbia & Western Ry. Co. to standard gauge. It has not yet been decided whether the switch backs will be retained or done away with, but probably they will be kept.

Surveys are proceeding under Mr. Tye, C.E., for the line from Robson to the Boundary Creek district. The work will be very heavy, largely rock.

The first stone of the Vancouver station was laid April 19, & work is proceeding satisfactorily under Contractor Tompkins. It is expected this splendid building will be completed next year. The Co. is also building several hundred feet of docks.

CROW'S NEST PASS BRANCH.

Owing to the large number of structures on this line between Lethbridge & Macleod, a list of which was given in our March issue, it was impossible to complete that section of the work first; so track-laying was started from Macleod westward, & material & supplies were taken in by the Macleod branch from Calgary on the main line. The track-laying between Lethbridge & Macleod was completed at the end of April, & the passenger train from Dunmore Jct. on the main line now runs through to Macleod via Lethbridge. All construction material from the east is now going in this way. Up to May 5 track had been laid on the branch to a point 107 miles west of Lethbridge.

In the House of Commons, April 14, the Minister of Railways stated that \$453,730 has been paid to the C.P.R. on account of the construction of 43¾ miles on the Crow's Nest Pass Ry.

An agitation was started by the Rossland & Trail Boards of Trade to induce the C.P.R. to change the proposed route of the Crow's Nest Pass Ry. so as to cross the Columbia River at or near Trail, place Rossland on the main line & sidetrack Nelson. Vice-President Shaughnessy, in writing the Rossland Board of Trade on the subject, said: "I do not think we would be inclined to consider



ON THE STIKINE RIVER.

any departure from our original plans, nor are we of the opinion that any practical route for a railway can be found between the south end of Kootenay Lake & the Columbia River via the Salmon River without going south into U. S. territory. Meantime, I have requested our engineers to make an examination, so that we may have the necessary data at hand if at any time in the future we decide to build a branch line through there."

Construction & Betterment Notes.

THE GRAND TRUNK is putting in 10 additional sidings, with a capacity of 60 cars each, at Belleville, for freight traffic.

INTERCOLONIAL.—E. Crossman has a contract for erecting between 3,000 & 4,000 rods of fencing between Moncton, N.B., & Campbellton. A. J. Tingley has the contract for the division between Moncton & Newcastle. The new station at Moncton, N.B., is about finished.

THE MICHIGAN CENTRAL expects to build a bridge over Big Creek, near Tilbury, this year. Bridge Engineer Douglas informs us it will consist either of a single span, 60 ft. in the clear, with steel-plate girders resting on masonry abutments; or it will be made in 2 spans each 30 ft. in the clear. The contract has not been let.

OTTAWA & NEW YORK RY.—The contractors have about 50 men employed on the bridge across the Racket River. The stone for both piers is on the south side ready for use. The excavations on the south side are also made & ready for the concrete & the crushed stone & cement are on the ground. The iron for the Helena & Racket bridges has arrived at Moira on the O. & L.C. Ry. & will soon be put in place.

Chief Engineer F. D. Anthony has furnished us the following particulars: The first shovelfull of earth was moved August 23, 1897. When snow & frost shut the work down for the winter we had accomplished the grading & bridging of the 53 miles between Cornwall & the Junction of the Canada Atlantic Ry. near Ottawa, & laid the track on it. From Cornwall south to Moira, N.Y., including Cornwall Island, something over 50% of the grading was accomplished, including the abutments & pier for the bridge crossing St. Regis River. All this work is now being pushed to completion as rapidly as possible, ballasting of the track laid last fall included, over half of which is done. The St. Lawrence bridge work was started last fall with the rest of the work, & the abutments & 2 of the piers in the south channel bridge were completed last fall, & the other 2 piers were carried up above water. These 2 piers will be completed this week. The false work at this point is now going up, & the metal erection will begin this week. The abutments, foundations for viaduct approaches, & the piers for the drawbridge over the Cornwall

Canal, are completed, & preparations for the remaining 4 piers, which will support the cantilever span over the north channel of the St. Lawrence, are well under way. Balch & Peppard are the contractors for the road complete, outside of the big bridges which are being built by U.S. firms. The construction company is called the New York & Ottawa Co.

PEMBROKE SOUTHERN.—It is said that a contract for 5 miles of the Golden Lake end of this line has been let to J. G. Sherwood, of Emsdale, Muskoka.

QUEBEC CENTRAL.—In reference to an item we published last month about a proposed extension of the shops at Newington, near Sherbrooke, General Manager Grundy informs us "it is the intention of the Co. to extend the shops, but at present the work is not going forward."

TILSONBURG, LAKE ERIE & PACIFIC.—General Manager Teall informs us, under date of May 7, that about half the steel is laid on the connection between this line & the M.C.R., & work is progressing on the substructure of the Otter Creek bridge, which will be a steel structure 756 ft. long, made by the Dominion Bridge Co. It will rest on 30 cylinders of 4 ft. in diameter, which are sunk in the bottom of the pond until they strike clay bottom, then they are filled with concrete. The picnic grounds at Pt. Burwell are being cleaned & buildings repainted, & everything put in readiness for the summer season. The interlocking plant at the junction of the T. L. E. & P. Ry. & the G.T.R. air line will be completed in the course of a week.

In consequence of the dividing of the C.P. R. Eastern Division lines east of Chalk River between two Superintendents, the east-end dispatchers, J. West, W. Rose & E. Dion, have been moved from Ottawa to Viger Square Station, Montreal.

A persistent rumor has been going round to the effect that the divisional offices of the C.P.R. were to be moved from Vancouver. Manager Whyte assures us there is nothing in it. What probably gave rise to it is the fact that the Co. is making a change in the system of paying Pacific Division employes from payments in cash through the pay car to payment by wages cheque, & it is probable the cheques will be issued by the Paymaster at Winnipeg, who will act for both the Western and Pacific divisions.

OPERATING.**G.T.R. Graphic Car Record.**

The G.T.R. has instituted a unique & important change in its car record office. M. C. Sturtevant, the newly-appointed Car Service Agent, has adapted to the System the graphic method of car-tracing, which has been applied to the G.T.R.'s fast freight system, & will be of great advantage to shippers because of the immediate detection of the position of any given car which obtains under such a system.

There are only certain classes of freight to which the new system will apply, these being perishable goods, such as dressed beef, fruit, fresh fish, glucose, poultry, eggs, canned goods, butter, liquors, ale, beer, live stock, high explosives, vegetables, & all other such "rush" goods. Under the old system the position of any given car could be ascertained only by tracing it from point to point. This took much time, & caused considerable annoyance & delay. Under the graphic plan the entire G.T. System is divided into 11 divisions, each being the run of one engine. Every train of freight is known by a cipher, & all cars numbered in sequence. All stations at which freight originates, or comes on or goes off, are known as manifesting stations, & are assigned certain letters for telegraphing & also a certain number of manifesting numbers.

As each train passes from one division of the system to another, a report is wired to Mr. Sturtevant, at Montreal. The progress of each car & each train, accordingly, is registered on a board, 24 feet long, which represents the G.T.R. System in miniature, with the names of all important stations. Each fast freight car is represented by a peg, colored according to originating point, Chicago, for instance, being white, & New Orleans yellow, etc. In this way the Car Service Agent in Montreal can tell at a moment's notice the precise position of all goods in transit. A record is kept of the time occupied in each divisional run, each stop & change of engine, & each delay of any kind. Every engineer & conductor, therefore, is under immediate supervision, & all unsatisfactory performances are at once detected & corrected.—Montreal Herald.

General Superintendent McGuigan informs us that the standard code of the American Railway Association will go into effect on the G.T.R. system at noon, July 1.

Drummond, McCall & Co.

Iron, Steel and Metal Merchants

and Importers

Montreal.

PIG IRON.

Buffalo Furnace Co.: "Buffalo Scotch,"
"Summerlee" "Calder."

"C.I.F." Three Rivers Charcoal.
Ferro-Silicon. Ferro-Manganese.
Speigeleisen.

"U. S." Iron for Stay Bolts.

Seebohm & Dieckstahl's "Self-Hardening" Steel.

"Snow" Steam Pumps.

Cast Iron Water Pipes.

"Ludlow" Valves and Hydrants.

Railway Car Wheels.

Iron and Steel Plates, Sheets and Bars, General Metals.

Tonnage Basis on the C.P.R.

Formerly the C.P.R. handled its freight trains on a loaded car basis, each train consisting of so many loaded cars. The slightest consideration will show that this is not a correct system, as a train might include flats, coal cars, small box cars, 40 ton cars, light & heavy refrigerators, & so on. Owing to the great variation of train loads under the old system the management decided to adopt the tonnage basis, which went into effect on the main transcontinental line, from Chalk River to Cartier, & on the Sault Ste. Marie branch, on Dec. 1 last, & on Jan. 1 was put into effect over the entire system. The statistics as now compiled show carrying capacity of all cars in the train, the actual loads carried & the percentage of actual weight to capacity, average rating of engines, average tonnage hauled & percentage of haulage to rating, the train performance, number of trains run, percentage on time & average detention, the tons of freight hauled per ton of coal used by engine, besides loaded & empty car mileage & engine mileage.

All these statistics are shown for each section of the line & for trains moving in each direction. The new form of conductor's train report also indicates the detentions, if any, to freight trains, for switching & for all other causes at each point, & embraces a very complete system of handling way freight. Coupled with this report is a form of fuel ticket which shows the locomotive foreman, on the return of the engine to the roundhouse, its actual performance per ton of coal used. The management informs us that the new system is working very satisfactorily.

Detention for Trainmen's Meals.

F. W. Jones, Assistant to the Manager of the C.P.R. Western Lines, has issued the following circular: "A number of cases have recently occurred where important freight trains have been delayed for engine or trainmen (in most cases the former) to get meals. Owing to strong competition the Co. is obliged to guarantee schedule time on through freight shipments, & every delay of this kind, no matter how small, interferes with the record. All concerned are notified that rule 180 will be strictly adhered to; that anyone going to meals without express permission from the train dispatcher will be severely dealt with, & that train dispatchers have been instructed not to give this permission except in cases where meals can be obtained without increasing delays which are unavoidable on account of crossing trains or other similar cause. Train & enginemen will have to arrange their meals at terminal points without delaying trains & start out on every trip with sufficient food to carry them to destination.

Grand Trunk Operating Statistics.

The Superintendent of Motive Power gives the following particulars for the last half of 1897 & 1896:

	6 months to Dec., '97.	6 months to Dec., '96.
Total expenditure.....	\$2,137,524	\$2,223,423
Train mileage.....	9,048,134	9,699,516
Expenses per mile, train.....	23.84c.	22.92c.
" " engine.....	19.87c.	18.77c.
" " car.....	1.40c.	1.41c.
Cars moved per train, passenger.....	4.7	4.9
" " freight.....	25.4	22.8
" " mixed.....	11.3	12.1

The Superintendent of the Car Department gives the following figures for the same periods:

	6 months to Dec., '97.	6 months to Dec., '96.
Cost of renewals & repairs.....	\$50,000	\$50,000
Miles run by cars, passngr. 15,252,123		18,218,225
" " freight, 139,323,470		134,080,535
Cost per mile, car.....	382c.	390c.
" " train.....	6.53c.	6.12c.

It has been decided to remove the whole of the plant for dealing with the C.P.R. heavy engines from Donald, B.C., to Revelstoke shops, where the whole of the mountain power will undergo repair & maintenance. The divisional point will be moved to Laggan, where arrangements will be made for stationing the light engines used east of the divide, the heavy power remaining at Field, as now.

NEWS OF THE ROADS.

COAST RY. CO. OF NOVA SCOTIA.—At the annual meeting, at Yarmouth, April 4, the old directors were re-elected. The reports of the officers were read, & we are officially informed they made a very creditable showing & were most satisfactory to all concerned. At a subsequent meeting of directors the following officers were re-elected: T. Robertson, President; C. Cooper, Secretary; L. H. Wheaton, Chief Engineer & Superintendent.

GRAND TRUNK MILEAGE.—The G. T. System, including lines east of St. Clair & Detroit River, and the Detroit & Michigan Air Line, comprises the following mileage: length of roadway, 3,506 miles; 2nd track, 405¾; sidings, 751½; total, 4,663¾. Of this, 4,576¾ miles have steel rails & 87 iron, 61 of the latter being in sidings & 26 in track.

GRAND TRUNK-WABASH.—Speaking of this contract, Bradstreets says: The arrangement is an exceedingly important one for both companies concerned. The G.T. obtains an increase of income, & the Wabash a terminal practically in Buffalo, bringing it into direct connection with a number of lines centering at that city. It is also to be considered that while the alliance between the Wabash & the G.T. has been more or less close ever since Mr. Hays left the former road to assume the management of the latter, the present deal indicates that these relations are to be closer, & that the Canadian road will thus obtain facilities for reaching many important sections & cities in the Western & Southwestern States.

GREAT NORTHWEST CENTRAL.—A despatch from Winnipeg, April 26, gave a report that the C.P.R. had acquired the Great Northwest Central Ry. & would extend the line this year. When shown the despatch Sir Wm. Van Horne said he had nothing to say on the matter. It would not surprise us at all to learn that the C.P.R. had secured control of this line; it would prove a valuable feeder to that system. At present it runs from Chater, 5 miles east of Brandon, on the C.P.R.'s main transcontinental line, to Hamiota, 51 miles, passing through the splendid agricultural districts of the Little Saskatchewan & Oak River. Its extension through the Beulah & Oak River districts is eagerly desired by a large number of settlers, who went in in anticipation of construction which has been off deferred.

The following paragraph appeared simultaneously in several Toronto papers May 7, evidently having been supplied. Having been unable to verify any of the statements we give it for what it is worth. "The results of the relief afforded to the Great Northwest Central Ry. Company by the recent judgment of the Privy Council in Delap et al v. Charlebois et al are already apparent. Life has returned to the company. Some time must yet elapse before the formal steps necessary to get rid of the receiver & have control of its own affairs can be taken. Notwithstanding this, however, Mr. Delap has engineers & surveyors already upon the ground picking up the authorized location for the extension, & getting everything in shape, preliminary to beginning the work of further construction. A. F. Macallum, C.E., & party left Ottawa last Monday evening, en route to Brandon, for this purpose. A bill is now before the

House of Commons, which has passed the Senate, authorizing a new issue of bonds by the company to enable it to finance for the expenditure necessary, & extending the time for the further construction one year, which the company will require to finance & carry through the work."

NIAGARA FALLS & SUSPENSION BRIDGE RY. CO.—The report for the quarter ended Mar. 31, filed with the N.Y. State Railway Commission: Gross earnings, \$13,602.38; operating expenses, \$8,603.41; net earnings, \$4,998.97; other income, \$3,256.43; gross income, \$8,255.40; fixed charges, \$9,370; deficit, \$1,114.60.

THE NORTHERN PACIFIC'S General Manager has notified heads of departments that so far as possible all positions will be kept open for employes on the line who enlist in the U.S. army for the present war.

ST. CATHARINES & NIAGARA CENTRAL.—Pursuant to the judgment in the case of Rolls vs. this Ry., tenders will be received up to June 25 by the Master in Ordinary, Toronto, for the purchase of the line, which is about 12 miles long, extending from St. Catharines to the junction with the Canada Southern. The purchase to include all the Co's property, franchises, &c., subject to vendors' liens.

ST. CLAIR TUNNEL CO.—At the Sarnia, Ont., assizes, May 2, the case of Mrs. Dunn against the Tunnel Co. was heard. Plaintiff's husband was a conductor in the employ of defendant, & was asphyxiated in the tunnel. After part of the evidence had been given, defendant consented to a verdict for \$2,500. It had previously paid \$1,900 into court. The amount is to be divided in the proportion of \$1,500 to the infant child, & \$1,000 to the widow.

Index to Railway Legislation.

Under this title, J. E. W. Currier, Private Secretary to the Minister of Railways, has issued a most valuable index to all public & private legislation by the Dominion Parliament respecting steam & electric railways, railway bridges & tunnels, to which the Railway Act, 1888, & amendments, is applicable in whole or in part, from 1867 to 1897, inclusive.

The number of the chapter & the year in which each separate act was passed are contained in the Index. Numbers also appear in brackets opposite to acts referring to subsidies, to indicate the description of each subsidy under a corresponding number in the report of the Minister of Railways for the year ended June 30, 1897, & similar references are made to land subsidies.

Subsidies have been granted to a number of railway companies which are incorporated under acts of the different provincial legislatures; & the titles of all such railways which have earned the whole or any portion of the subsidies granted by the Dominion, or to which subsidies have been voted, or which have entered into contract, are included in the Index.

A supplementary index of telegraph, telephone & cable companies which have been incorporated from 1867 to 1897, & a synopsis of Orders in Council having force of law, which have been published in the Canada Gazette, affecting railways, are also given.

The work has already proved of great value in our office, & we have every confidence in recommending it to everyone in any way interested in railway legislation. The price is \$1.50.

C.P.R. Passenger Traffic.

Passengers carried.....	1897	1896
Passenger cars.....	10,128	10,128
Freight cars.....	20,000	20,000
Earnings per passenger.....	18.5¢	18.5¢

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TORONTO, CANADA, MAY, 1898.

RAILWAY PROJECTS.

Toronto to Sudbury & James' Bay.

Sir Wm. Van Horne's statement that the C.P.R. would build a line from Toronto to Sudbury, has been followed up by an actual survey which is progressing rapidly under the management of Hugh Lumsden, Chief Engineer of the Crow's Nest Pass Branch, who came east some two months ago to take up this important work. The line as surveyed starts from Kleinburg, 21 miles northwest of Toronto on the Co.'s Owen Sound Branch, going by Nobleton, Schomberg, Bondhead & Cookstown to Barrie, thence by Midhurst, Craighurst, Coldwater, Bala the outlet of Muskoka Lake, Foot's Bay on Lake Joseph, & Parry Sound, crossing French River at Cantin's Island, & then by as direct a route as possible to Sudbury. Mr. Lumsden has 4 survey parties in the field under the following assistants: C. B. Smith, Kleinburg to Severn River; A. E. Morris, Parry Sound to Severn River; C. A. Mitchell, Parry Sound to French River; A. Brunel, French River to Sudbury. It is expected the survey will be completed early in June. We are in a position to say that a very good line with easy grades is being secured. The distance from Toronto to Sudbury will be about 250 miles, as against 306 by the present North Bay route.

As to what the intentions of the C.P.R. are in regard to this line, it is impossible to speak with any degree of certainty. For years the Co. has shown such a line on its maps as projected & it may be that it will go on with construction. Of course the quarrel with the Grand Trunk is an incentive to construction, but that may soon be patched up, & if friendly relations are again restored it is more than likely that the resumption of the C.P.R.'s traffic from Toronto over the G.T. to North Bay would be part of the deal. There is no doubt that the diversion of this business via Smith's Falls & Carleton Jct. has been a heavy loss to the G.T.R., which may be expected to do everything possible to secure it again. It is hardly likely that the C.P.R. would go in again under the old arrangement & a deal in the way of running powers is more likely. It must also be borne in mind that the U.S.-Spanish war has done much to

disturb financial conditions & that this is not a good time to finance railway projects.

The C.P.R. has no charter for a line from Toronto to Sudbury, but it would appear that it could be built under the powers conferred by the Co.'s original Act of 1881, which gave the Co. the right, from time to time, to lay out, equip, maintain & operate branch lines of railway from any point or points along its main line to any point or points within the Dominion. In 1895 W. Mackenzie, H. D. Lumsden, C.E., G. A. Cox, F. Nichols & D. D. Mann obtained a Dominion charter for the James' Bay Ry. Co., with power to build a line from Parry Sound to Doke's Indian reserve, thence to the easterly line of Lake Wahnapitae, & thence to the mouth of Moose River, James' Bay. In 1897 another Act was passed, empowering the Co. to extend its line from Parry Sound to Toronto, it being provided that the railway from Parry Sound to James' Bay, and the extension from Parry Sound to Toronto, should be commenced within 2 years therefrom, and 15% of the capital stock of \$1,000,000 expended thereon. This charter is controlled by Mackenzie & Mann, & might, no doubt, be utilised should the C.P.R. wish to build under it.

For the country north of the C.P.R. main line there is power to build under a charter granted in 1884 to W. Hendrie, W. Thomson, Jas. Walton, J. Macnabb, W. B. McMurrich, J. C. Bailey, P. A. Scott, A. Kirkwood & A. Nairn, who were incorporated as the Lake Nipissing & James' Bay Ry. Co., with power to build a line from, at or near the junction of the Callender branch with the C.P.R., or from near Callender to Moose Factory, or some other point on James' Bay. In 1889 the name was changed to the Nipissing & James' Bay Ry. Co. In 1896 the acts relating to this Co. were consolidated, the proposed railway was declared to be a work for the general advantage of Canada, & it was provided that the line should be completed to Lake Temiskaming within 3 years, to Lake Temiscaminge within 5 years, and the balance within 7 years from the passing of the Act. It is said this charter is also controlled by Mackenzie & Mann, or at all events it is in hands that are friendly to their interests.

At the last session of the Ontario Legislature the James' Bay Ry. was granted, to aid in the construction of 90 miles of its line from Parry Sound to, at or near Sudbury, \$3,000 a mile for a distance not exceeding 40 miles, & the unearned subsidy of \$3,000 a mile for a distance not exceeding 50 miles which was granted to the Nipissing & James' Bay Ry. in 1889, the unearned subsidy being transferred to the James' Bay Ry. This makes a total cash subsidy of \$270,000 for the 90 miles.

A short time ago the City Council of Toronto appointed G. Gooderham, J. H. Mason, R. Davis, W. R. Brock, L. M. Jones & Mayor Shaw as the Toronto & Hudson's Bay Railway Commission, W. T. Jennings, M. Inst. C.E., being appointed Secretary & Consulting Engineer to the Commission. At the present session of the Dominion Parliament the Com-

missioners secured incorporation as the Toronto & Hudson's Bay Ry. Co., with power to construct & operate a standard gauge line from Toronto to, at or near the mouth of Moose River, Albany River or Churchill River, on the west side of Hudson's Bay & James' Bay, with a branch to the Northern Pacific Jct. Ry. at or near Gravenhurst, a branch southward from the main line adjoining the watershed near Timagami Lake, thence to the Northern & Pacific Jct. Ry. at or near North Bay or Nipissing Jct. & a branch from near Parry Sound to or near Sudbury, thence to Wahnapitae Lake. In consequence of the opposition of the holders of the two charters above mentioned, it was provided that the operation of the Toronto & Hudson's Bay Ry. Act should be suspended for 2 years as far as power to lay out & construct a line is concerned, & if at the end of that time the James' Bay Ry. Co. has commenced & substantially proceeded with the construction of its line from Toronto to Sudbury via Parry Sound, & if at the end of such time either the James' Bay Ry. Co. or the Nipissing & James' Bay Ry. Co. has commenced & substantially proceeded with the construction of a line northward from the present main line of the C.P.R., the Act shall be similarly suspended during such time as the substantial proceeding with the construction of the lines above mentioned continues, & upon the completion of those lines the Act shall cease.

British Columbia Railway Aid.

The B. C. Legislature has adopted a bold & progressive policy for extending the railway facilities of the Province. Last year it authorized the raising of a loan of \$2,500,000, out of which the proposed railways from English Bluff to Boundary Creek via Penticton, & from Bute Inlet to Quesnelle, were to be subsidized. At its recent session the Legislature authorized a further loan of \$2,500,000, making a total of \$5,000,000, continued the above mentioned subsidies & added subsidies for a line from Boundary Creek to Robson, & from an ocean port in B. C. to Teslin Lake. The subsidies now offered are as follows:—

1. Standard gauge railway from Penticton, at the foot of Okanagan Lake, to the Boundary Creek, approximately 100 miles.
2. Standard gauge railway from Robson to Boundary Creek district, to connect with the 1st mentioned line, approximately 80 miles.
3. Standard gauge railway from the coast in the neighborhood of English Bluff, near Point Roberts, via Chilliwack to Penticton, approximately 230 miles.
4. Standard gauge railway from Bute Inlet to Quesnelle, approximately 230 miles.
5. Narrow gauge railway from a seaport in B.C. to Teslin Lake, approximately 400 miles.

This is a total of 1,040 miles. Work on the Penticton-Boundary Creek & Robson-Boundary Creek roads is to be commenced by Aug 8, 1899; on the English Bluff-Penticton & Bute Inlet-Quesnelle roads by May 1900. In

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the case of the Robson-Boundary Creek line being built by a company entitled to a land grant for the construction of such line, the subsidy shall only be paid to the company on its giving up its claim to the land grant to such portions of its line. The terms for the Stikine line are dealt with fully in another article in this issue.

The lines mentioned above as nos. 1, 2 & 3, will provide a through route from the coast to the Columbia River, from which point connection will be made by the Columbia & Kootenay branch of the C.P.R., with the Crow's Nest branch at Robson, thus affording 2 lines from the coast to the prairies of the Northwest.

Notes of Projected Lines.

THE CANADA ATLANTIC is securing legislation from the Dominion Parliament to enable it to extend its line from a point near the River Richelieu, in Missisquoi East to the U.S. boundary in Missisquoi or Brome, so as to connect with the railway systems of the U.S., also to extend its line to Montreal, through Soulanges & Vaudreuil, crossing the Ottawa River near St. Ann village, & to construct a branch or extension of the railway on the island of Montreal to the St. Lawrence River in or below Montreal.

A CASSIAR TRAMWAY.—B. Williams & A. A. Hughes give notice that they propose to build a tramway under the provisions of the B.C. Tramway Incorporation Act, 1895, from the head of steamboat navigation on Big Windy or Taku Arm of Tagish Lake, Cassiar district, southwesterly by the most feasible route, about 15 miles through Warm Pass, near the head of a branch of the Skaguay River. Thence westerly to the westerly limits of B.C.

C.P.R. ALGOMA TRAMWAYS.—Last year the C.P.R. had surveys made for a series of steam or electric tramways to connect the south end of little Wabigoon Lake with upper Manitou Lake, to overcome several portages, & from near the south end of Cedar Lake, which connects with the Manitou Lakes, to a point below the cascades on the Manitou River, from which point there is regular navigation into Rainy Lake. Nothing has been done about construction & there appears to be some doubt as to whether the work will be gone on with, in view of the possible early construction of the Ontario & Rainy River Ry.

C.P.R. STONEWALL BRANCH.—A Winnipeg paper says: There is every indication that the C.P.R. will extend its line north from Stonewall, if not this season, at all events early next. Two motives are said to dictate this policy, a desire on the part of the Co. to occupy the field, & the belief that such a line will prove a valuable feeder to its main line. The country is well settled for a considerable distance north, & nearer Lake Winnipeg there are valuable forests of spruce & tamarac. Just where the line will go is not the subject of definite report, but those living at Gimli hope it will bend off to the east & strike the lake at some point in their settlement.

THE DETROIT RIVER BRIDGE.—Promoters are at work, but it is not likely that any headway will be made in this Congress. In any case, the U.S. Chief of Engineers is now too busy to take the matter up, & his report would have to be presented before anything in the way of building could be done. The Windsor & Detroit Union Bridge Co.'s bill has passed the Railway Committee at Ottawa.

GUYSBORO, N.S.—A paragraph is going the rounds of the press to the effect that a contract has been entered into by the Dominion Government & signed in Ottawa by Mr. Baker of Philadelphia, for the construction of a railway from Sunny Brae to Country Harbor, Guysboro Co., & from Country Harbor cross roads to Guysboro, a total distance of

80 miles. It is further stated that Mr. Baker will visit Halifax to conclude a contract with the Provincial Government, for the usual subsidies, & that work will be commenced at an early date.

INTERNATIONAL BRIDGE, FORT ERIE.—There is no probability of an early decision by the G.T.R. management as to improving this bridge, the legislation recently obtained at Albany, N.Y., which was previously referred to in these columns, having been sought simply to anticipate future needs.

KETTLE VALLEY RY.—It is said that D. C. Corbin, President of the Spokane & Northern, who was refused a charter by the Dominion Parliament for this line, will build wholly within the U.S., with branches to the Canadian frontier. It is said he will start from a point further south, on the Spokane Falls & Northern, westward to Eureka, Wash., on Curlew Creek, & thence to Okanagan River, with branches to the Canadian frontier, near Cascade City, Carson & Midway, in B.C.

LAKE ERIE & DETROIT RIVER.—On May 11 the ratepayers of Dutton defeated a by-law to grant \$5,000 towards the proposed extension from Ridgeway to St. Thomas, by a vote of 78 to 19. Gen. Supt. Woollatt informs us that it is impossible to say anything definite as to the extension at present, but he expects to be in a position by the middle of June to say definitely if work will be gone on with this year.

ONTARIO & RAINY RIVER RY.—The impression prevails that some 80 miles of this line will be built this year, from the point of departure on the Port Arthur, Duluth & Western Ry., near Whitefish Lake, toward Moss Township & the Shebandowan gold belt. Thence the road would run through the Atikokan iron country & the Seine River gold district. The charter of this Co. is controlled by Mackenzie & Mann, who bought it from the Port Arthur owners last year. The Ontario Legislature has voted cash subsidies for this line on four different occasions. In 1894 it voted a subsidy for 35 miles; in 1895 for 45 miles; in 1897 for 85 miles; & in 1898 for 40 miles, a total of 205 miles at \$3,000 a mile, amounting in all to \$615,000. Last year the Dominion Parliament voted a cash subsidy of \$3,200 a mile from the first 80 miles of the line, & an effort is now being made to obtain further aid from the Dominion. The fact that the Manitoba Legislature has granted Mackenzie & Mann a guarantee of bonds for 80 miles of line to be built under the Winnipeg & Southeastern charter from Winnipeg to Whitemouth Lake, will be a powerful incentive to them to push on the Ontario & Rainy River to meet it at the Lake of the Woods, thus providing a second through line from Winnipeg to Lake Superior.

SKEENA RIVER TO YELLOWHEAD PASS.—Hon. T. M. Daly, with associates, including Sir Chas. Ross & J. B. McArthur, is applying to the B.C. Legislature for authority to build a railway from the head of steamboat navigation on the Skeena River, to the Yellowhead Pass. The line would traverse a portion of the route which the Federal Government proposes to open from a port in B.C.

WINNIPEG & FORT ALEXANDER RY.—The Manitoba Legislature has incorporated W. A. Ducker, of Winnipeg, & others, as a company to build a railway from Beausejour, Tyndall, or some near point on the C.P.R., to the navigable waters of the Winnipeg River, which runs into Lake Winnipeg at Fort Alexander. The distance is something like 40 miles.

WINNIPEG & ST. ANDREW'S RY.—The application to the Manitoba Legislature referred to in our last issue, for the incorporation of a company to build a steam or electric railway between Winnipeg & St. Andrew's Rapids, has been granted. The incorporators are E. F. Hutchings, of Winnipeg, & others.

FREIGHT MATTERS.

Canadian Freight Association Meeting.

The 15th annual general meeting was held at Montreal April 7, 40 members being present. C. J. Smith, 1st Vice-President, took the chair, in the absence of President J. J. Wallace.

The following were elected active members: W. P. Hinton, A.G.F.A., Canada Atlantic Ry., Ottawa; J. J. Mossman, D.F.A., Wabash Ry., Buffalo; A. C. Stonegrave, Com. Agt., Central Vermont Ry., Montreal; M. C. Sturtevant, Car Service Agt., G.T.R., Montreal.

The Secretary reported having received a letter from J. Porteous, 1st President of the Association, conveying his best wishes to his Canadian railway friends, & indicating his desire to retire from active membership. This was reluctantly acceded to, and Mr. Porteous, by virtue of the Constitution, becomes an honorary member.

Reports from various committees were adopted. The report of the Inspection Committee showed that from Mar., '97 to Feb., '98, the number of cars reported was 145,467, and amount collected \$6,783, a proof that this department is growing in importance, & gradually bringing about good results.

Notice was renewed of a motion by G. M. Bosworth & J. W. Loud, that the minimum C. L. for 5th class freight be 24,000 lbs., the Chairman of Classification Committee to submit a list of exceptions to the rule at next meeting.

Officers and Standing Committees for the year were elected as follows:—

PRESIDENT, C. J. Smith, Montreal; 1st VICE-PRES., J. W. Loud, Montreal; 2nd VICE-PRES., W. B. Bulling, Jr., Montreal; SEC.-TREAS., J. Earls, Toronto.

CLASSIFICATION COMMITTEE—E. Tiffin, J. Pullen, W. MacMillan, G. A. Browne, W. B. Bulling, Jr., F. J. Watson, J. Hardwell, W. P. Hinton, W. Woollatt; J. Earls, Chairman.

INSPECTION COMMITTEE—J. H. Hanna, G. Collins, G. Cassidy, F. Conway, J. N. Sutherland, F. F. Backus, M. Burton; J. Earls, Chairman.

CAR SERVICE COMMITTEE—J. B. Morford, A. White, J. H. Walsh, E. H. Edwards, M. C. Sturtevant, G. S. Cantlie, W. P. Hinton; J. Earls, Manager.

EXECUTIVE COMMITTEE—G. M. Bosworth, J. W. Loud, C. J. Smith.

The summer meeting will be held at Montreal, July 7.

COMPANIES REPRESENTED IN THE ASSOCIATION

Allan Steamship Line.
Atlantic & Lake Superior Ry.
Bay of Quinte Line of Steamers.
Bay of Quinte Ry. & Nav. Co.
Boston & Maine R.R.
Brockville, Westport & Sault Ste. Marie Ry.
Canada Atlantic Ry.
Canada Eastern Ry.
Canadian Government Ry. System.
Canadian Pacific Ry.
Central Ry. (New Brunswick).
Central Ry. (Nova Scotia).
Central Ontario Ry.
Central Vermont R.R.
Coast Ry. of Nova Scotia.
Cumberland Ry.
Delaware & Hudson R.R.
Dominion Atlantic Ry.
Dominion Steamship Line.
Erie & Huron Ry.
Grand Trunk Ry.
Great Northern Ry.
Intercolonial Ry.
Irondale, Bancroft & Ottawa Ry.
Kingston & Pembroke Ry.
Lake Erie & Detroit River Ry.
Lake Ontario Steamship Co.
Maine Central Ry.
Manitoba & Northwestern Ry.
Merchants' Line Steamers.
Michigan Central R.R.
Montreal & Ottawa Ry.
New Brunswick & Prince Edward Island Ry.
New York Cent. & Hud. Riv. R.R.
Northern Pacific & Manitoba Ry.
Northwest Transportation Co.
Ottawa & Gatineau Ry.
Orford Mountain Ry.
Portland & Falmouth Ry.
Quebec & Lake St. John Ry.
Quebec Central Ry.
Richelieu & Ontario Navigation Co.
St. Catharines & Niagara Central Ry.
St. Lawrence & Saguenay Ry.
Seeley's Packet Line.

Toronto, Hamilton & Buffalo Ry.
 Grand Trunk Ry.
 Montreal & Ottawa Ry.
 Montreal & Lake St. John Ry.

Cutting Rates from Chicago.

Montreal railway officials are complaining bitterly of the incisions being made in the lake & rail rates, at the very opening of the season by the Canada Atlantic Ry. East-bound freight rates are as badly demoralized as they were before the recent meeting of the board of control of the Joint Traffic Association. This meeting made east-bound rates a subject of consideration, & was followed by an edict, issued by the different eastern line presidents, for the re-establishment of tariff rates. Rate irregularities, however, have grown worse & worse, & to-day all east-bound tariffs out of Chicago are absolutely demoralized. In fact, the freight rate situation to-day is quite as bad as the passenger rate irregularities, although interest in the former department is confined to railway officials & shippers alone.

The Canada Atlantic, which is the baby line in eastern business, is accused of doing much to bring about this deplorable rate condition. With their new fast freighters from Chicago to Parry Sound, & their direct connection with Montreal, they have secured a large proportion of Chicago grain for export from Montreal. This business, the other roads claim, was secured by secret cutting. No open reductions have as yet been announced by any of the Eastern lines, although the presidents of the roads have ordered that whenever any secret cuts are discovered, open rates meeting the cut should at once be put into effect. Although it is an open secret that shippers can obtain grain rates at 10 c. per 100 lbs., & less, none of the roads dare openly accuse the other, since all have been engaged in secret cutting.

The Canada Atlantic, on the other hand, declares it has simply met the rates made secretly by its rival lines, & that it could not permit itself to be underbid by its big competitor the Grand Trunk. Railway officials state that there is every likelihood of the freight rate demoralization existing for some considerable length of time.—Montreal Herald.

Vice-President Slaughter of the C.P.R. will go to the Pacific Coast this month on his annual tour of inspection, accompanied by Chief Engineer Peterson. He will return over the route & completed portion of the Crow's Nest Pass Branch.

The Yukon Military Supplies.

In the House of Commons May 2, N. F. Davin said: "I would like to know whether it is true that the G.T.R. has received the contract for sending militia supplies to the Yukon?"

"No," was Dr. Borden's reply, "the G.T.R. has not received any contract, but is sending a portion of the supplies over its line. A much larger portion is going over the C.P.R."

"Therefore," queried Mr. Davin, "the G.T.'s portion will go over the Northern Pacific?"

"I suppose so," was the rejoinder of the Minister of Militia.

"And therefore," continued Mr. Davin, "it will go from U.S. ports & be shipped in U.S. bottoms."

Freight Carried by the C.P.R.

DESCRIPTION.	1896.	1897.
Flour..... Barrels.	3,291,299	2,911,072
Grain..... Bushels.	32,528,256	37,756,201
Live Stock..... Head.	566,219	663,773
Lumber..... Feet.	636,128,418	831,895,383
Firewood..... Cords.	166,831	185,208
Manufactured articles..... Tons.	1,070,675	1,310,827
All other articles..... Tons.	878,261	994,813

FREIGHT TRAFFIC.

	1896.	1897.
Tons carried.....	44,420,555	5,174,484
Tons carried 1 mile.....	1,769,958,865	1,955,911,006
Earnings per ton per mile....	0.75 cents.	0.78 cents.

Freight Notes.

T. F. Savage, of Guelph, formerly station agent at Walkerton, has been appointed travelling freight agent for the C.P.R.

The Secretary of the Dominion Live Stock Association has issued a circular stating that all the railways in Ontario have agreed to carry pure-bred live stock at half rates.

More freight was received at North Sydney, N.S., last month than in any other month since the I.C.R. has been running there. Large quantities of flour from Ontario points are being shipped to Newfoundland via North Sydney & S.S. Bruce.

The Lake Erie & Detroit River Ry. has made arrangements with the Wabash Co. which practically constitutes it the Wabash freight agent in London, Ont., thus giving merchants another competing line. It will

take freight to & from Buffalo east & Detroit west.

The following joint circular has been issued by the general traffic managers of the Grand Trunk & West Shore Rys.:—The Grand Trunk Despatch has been organized to operate over the G.T.R. System, West Shore R.R. & connections. Sumner Hopkins is appointed Manager, with office in Brush St. Station, Detroit, Mich.

It is calculated that over 100% more acreage will be under crop in the Dauphin district of Manitoba this year. That this is believed to be the case is shown by the number of applications which have been received by the Dauphin Ry. for permission to erect elevators & grain warehouses at station points. There will be quite a number of these built during the summer so as to be ready for the wheat crop next fall.

The Quebec & Lake St. John Railway, according to the report presented at the recent annual meeting, is furnishing more than half of the lumber exported from Quebec. Last year the quantity aggregated over 60 million feet. The number of passengers carried during the year on the whole system was 153,669 as compared with 130,009, in the previous year, & the number of tons of freight 199,441, as against 150,346 tons. Several new mills were built during 1897, & are giving the Co. an increased traffic in sawn lumber. The pulp mill at Chicoutimi is completed, & is shipping its product daily. Another pulp mill is about to be erected near Roberval, & a chemical pulp mill at Lake Buchette & the extensive water power at the Jacques Cartier River is also likely to be utilized.

The General Freight Agent of the C.P.R. at Toronto has issued a circular to agents stating that in past years great difficulty has been experienced in making prompt & correct delivery of package freight shipped by the lake & rail route, owing to the insufficiency of marks placed on it by shippers, or owing to the total absence of any marks that would enable the goods to be associated with the waybills. Agents must take up at once with shippers & impress upon them the necessity of addressing their shipments, or marking them in such a way as will enable ready identification of the goods at transfer points, otherwise it will scarcely be possible at all times to deliver goods with despatch or to the proper consignees. Waybills are to show in full the marks on packages, so that on arrival of freight at Owen Sound or Fort William it may be readily checked with the waybills.

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NOTICES TO MARINERS.

By the Dominion Department of Marine.

All bearings, unless otherwise noted, are magnetic & are given from seaward, miles are nautical miles, heights are above high water, & all depths are at mean low water.

No. 15, APRIL 7.—IMPROVEMENTS IN AIDS TO NAVIGATION IN THE ENTRANCE TO PARRY SOUND, ONT.—1. Buoy on Seguin Bank.—On the opening of navigation this year a platform buoy, surmounted by a pyramidal slatwork painted black, the pyramid surmounted by a white flag, will be moored in 5 fathoms water immediately south of the shoalest part of Seguin Bank, Georgian Bay, in the approach to Parry Sound. It is proposed, later in the season, to replace this buoy by a steel gas buoy. Due notice will be given of the change.

2. Buoyage of the Main Channel.—The main channel between Seguin Bank & Cameron Island will be marked on the opening of navigation by 17 spar buoys placed close to the channel side of every shoal. The positions, color & number of the buoys are as follows:—

1. Extra heavy black buoy on Red Rock Shoal (McGowan Shoal).
2. Extra heavy red buoy on Knight's Shoal.
3. Black buoy W.N.W. of Three Star Shoal.
4. Red buoy on Three Star Shoal.
5. Black buoy on Vankoughnet Ground.
6. Red buoy on Ariel Rock.
7. Black buoy off Twin Rock.
8. Red buoy on Hall Reef.
9. Black buoy off Ardent Rock.
10. Red buoy on Telegram Rock.
11. Black buoy N. of Lyon Rock.
12. Red buoy N. of Hooper Island Shoal. This may later be replaced by a gas buoy.
13. Black buoy on Nias Island Shoal.
14. Red buoy on Hooper Island Shoal.
15. Black buoy on west extremity of Carling Rock Shoal.
16. Red buoy W. of Hugh Rock.
17. Black buoy on east extremity of Carling Rock Shoal.

The buoy shown on Admiralty chart no. 1731, on the north-east extremity of Nias Island Shoal, will not be replaced, & the buoys on the south edge of Carling Rock Shoal will be moved in position.

3. Light on Depot Island.—A lighthouse is in course of erection at the western extremity of Depot Island, at the entrance to Depot Harbor. Until the lighthouse is completed a fixed white light will be shown from a lantern hoisted on a pole or exhibited from the unfinished lighthouse tower, from a height of 30 ft. above the water.

Sailing directions, which will appear in the forthcoming edition of the Georgian Bay & North Channel Pilot, replacing "Directions to Cameron Island by main channel," are given in the notice, but are omitted here owing to their length.

No. 16, APRIL 14.—RAILWAY BRIDGE AT LACOLLE, QUE.—The railway bridge described in Notice to Mariners no. 34 of 1897 over the Richelieu River, at Lacolle, has been completed, & the passage on either side of the pivot pier may now be used. At night the centre of the swing is marked by a light on top of the iron work which shows white when the draw is open & red when closed. In addition each of the four guide piers is marked by a white light. This notice affects Admiralty Chart 797.

No. 17, APRIL 18.—LAKE ST. CLAIR, TWENTY-FOOT DREDGED CHANNEL.—Notice is given by the U.S. Lighthouse Board that, on or about April 15, 1898, lights, as follows, will be established to mark the lower reach of the Lake St. Clair 20-foot dredged channel:

Isle aux Pêches range beacon lights.—Front light.—Two fixed white lens-lantern lights, 10 ft. apart horizontally, in line across the axis of the channel, & 18 ft. above lake level, on a cluster of piles on the prolongation of the axis of the dredged channel, in about 19 ft. of water, about 2,000 ft. south-westerly from its lower end. The north-westerly of the 2 lights will illuminate 180° of the horizon to the northward of N. E. by E. $\frac{1}{2}$ E. & S. W. by W. $\frac{1}{2}$ W., so that, in coming up the Detroit River on the Windmill point range line, this light may be run for as soon as it becomes visible. The structure carries a white day mark. In passing vessels must keep to the westward of this light. Bearings of prominent objects from the light are: Outer end Grossepoint club house dock, N. by E. $\frac{1}{4}$ E.; Lower entrance (E. side) beacon light, N. E. $\frac{1}{4}$ E., about 4,100 ft.; Windmill point lighthouse, W. $\frac{3}{8}$ S.

Rear Light.—Two fixed white lens-lantern lights, 10 feet apart horizontally, in line across the axis of the channel, & 38 feet above lake level, on a cluster of piles in about 8 ft. of water, on the prolongation of the axis of the dredged channel, about 4,650 ft. S. W. $\frac{1}{4}$ W. in rear of the front light. The 4 lights of this range mark 2 range lines parallel with & 5 ft. on either side of the axis of the dredged channel. When at the upper end of the channel, about abreast of Grossepoint light vessel, with the lights open so that the rear light of one range is in range diagonally across the axis of the channel with the front light of the other range, the observer would be about 40 ft. from the axis of the channel & could safely increase the apparent horizontal distance between the lights about 8 times without approaching too close to the line of buoys marking the edge of the channel. About midway between the light vessel & the lower end of the channel the apparent horizontal distance

between the lights may be safely increased to 16 times, & still further increased as the lights are approached.

Lower entrance (W. side) beacon light.—A fixed white lens-lantern light, 14 ft. above lake level, on a pile cluster in about 17 ft. of water on the westerly side of the lower entrance to the dredged channel. Bearings of prominent objects from the lights are: Outer end Grossepoint club house dock, N. by E. $\frac{1}{2}$ E. Lower entrance (E. side) beacon light, E. N. E. $\frac{3}{8}$ E. Windmill Point lighthouse, W. S. W. $\frac{3}{8}$ W.

Lower entrance gas buoy.—On the same date this black buoy, showing a fixed white light during periods of 10 seconds, separated by eclipses of 10 seconds, marking the westerly side of the lower entrance to the dredged channel, will be discontinued.

Lower entrance beacon light.—On the same date the color of this light will be changed from white to red, & it will hereafter be called "Lower entrance (E. side) beacon light." This notice affects Admiralty Charts 330, 332 & 678.

No. 18, APRIL 22.—TORONTO EAST PIER LIGHTS.—The small column fixed red light hitherto maintained on the outer edge of the East Pier, Toronto, has been moved N.W. by N. 2,400 ft. & now stands on the inner end of the pier, forming with the new front tower which has been erected on its former position a range showing the line of the pier. The light is, as heretofore, fixed red, elevated 18 ft. above the lake level & can be seen from all points of approach from the bay. The new skeleton tower stands on the position formerly occupied by the column light. Lat. N. 43° 37' 48". Long. W. 79° 20' 20". The light is occulting red, bright 6 seconds with intervals of darkness of 6 seconds. It is elevated 43 ft. above lake level, & should be seen in clear weather at a distance of 8 miles, over an arc of 180° from N.N.E. around to S.S.W. The apparatus is dioptric of the 6th order. The building consists of a steel skeleton framework surmounted by an enclosed top & lantern. The framework is painted red, the enclosure & lantern white & the roof red. The height of the building from base to vane is 40 ft. This notice affects Admiralty Charts 678, 797 & 1152.

No. 19, APRIL 26.—MINES IN U.S. HARBORS.—Information has been received by this Department that mines have been laid in Boston Harbor. The entrance to Nantasket Roads by Fort Warren & the Broad Sound Entrance to President Roads are dangerous to all vessels. Steamers must only enter or leave the harbor at high tide & through the

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men ship channel. Mines are also about to be laid in the harbor of Portland, Maine.

NO. 20, APRIL 20. CHART OF BAY OF QUINTE, ONT.—A chart of the Eastern portion of the Bay of Quinte, from Kingston to Deseronto, prepared from a survey of the Chief Engineer of this Department, has lately been published by the British Admiralty. Copies of the same may be obtained from the agent for Admiralty charts in Canada, C. Potter, Toronto. The number of the chart is 2961.

Toronto Harbor Notices.

Harbor Master Postlethwaite has issued the following notice to mariners:

LIGHTHOUSE POINT.—Placed buoys off the point of the Island to mark the Bank to the S. & S.W. of the Lighthouse Point. One iron can buoy no. 2, painted red, with black ring on the end, the Point Lighthouse bears from it N.W. by N. Another can buoy (red), no. 6, the Lighthouse bears from it N. $\frac{3}{4}$ W. Another can buoy (red), no. 8, the Lighthouse bears from it N. by E. $\frac{1}{4}$ E. Another can buoy (red, with white ring round it & white ball on end), no. 10, the Lighthouse bears from it N.E. by N. A can buoy painted red, no. 12, stands on the N.W. point of the Bank, & bears from the Lighthouse E.N.E. in 5 fathoms water. The can buoys to the west are in 8 fathoms water, except no. 12, which is in 30 ft. water. It is not safe for vessels to go inside them, as the Bank rises very abruptly. An additional spar buoy (red) is placed on the N.W. point of the Island in 14 ft. water.

WEST CHANNEL.—The red spar buoy on the starboard side of the Channel stands in 14 ft. of water, distant 620 ft. from west end of Queen's Wharf. One black buoy stands on the north side of the Channel in 14 ft. water, distant 620 ft. There are 11 ft. of water in mid-channel. The best water is on the south side of the Channel near the breakwater. On entering Harbor the course is from east end Breakwater to Fisherman's Island, nearly due east.

EASTERN CHANNEL.—The buoys in this Channel are placed thus: Two black spar buoys on the west or port side coming into the Bay, & two red spar buoys on the east or starboard side. One red spar buoy at south end of east pier, to mark the stone protecting the pier. This channel is 105 ft. wide, & has a depth of 15 ft. at this date. Between the piers the water is 16 ft. deep for full width of channel 400 ft. Landmarks for entering are the cupola of St. Lawrence Hall in line with a point midway between the tower of the Metropolitan Church & St. Michael's Cathedral spire. The course by compass, coming in, is N.W. by N. The water to-day, 9 in. above zero. A new lighthouse, with red light occulting every 5 seconds, & 33 ft. from deck of pier to centre of lamp, has been erected on the south end of the eastern pier. The old lighthouse with red light has been moved to the north end of eastern pier.

Via Edmonton to the Yukon.

Isaac Cowie, of Edmonton, writes:—I have pleasure in furnishing you with the following brief account of the Athabasca & Mackenzie Route to the Yukon. Having been for many years the Chief Officer in Charge of the Northern Transportation Service of the Hudson's Bay Co., I have had full opportunity of knowing it in a practical manner.

From Edmonton you cross the watershed, between the waters flowing into Hudson's Bay & those which empty into the Arctic Ocean, by an ordinary waggon road some 90 miles in length. On this a company has been formed to run a weekly stage service, connecting with the train arriving here on Monday even-

ing. "The Edmonton & Athabasca Stage Co." will also contract for freight as well as passengers with their light hand baggage.

Embarking on the broad Athabasca at Athabasca Landing, the traveller is swept down amidst beautiful scenery for 125 miles to the mouth of the Pelican River, where in low stages of water there is a small rapid; the sweeping current of the spring or early summer hurries him on without pausing to examine the Dominion Government's boring plant, which has here tapped the enormous petroleum deposits which he will further on see exuding from the banks of the valley for 200 miles further down stream. Forty miles further on we arrive at Grand Rapids, where easy navigation ends for a time. Here an island which cleaves these mighty rapids in twain, forming a natural bridge, not across, but parallel with the course of the stream, is utilized for carrying overland the cargoes of the boats from the head of dangerous navigation to the foot thereof. The boats thus lightened of their loads safely shoot the rapids, guided by their skilful crews. Stretches of easy & exciting navigation succeed each other in frequent intervals on from Grand Rapids to Fort MacMurray. Of these the Burnt, the Boiler, & the Long, like the Grand, are caused by the river flowing over a bed of immense boulders. Then follow the limestone ledges, cutting through which the river passes over the falls of the Crooked, the Stony, the Cascade, & the Mountain Rapids. One mile above the Hudson's Bay Co.'s post at MacMurray, a small boulder rapid shows in low water. Then after a run of pleasurable excitement, arrested at the Cascade alone to lighten the boats & make a portage of the cargoes should circumstances render it necessary, there is clear sailing down the Athabasca for 170 miles to Lake Athabasca, across which at a distance of 70 miles from the mouth of the river stands the important Hudson's Bay Fort Chippewa, from which waterways radiate to the west up the Peace River, to the east along the Athabasca Lake to the highly mineralized districts of rocks north & east thereof, & to the north by the Riviere du Roche to the Slave River, down which we proceed 95 miles to Smith Landing. Here we have the alternative of proceeding by a waggon road of 16 miles to Fort Smith at the foot of the Slave River rapids, or else of shooting & portaging over them by the old Hudson's Bay boat route. These rapids & portages are the Cassette, the Mountain, & the Pelican, over which both boats & cargoes must go overland a quarter of a mile at each. Then comes the Rapid of the Drowned, where half the load is taken by boat & half by land.

Then comes a clear run of 1,200 miles on which an ocean going vessel could run, down to Peel's River. From Fort Smith to Great Slave Lake, down the Slave River, we pass in a run of 196 miles the mouth of Salt River, on which an immense mine of beautiful crystallized salt, of a capacity to supply the world, exists. Reaching Fort Resolution at the mouth of the Slave River, the Great Slave Lake has to be crossed to its outlet—the magnificent Mackenzie River. At the north & east of this inland sea, with its myriads of rocky islands, galena in enormous quantities is everywhere to be found. Gold-bearing quartz has also been discovered by prospectors, & accessible from these waters on the east lie vast deposits of virgin copper on the Coppermine River.

Leaving this potential sea of treasures behind we hie on down the Mackenzie. Passing Fort Providence, 168 miles from Resolution, the swift current of the mighty river sweeps us on amidst grand scenery to Fort Simpson at the mouth of the Liard. Pausing here at this, the headquarters of the vast Mackenzie River District, to hear of the success of the miners who have proceeded up the gold-bearing Liard to mine thereon, or proceed by it to the Francis River & Lake & the head waters

of the Pelly-Yukon, or to hear of the new finds which have been made on other hitherto untried rivers flowing east from the Rockies into the Mackenzie, we again push off on the broad bosom of the river for our final run of 778 miles of uninterrupted navigation to the mouth of Peel's River. On this stretch Forts Wrigley, Norman & Good Hope are passed, & intelligence gained. Then up stream for the first time on the entire run, to Fort McPherson, 13 miles.

At this point 3 alternative routes present themselves. Those who like can proceed up the Peel, the gravels of which are known to yield gold & at the head waters of which gold-bearing quartz has been found, & there establish a mining camp. If the wish be to go on to the Klondike there are 2 ways of getting over to the Porcupine. The old summer route to the Porcupine is across the watershed on foot, men carrying pack loads of 40 lbs. each, besides rations, &c., for a trip of 6 days, or else by the water route for small boats, which necessitates only a portage of a quarter of a mile at the height of land. From thence the Porcupine is reached by running down small creeks & rivers, & from then on there is free navigation to Fort Yukon for good sized steamboats (275 miles).

Stikine Transportation Rates.

The transportation companies directly interested in the Stikine River business have taken a positive & apparently firm stand for the maintenance of uniform rates. The adoption of a scale of charges was the chief business of a meeting held in Vancouver at the end of April, & from the fact that 30 river steamers were represented, it is evident that the combination will have the absolute dictation of terms with regard to the river business. The meeting was held under the chairmanship of H. M. Kersey, & those present—representing the entire fleet to be operated this season on the Stikine—were:

A. Cameron, E. J. Coyle & G. L. Courtney, representing the C.P.R.'s 12 boats.

J. S. Harvey, representing F. C. Davidge & Co.

F. Peters, representing The Klondike Mining, Trading & Transport Co.

H. M. Kersey, representing the Canadian Development Co.

G. T. Legg, representing the Union S. S. Co.

F. W. Vincent, representing the C.P.N. & H. B. Co's.

P. Hickey, E. D. Self, & H. H. Cohen, representing the Cassiar Central Ry. Co.

S. G. Yerkes, representing the Tacoma Port Orchard Co.

E. Dewdney & J. T. Bethune, representing the Canadian & Oriental Co.

J. A. Mara and W. F. Bullen (by proxy).

It was decided that rates should be fixed with Wrangel as a starting point, there being so many vessels competing for business between Tacoma, Seattle, Victoria, Vancouver & Wrangel, that rates could not be controlled for the ocean trade. It was decided to adopt an especially low rate on horses & cattle with a view to assisting the transportation of outfits & men beyond Glenora, & the following scale of freight charges was agreed to—the approximation in the second column being, of course, beyond the scope of this meeting, although mentioned so that the public may thoroughly understand the scale:

	Wrangel to Glenora.	Victoria to Glenora.
Cargo of all sorts (except lumber) per ton measurement or weight at ship's option.....	\$40 00	\$50 00
Lumber per 1,000 feet B.M.	60 00	75 00
Horses, mules & cattle, per head.....	25 00	43 00
Dogs, sheep & goats.....	5 00	12 50

As to the passenger rates, \$20 was agreed upon as the price of first-class transportation

from Wrangel to Glenora, exclusive of meals or berth. This will make the first-class rate from Victoria to Glenora approximately \$50, & the second-class \$35. South-bound passage rate was also discussed, \$10 being favored by many; nothing definite, however, was done on this rate, it being laid over until a later meeting. Through freight quotations from the Coast were also laid before the meeting, \$50 a ton being favored by many, but this also was laid over.

The rates mentioned are to be considered minimum rates, & apply on the up-river trip only, & no cut, either by way of commission or otherwise, shall be made. An agreement has been signed by those at the meeting, binding all to maintain these rates until the agreement of the lines to an alteration shall have been obtained.—Victoria Colonist.

Richelieu & Ontario Navigation Co.

The Co. has met the railway cut rates by a \$4.50 rate from Toronto to Montreal, including meals & berths, by the steamer Hamilton. From Toronto to Kingston the rate is \$2. The Hamilton commenced running the last week in April.

At a meeting of the directors, April 12, a half-yearly dividend of 3% was declared. It was decided to begin the Montreal-Quebec service with the steamers Montreal & Canada, the Montreal to remain on the route the whole season, the Canada to be transferred later on to the Saguenay route, her place on the Montreal-Quebec route to be taken by the Quebec.

The Co. will begin the operation of its Toronto-Montreal service May 30 with the Spartan, Corsican, Algerian & the Bohemian. Later in the season, if the Toronto is completed in time, she will take the place of the Algerian, & the Bohemian will meet her at Prescott, continuing the trip to Montreal.

The hull of the Co.'s steamer Toronto, now building in Toronto, a description of which appeared in our March issue, will probably be ready for launching about the middle of June. The staterooms & woodwork generally are being prepared, & can be placed in position at any time after the hull is launched; but the engines have to be erected in the shop, then taken down & placed in position on the boat, all of which will take time, so that it is not probable she will do much if any business this season, as the tourist rush will be virtually over before she can be put on the route. A statement which appeared in a Toronto paper recently to the effect that a second boat for the R. & O. Co. is under construction in Toronto is incorrect. The Co.'s last annual report stated that a sister boat would be built to be ready in 1899, but nothing in the way of construction has been done yet, & it is not believed the contract has been let.

Capt. Batten will be pilot for the Co.'s boats from Coteau Landing to Montreal this season.

In Montreal recently in the case of Mrs. A. H. Allan vs. the Richelieu & Ontario Navigation Co., the plaintiff, who is from New York, claimed \$10,000 damages on account of injuries received on board the S.S. Bohemian in July last. She was a passenger from Kingston to Montreal, & was in the dining room waiting for some sandwiches which she had ordered. Near the end of the room was a curtain from behind which the waiters were bringing dishes in preparation for the dinner. One of the waiters having somewhat burned his fingers on one of the dishes hurriedly deposited it on a table & disappeared behind the curtain. Mrs. Allan went to see behind the curtain, but instead of going around rushed right through it, & fell through an open hatchway that was behind & received serious injuries, which necessitated considerable medical attendance & nursing. The court held

the Co. could not be made responsible for the accident, which was due entirely to the imprudence of the plaintiff, & consequently the action must be dismissed.

May Weather on the Lakes.

On an average 6 storms pass over the lake region in May, the majority of which, however, can be safely weathered by the larger craft. The number of storms in May during the last 20 years has neither increased nor diminished. There were more storms in 1892 than in any other year, yet the loss to marine interests was not so great as in 1894 & 1895. During the 10 years, 1877 to 1887, the money value of vessels lost or damaged in May amounted to about half a million dollars; from 1887 to 1896, both inclusive, the loss amounted to a little over a million & a half, although fewer vessels were lost or damaged during the last-named period. By far the greater number of storms that pass over the lake region during this month come from the northwest. The storms of May, & also of the summer months, are not so severe as those of late fall & winter. Neither are the outward signs of their approach precisely the same. The dangerous winds of summer are the squall winds which accompany thunderstorms. They last but a short time, & their coming can almost always be foretold by the appearance of the western sky. The barometer is unsteady, rising & falling quite abruptly. The day is generally close & oppressive & the clouds present a broken & heaped-up appearance.

Probably the most disastrous May storm that has occurred in the lake region during the last twenty-five years crossed the southern end of Lake Michigan May 18, 1894. The day previous had been warm & sultry & numerous thunderstorms occurred throughout Wisconsin, Illinois, Michigan, Ohio & Indiana. On the morning of the 18th the winds were north-easterly & exceedingly gusty, the velocity varying from 30 miles per hour one minute to 60 the next. The sea likewise was unusually heavy, the waves being short & choppy, measuring from 10 to 15 feet from hollow to crest. To add to the danger of wind & sea, rain mixed with snow fell during the afternoon hours. As a result of the storm 26 lives were lost, 14 vessels were totally & 12 others partially wrecked, involving a money loss of over \$80,000.—United States Weather Bureau Chart.

The Yukon Fleet.

With steamship agencies & managements preparations for the opening of navigation on the Stikine & Yukon Rivers are rapidly taking form. The C. P. R. Co., which, owing to its wide connections, can be taken somewhat as a leader in its estimate as to traffic likely to develop when the second rush sets in, has been in no way retarded in its preparations through the present temporary lull. On April 28 the Victoria Colonist said:—Work on the very formidable fleet of river boats they are building for the Stikine is being forwarded with all haste. The first of these, the Hamlin, sailed April 25, & will be followed by others in the very near future. It is expected the Hamlin will sail on her first trip up stream on May 1. In conjunction with this move the Co. will give the magnificent steamer Tartar dispatch for northern ports to-day. Her agents state that they have a good list of freight & passengers booked for her. At Wrangel connections with river boats will be made & freight & passengers sent on to Glenora, from which port there is but a short portage before the chain of waters leading to the upper Yukon is reached. The Canadian Development Co. steamers Victorian, Columbian, Canadian & Monte Cristo will also be placed on the river as soon as possible, & a particu-

larly good opportunity of reaching Glenora without transfer or other interruption will be afforded passengers leaving on these vessels.

Next week will see the first two sail, the Victorian being now about ready for the long voyage on sea & river. After inaugurating their services these steamers will be operated exclusively on the river, & at Wrangel will make connections with ocean-going steamers of different lines. The C. P. N. Co.'s steel steamer now in course of construction & probably the Transfer, if business warrants, will likewise be placed on the Stikine during May.

B. C. Freight & Shipping Report.

R. P. Rithet & Co., Victoria, B. C., say in their shipping report dated April 30:—During the past month the situation has undergone somewhat of a change, & the close marks a great improvement. This is almost entirely in the north, however, as owing to the drought in California, any demand for export from there has been stopped for the present. The improved grain market has had some influence indirectly on lumber & freights, for iron & steel vessels that would otherwise have gone in for such business are now doing better from the Columbia River. Consequently the rates for lumber remain moderately firm, though there are more vessels coming into the market than has been the case for some time.

The City of Delhi has been taken up at 30s. for salmon, the balance of last year's pack, & will begin to load almost at once. For the coming season a number of fixtures have been made, mostly at 35s. 9d., but the cargoes for these will of course not be ready until September next or later.

We quote freights as follows:—Grain. San Francisco to Cork f. o., nominal, no demand. Portland to Cork f. o., 35s. Tacoma to Cork f. o., 32s. 6d. to 35s. Lumber. British Columbia or Puget Sound to Sydney, 47s. 6d.; Melbourne or Adelaide, 50s.; Port Pirie, 45s. to 47s. 6d.; Fremantle, 57s. 6d.; Yokohama, 42s. 6d.; Shanghai, nominal; Tientsin, nominal; Valparaiso, f. o., 42s. 6d. to 45s.; U. K. or Continent, 60s. to 62s. 6d. Rates for lumber are more or less nominal owing to the absence of tonnage.

The Pacific Steamships.

C. Denby, Secretary of the U.S. Legation in China, writing in the North American Review on "America's Opportunity in Asia," complains that U.S. commerce with China has to be conducted under foreign flags. Among other things he says: "The steamer lines between the Pacific coast & the Orient should receive such financial support as to be able to maintain frequent communication by United States built ships of the highest class. Canadian competition should be surpassed in particulars. The profits on the carrying & insuring of U.S. goods should be diverted to U.S. companies. Our people should no longer endure the humiliating necessity of sending our merchandise, our mails, & our telegrams under the protection of a foreign flag."

This is a candid admission, from an official source, of the vast superiority of the C.P.R. Empress line of Royal mail steamships over any of the lines between U.S. Pacific Coast ports & the Orient. The magnificent Empress fleet, so superior in speed, safety & comfort to any U.S. Pacific line, has secured so firm a hold on the passenger travel that, even were the U.S. lines to improve their equipment, they would find it hard, if not impossible, to regain their lost ground. But the C.P.R. is not content to rest on its laurels & it is well understood that the replacing of the Empresses by larger, faster & more luxurious steamships is a matter the things that have been decided on.

Dominion Atlantic Ry. Co.'s Steamers.

The steamers being built by the Earle Co., at the River Humber, Eng., for the Dominion Atlantic Ry. Co.'s service between Yarmouth, N.S., & Boston, Mass., will be called Prince George & Prince Arthur. They will be identically the same, measuring 300 ft. long, 38 ft. beam & 15 ft. draft. The nominal horse-power will be 6,500, nearly double that of the Prince Edward, now in the service. The speed of the new boats will be 21½ knots on a measured course, with a guaranteed speed of 19½ knots at sea in any weather. This will greatly reduce the time now occupied in making the run between the two ports. They will be lighted & heated by electricity. The machinery is of the very latest pattern, the Schleck-Yarrow, Tweedie system. It is understood this is the first time this system has ever been in use on this side of the Atlantic. When these boats are completed a daily service will be inaugurated during the summer months. At the close of the season the Prince Edward will be hauled off the route, & used as a spare boat, relieving the Prince Rupert, now in the Co.'s service between Digby & St. John, N.B., or the two new boats. The Prince George, the first of the steamers, will be out June 15, & will be commanded by Capt. McGray, of the Prince Edward. The other steamer will be in commission a month later.

The Lake Fleet.

A report of much interest on commerce on the Great Lakes has been prepared by G. G. Tuñell, under the direction of the Bureau of Statistics of the U.S. Treasury Department. The fact is brought out that in the earlier years the commerce passing through the Detroit River was nearly equal to the total movement on the lakes. This is no longer the case, & the commerce passing through the river is not as good an index of the whole movement on the lakes as formerly, owing to the increase in recent years of business between Lake Superior & Lake Michigan ports. In 1873 the freight tonnage, as registered by the movement through the Detroit River, was reported to be 9,000,000 tons, while in 1896 it had increased to 27,900,520 tons. The growth of the U.S. lake fleet is regarded naturally as furnishing the most satisfactory evidence of the growth of traffic upon the Great Lakes. It is pointed out that from 1868 to 1872 the lake fleet did not quite maintain its own, but it then made rapid gains until 1875, when the total tonnage stood at 587,234 tons. After this there was a decline until 1879, when it stood at 552,602 tons. In 1880 there was an increase to 557,942 tons, & in 1886 the tonnage amounted to 690,359 tons. A new era in lake transportation began about that time, & the development has since been so marked that the total tonnage now is 3,326,592 tons.

The Yukon Trade.

Writing from Victoria on April 18 to the Toronto Globe, S. T. Wood said: "The policy of the U.S. Government, directed, as it has been, by the influence of men personally interested, has been of late a continuous source of irritation. Senator Perkins, whose name has become so prominent in the course which has tended to injure the trade of Canada's western ports, is known on the coast as the head of a steamship company. For years his company has had a monopoly of the coast trade northward, & that comfortable state of affairs has continued so long that he regards the Canadian business springing up last year as an encroachment on his preserve. There are efforts to prevent Canadian transshipment in bond to shallow-draught vessels at Wrangel, to protract the obstructions at Skagway & to

cripple in other ways the Canadian trade. The ostentatious rejoicing at Seattle & Tacoma over the defeat of the Stikine railway bill has made merchants here suspicious as to the action of the U.S. Government regarding the transshipment of goods at Wrangel when the shallow-draught boats begin to run on the Stikine. It is feared that the ingenuity of obstruction now directed toward the passes at the head of Lynn Canal will be brought to bear on Wrangel to the detriment of Canadian trade. This may seem like borrowing trouble, but it is a feeling which has tended to keep stocks low in some out-fitting establishments.

Canadian Pacific Navigation Co.

General Passenger Agent Baxter informs us the Co. has the following boats engaged in the Alaska, Yukon & Stikine trade:

OCEAN STEAMERS.	Tonnage.	Length.	Pass.	Capacity
Islander.....	1495	242 ft.	600	
Danube.....	887	220 "	250	
Tees.....	600	165 "	150	
Princess Louise..	922	180 "	250	
Willapa.....	500	136 "	150	
Queen City.....	450	117 "	100	
RIVER STEAMERS.				
R. P. Rithet.....	817	177 ft.	400	
Transfer.....	264	110 "	100	
Yukoner.....	500	176 "	400	
New steel steamer for Stikine...		146 "	400	

The steamers *Islander*, *Danube*, *Tees*, & *Princess Louise* run regularly to Wrangel, Juneau & Skagway. The *Princess Louise* & *Tees* call at all B.C. ports in addition. The *R. P. Rithet*, *Transfer* & the new steel steamer will run regularly on the Stikine River as soon as navigation opens, making connection with ocean boats at Wrangel. The *Yukoner* will run from St. Michael's to Dawson City & Yukon ports during navigation season on the Yukon, making connections at St. Michael's with the steamer *Danube* which will leave Victoria on or about June 10.

Car Transport in Canadian Vessels.

Assistant Secretary Spaulding, of the U.S. Treasury, addressed the following letter to the Collector of Customs at Detroit, Mich., April 22: "This Department is in receipt of your letter, inclosing a request made by the Agent of the Grand Trunk Railway at your port that he be permitted to send to Windsor, Ont., cars which, with their contents, are to be put into a boat in Windsor & brought back to Detroit at the Wabash slip, stated to be down the river from the starting point, the object being to avoid the delay & expense of transferring the cars to the Wabash depot by a belt line which runs around the city. The Co. desires to use the privilege both ways. The Department has to state that, regardless of the question whether the proceeding would unduly endanger the revenue, it is of opinion that the privilege can not be allowed without further legislation, especially in view of the provision of the Act of Feb. 17, 1898, relating to transportation in analogous cases."

The "Soo" & the Suez Traffic.

Following is a comparative statement of the traffic of the Sault Ste. Marie & the Suez canals for the past three years:

SAULT STE. MARIE CANALS.			
	1897.	1896.	1895.
Number of vessel passages.....	17,171	18,615	17,036
Tonnage, net registered.....	17,010,933	17,240,418	16,806,781
Days of navigation.....	234	232	231
SUEZ CANAL.			
	1897.	1896.	1895.
Number of vessel passages.....	2,986	3,409	3,434
Tonnage, net registered.....	7,899,374	8,560,284	8,448,383
Days of Navigation.....	305	305	305

To Enforce Coasting Laws.

The Dominion Government proposes to strictly enforce the coasting laws, & instructions have been sent to all customs officials to carry out the regulation which says: "Foreign vessels shall not take freight or passengers at one Canadian port & land the same at another Canadian port, & the master or owner of any vessel found to have violated this rule shall be subject to a penalty of \$400 for each offence, & the vessel may be detained until the same is paid." It is thought some of the steamers on the Pacific Coast running to Alaska points have broken the coasting rules, & that is the reason for calling the attention of customs officials to the clause.

OCEAN, LAKE & RIVER.

British Columbia & Yukon.

News reached Vancouver, May 2, that the Stikine River was open for navigation.

The Upper Columbia Navigation Co. is running boats from Golden, Tuesdays & Fridays.

The C. P. R. is arranging for the construction of a \$6,000 steamer dock at Kaslo, similar to the one at Nelson.

The steamer *Cape Otway* arrived in the middle of April at Vancouver with about 240 passengers from Australia & New Zealand for the Yukon.

Chief Engineer Sproat, of the C. P. R. lake steamer *Kokanee*, has been appointed to a similar position on one of the Co's Stikine River steamers.

The C.P.R. has purchased the Troop wharf & warehouses at Fort Wrangel, Alaska, for \$12,000. They will be used in connection with the C.P.R. Stikine River boats.

Hale, Elliot & Campbell's tug, the *Hercules*, has been launched near Nelson. She is 200 ft. long, with 200-h.p. engines, & is said to be the most powerful tug on the inland waters.

A. W. Shields, late Purser of the Kootenay Lake steamer *Kootenay*, has received a similar appointment on the Stikine River steamer, recently built for J. A. Mara's Co. at Vancouver.

Hector Sproat, Chief Engineer of the *Kokanee*, has been transferred to one of the new C.P.R. Stikine River boats. F. Moore, Purser of the S.S. *Nelson*, has also been transferred to one of these boats.

The Klondike Trading & Transportation Co. had intended putting up extensive buildings, wharves, etc., at Wrangel, but owing to the falling off in the rush to the Yukon, & a complete change of management, the whole programme of the Co. has been changed.

The C.P.R. steamer *Tartar* occupied just 51 days, 1 hour & 10 minutes in her voyage of 14,800 miles from Southampton to Victoria. The *Athenian*, which sailed 1 week later, occupied 51 days, 5 hours & 56 minutes. In travelling nearly 15,000 miles the 2 steamers varied only 4 hours in the time in which it was calculated they would complete their trip.

Captain James Nesbitt, formerly of the C. P. R. Columbia River steamer *Kootenay*, has resigned to accept the captaincy of one of the Stikine boats. He will be succeeded by Capt. Short, formerly Captain on the *Lytton*. The new steamer *Rosslund*, is now receiving her furnishings preparatory to being put on the passenger service as soon as the water rises in the Columbia.

The new C. P. R. steamer *Rosslund* made her first passenger trip May 2 between Arrowhead & Robson in quick time. This steamer is the fastest on the inland waters of B. C. & it is expected will cut down the time between *Rosslund* & Arrowhead at least 2 hours. She

will take the place of the Kootenay, which will go to Nakusp & be overhauled thoroughly, afterwards taking the place of the Lytton on the Arrowhead-Kootenay route. Then the Lytton will be used in the Big Bend of the Columbia River, running up as far as Death Rapids.

The C. P. R. Co. has made a new departure which ought to have the approval of the traveling public. Beginning with the Empress of Japan, east & west-bound, the steamships of this Co. will meet at Kobe, thereby giving the opportunity for a trip to Hong Kong & return, with a stay of something like 20 hours there. The steamers will lie alongside one another, travelers can readily be transferred, & hotel expenses can thus be avoided. This will cheapen a trip to Kobe considerably, as the charge of the Co., all meals & berths included, there & back, is only 18 yen.

The Hudson's Bay Co.'s new stern-wheel steamer Caledonia left New Westminster April 29 for the north under Capt. J. H. Bouser, who commanded the old Caledonia for 6 years. She will run on the Skeena until about the end of May, when the water usually becomes very high & remains that way until about the end of July. Between the two dates mentioned she will ply on the Stikine. The hulk of the old Caledonia is being transferred into a freight barge & will be used for this purpose in the river trade of the north. The second H.B. steamer, the Strathcona, followed her sister vessel a week later in command of Capt. F. Oden.

The C.P.R. Co.'s S.S. Islander was very unfortunate on a recent Alaska trip, meeting with 2 accidents. The first was on the up trip, when, on rounding Mary Island, she struck a rock, & lost all the blades of one of her propellers, & had to go on the beach at Douglas Island for repairs. The other accident was at Skaguay Harbor, where the steamer Willamette collided with her, & badly damaged the Islander. The Willamette is also stove in under the water line, but not seriously injured. The Islander was lying at anchor off the wharf when the Willamette, in endeavoring to make the dock, collided, smashing considerable of the wood-work of the Islander.

Navigation on the Upper Kootenay was expected to open April 16. The steamer J. D. Farrell, owned by the Kootenay River Transportation Co., was to start that day to make the first trip up the river from Jennings, Mont., to Fort Steele, B.C. The two steamers of the

International Transportation Co., the North Star and Gwendolin, will at once begin making regular trips between these two points, thus giving almost a daily boat service to Fort Steele. The service on the Upper Kootenay will be much better than in former years, the boats comparing favorably with those of Kootenay Lake. The remarkable growth of trade on this river may be judged by the fact that 3 years ago there was but 1 boat between Jennings & Fort Steele—the little steamer Annerlee, of 25 tons burden. Now there are 3 steamers, with a total capacity of nearly 400 tons.

The tramp steamers & "wind-jammers" which come to Victoria, Vancouver & Puget Sound need not remain long unchartered, for if they do not secure charters to carry lumber from the British Columbia & Puget Sound mills, or grain from Tacoma, they can go into service carrying rails to Japan. The Japanese are at present importing a great quantity of rails. They have decided to build many railways & orders have been placed with various steel works for a supply of 50,000 tons. A large amount of these rails have been forwarded to Vancouver over the C.P.R., & from Vancouver they will be shipped to Kobe. The British ship Cressington, which arrived in April, took a full cargo. The steamers Devonshire & Ard are loading at Tacoma on account of the Northern Pacific S. S. Co., & the steamer Alton, another large tramp, is expected to arrive there shortly from the Orient to load a similar cargo. A great pile of these rails are awaiting shipment at Tacoma ever since January. According to the computations of the railway officials, more than 100 solid trainloads have been shipped from the Illinois Steel Works alone. Other big shipments have been made from other Atlantic, Gulf & Pacific coast points.—Victoria Times.

The Maritime Provinces.

The N.S. coasting steamers came out of winter quarters unusually early this spring.

P.E. Island is calling for more satisfactory winter service with the mainland than the Stanley gives.

The new fast boat, Express, of the Yarmouth S. S. Co. is being fitted in Liverpool, Eng., & will leave to come out about May 20.

The Minister of Public Works has given permission for the dredge Cape Breton to finish the uncompleted dredging at St. John, N.B., wharves.

The Vega, lately purchased in New York by the Sydney Ferry Co., will be in command of Capt. Micheau & perform the Mulgrave & St. Peter's service.

G. F. Baird has purchased the side-wheel steamer Martello, which formerly ran between St. John & Annapolis, & will run her between Dalhousie, Campbellton & Gaspe.

The Maritime Transportation & Salvage Co. has purchased the steamship Hiawatha, & put her on a semi-weekly route between Halifax, Port Medway & Liverpool, leaving Halifax on Mondays & Thursdays.

The Canadian fishery protection fleet for the fishing grounds on the Nova Scotia coast & in the Gulf of St. Lawrence now carries machine guns as part of its equipment. The sailing cruisers Kingfisher & Osprey have each received two Gatlings.

The new ferry steamer Chebucto for the Halifax & Dartmouth service is still at the Azores, on her way from Europe, no captain appearing anxious to bring her across the Atlantic, so that the Ferry Co. is at the mercy of the contractors, no date for delivery being in the contract.

The Lunenburg Marine Ry. commenced operations last March & has been doing a good business, averaging nearly 2 vessels a day. The test required by the contract was satisfactory, being made with a 200-ton schooner, the T. W. Holden, with part cargo, making about 450 tons dead weight.

Two vessels owned by the Shubael Dimock & Sons' estate at Windsor, N.S., were recently sold. The schooner Newburg was sold to the Gypsum Packet Co., & the vessel will be used for carrying plaster from Windsor to New York. The schooner Clifton was sold to R. H. Cann, of Louisburg, C.B., to be used in the coal trade between Louisburg & Boston.

The City Council of St. John, N.R., has ratified the winter port agreement with the C.P.R., & pledged itself to provide the Manhattan Steamship Co. with the needed piers for steamers to be run this summer from New York to St. John. The intended arrangement may be disturbed, however, for the U.S. Government has taken over 2 steamers under lease to the Manhattan Co.

The S. S. Boston, of the Yarmouth S. S. Co., is undergoing repairs & getting fitted up for the summer's work, & the S. S. Yarmouth is running in her stead. The Boston made a splendid record during the winter, having

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missed only one connection. In June the Co. will begin to run 4 trips a week to Boston. The Co. expects its new flyer Express to leave England about June 20 & upon arrival she will be placed on the South Shore route.

The Bras D'Or Steam Navigation Co. will not put a steamer on the St. Peter's Mulgrave route this summer. In fact the Co. has practically gone out of existence. The Blue Hill has been sold to Baddeck parties, & will be used by them. The May Queen is laid up, & the Marion is owned by Capt. J. J. Moffat & others. She will run as usual between Sydney & Mulgrave, calling at St. Peters. A good chance is opened for some enterprising company to put a boat on the St. Peter's route.

Ontario & the Great Lakes.

The Cornwall Canal opened for navigation April 25.

The Massena is doing a thriving business between Brockville & Ogdensburg.

The Canadian cruiser Petrel recently seized 100 U.S. gill-nets & a ton of fish near Port Stanley.

Capt. W. P. Johnston, of Wabigoon, is building some small steamboats on Manitou & Rainy Lakes.

The Minister of Public Works states that a Government dredge will be put at work in Kingston Harbor without delay.

The Maid of the Mist will commence running at Niagara Falls the 1st week in May, Capt. Carter being again in command.

The first boat through the Rideau canal this year was the steamer Quebec, of Kingston, which locked through Ottawa April 30.

The steamer Princess Louise, of Kingston, purchased by Ottawa parties, will be taken to the Capital via the St. Lawrence route.

W. B. Kelly, of Bridgenorth, is putting on a new steamer, the Lady of the Lake, for excursions from Peterboro' to Chemong Park.

Capt. Craig has chartered the steamer John Haggart, & will run her three times a week between Picton & Cape Vincent via Kingston.

The steamer Nellie Cuthbert has been sold to Capt. Carss, Smith's Falls, & she will be placed on the route between Smith's Falls & Perth.

The steamboat people are looking for a big season among the Thousand Islands this year, as the war will prevent people from going to U.S. seaside resorts.

H. Corby, M.P., Belleville, has purchased the steam yacht Skylark, formerly owned by Dodge & Co. She was recently taken from Waubeshene to Belleville.

The steamer Chicora of the Niagara Navigation Co.'s fleet made her first trip this year from Toronto to Lewiston on May 16, & will run regularly throughout the season.

The dock strike among the C.P.R. men at Fort William was settled a few days ago. The men agreed to return to work on a basis of 17½c. an hour. This is ½c. lower than their last demand.

The Rainy River Navigation Co. has issued an illustrated folder, describing its line & the trip between Rat Portage & Mine Centre. The Lake of the Woods is described as a wonderful archipelago.

A deputation from Rat Portage which recently went to Ottawa expresses confidence that the improvement of Ash Rapids, Rainy River Rapids & Fort Frances Lock will soon all be things of reality.

The first steamboat on the St. Clair River was known as the Gratiot. She was a high pressure craft, whose exhaust could be heard

many miles inland. It took her 18 hours to go from Sarnia to Detroit.

Toronto Board of Trade wants Toronto harbor & its approaches made deep enough to accommodate the largest vessels passing through the Welland & St. Lawrence canals, when they are deepened to 14 ft.

The U.S. revenue cutter Gresham, when passing through the Welland Canal, April 24, struck the swing bridge, moving it from its centre & delaying the passage of vessels through the canal for some time.

The steamers United Empire & St. Andrews arrived at Ft. William April 24. Thunder Bay was then pretty full of ice, but they got through an opening. This is the earliest opening of navigation for several years.

The steamer Coaster is undergoing extensive repairs at Davis' shipyard, Kingston. She is being rebuilt & deepened by 2 feet, hull & decks, & will be practically a new steamer when ready for navigation.

The Pioneer Steamship Co., of Wabigoon, is building a 60-ft. steamer to ply on Lake Wabigoon, to connect with other steamers & stage lines, so a regular through line can be had from Wabigoon to Fort Frances.

It is reported that the steamer Cambria, recently purchased by the Donnelly Salvage & Wrecking Co., of Kingston, will ply between Hamilton & Montreal via Bay of Quinte ports in opposition to the Hamilton of the R. & O.N. Co.

The Carmona is likely to be the only boat plying on the east shore route of Lake Huron this year. The efforts made by Goderich & Kincardine to secure a line of good boats for the Windsor-Sault Ste. Marie route have had no success. The Carmona has been very much improved during the winter.

Mr. Stewart, Chief of the Hydrographic Survey corps, with the Government cruiser Bayfield, has been at work in the ship channel leading into Parry Sound. It has been found that a better, deeper & straighter channel can be laid out either to the south or north of the Pancake islands.

The Canada Atlantic & Ottawa, Arnprior & Parry Sound Ry. Co. have secured authority from the Dominion Parliament to construct & operate grain elevators & lines of steamboats necessary to the handling of their western grain carriage business from Duluth to the terminus of their line at Parry Sound.

The Brockville Navigation Co. has been incorporated with a capital stock of \$16,000, headquarters at Brockville; to acquire steam & other vessels for the conveying of passengers, mails, freight & other cargo, & to acquire public parks, athletic grounds & summer hotels.

The 2nd & 3rd of the steel hulls built in Toronto for the C.P.R. Stikine River stern-wheel steamers were shipped April 30 in sections for Vancouver, where they are now being put together under the supervision of Superintendent Troup of the Co.'s inland steamers.

The Montreal Transportation Co.'s new barge, Kingston, was launched from the company's shipyards at Kingston, April 16. Her dimensions are 180 ft. long, 36 ft. beam, & 12 ft. deep, with a capacity of 50,000 bus. of grain on the lake & 32,000 at River St. Lawrence draught.

It is said the U.S. revenue cutter Fessenden will have to spend practically all her time this summer enforcing the regulations relative to navigation in St. Mary's River. As she is the only cutter left on the lakes above Niagara Falls, there will be none of the customary patrolling of the lakes by cutters until the war is over. The Gresham was used in St. Mary's River last year.

A recent announcement in Toronto daily papers that Matthews, Crangle & Haggerty had given a contract to a Toronto shipbuilding firm for a grain carrier, 255 ft. long & 34 ft. wide, to ply between Fort William & Prescott is denied by Mr. Haggerty, who says, however, that they are figuring on building a steel steamer, but that nothing definite has yet been decided.

The owners of the fish tug Hazard at Port Dover recently received instructions from the underwriters of Buffalo to proceed to the point where the Western Co.'s steamer Idaho foundered last Nov., for the purpose of locating the wreck. An effort will be made to secure a portion of her cargo, which consisted of green coffee, hardware & sugar. It is authoritatively stated that water will not penetrate sugar in barrels to the depth of 2 inches. She lies in 60 ft. of water.

The 2nd stern-wheel steamer which has been built at Mott's branch shipyard, on Lulu Island, New Westminster, was launched April 19. She is a sister ship to the one launched a few weeks ago, from the same ways. Both are light draught & will be furnished with powerful engines. They have been built for the Klondike Trading & Transportation Co., & in all respects, will be thoroughly well equipped for service on the swift rivers up the coast in connection with the Yukon trade.

The old Government dry-dock rates at Kingston have been re-instituted. The Rosedale was given the benefit of the winter tariff up to April 15, after which her owners were charged \$105 a day. The regulations regarding payment have also been changed. Previously an entrance fee was exacted & the owners of the boat had 10 days after presentation of the dock master's account to settle. In those 10 days the boat would have left the dock & could very easily be outside the jurisdiction. The Department will no longer take these risks & has ordered that all fees must be paid before the vessel leaves the dock.

The Toronto Harbor Master suggests that the wharves along the bay front be designated by numbers instead of names, as the naming from streets or from lessees is very confusing. Lessees are frequently changing, & streets have more than one wharf. Besides the two wharves at the foot of Yonge street, it is proposed to build 3 more to the west, which will still more add to the confusion often arising from the present system of naming. It is proposed to have each wharf numbered according to its position, commencing at Queen's wharf as wharf no. 1, then wharf no. 2, etc.

Capt. Massey, of the steamer Linn, wrote the General Western Agent of the Canada Atlantic Transit Co., April 25:—"I arrived in Parry Sound April 3, at 7 p.m., all O.K. I found no difficulty coming into this harbor drawing 18 ft. of water. We came nearly all the way full speed, & it is the finest harbor I ever saw. It is land locked all round & there is lots of water. They are going to put a gas buoy on the Seguin banks, just outside Red Rock light, & another one about half way in, on a 14-ft. spot that is in nearly mid-channel, & then this will be a good place to come to. It is far better than Midland."

Vessel and marine interests are becoming much alarmed over the continued lowering of the waters of Lake Superior. At Duluth the water is down 30 ins. from last year's level, & is of the same effect as though thousands of dollars' worth of dredging had not been accomplished. The low water is a direct loss to the vessel interests, as it prevents them loading their boats to their normal carrying capacity. The reason for this low water is not clear, & the old talk among vessel men of the subterranean passage to Lake Huron is revived. This is furthered by the fact that

the water in Lake Huron is correspondingly high, & it is not going down the St. Mary's River.—Marine Record.

The first effect of war on the lake trade is being felt in Chicago. Instead of sending wheat to New York points for European shipment, the Chicago operators are shipping to Canadian ports where the plan is to sell the grain to Canadian commission merchants, who will in turn sell to European buyers, making commissions both ways. This is done because the property of U.S. citizens, whether in U.S. vessels or not, is coming to be regarded as unsafe. Some eastern vessel owners have begun to put their vessels under the British flag. At present the law makes it impossible for these boats to change their flag again, but efforts are being made in the U.S. Congress to have this law altered.—Marine Record.

On May 1 the Ogilvie, one of the C.P.R. stern-wheel steamers built at Vancouver for the Stikine River, made a trial trip on Burrard Inlet with a party of guests on board. Speaking of her the Vancouver News-Advertiser says:—"The Ogilvie, as a pattern of the river steamers the C.P.R. intends running in connection with the steamships Tartar & Athenian on the Klondike route, is unrivalled. She is beautifully appointed & replete in every detail. One hundred & forty-six ft. long by 30 ft., with 5 ft. depth, & drawing but 2 ft. of water, the Ogilvie & her sister ships should alone prove an inducement to travel on the northern rivers. The vessels are intended for 200 passengers. The saloon passengers are provided with comfortable cabins, replete with every comfort for the journey, & the smoking room, saloon & ladies' saloon are handsomely appointed, especially the latter."

The Province of Quebec.

An attractive Sailors' Institute has been opened in Montreal, at the corner of Commissioners Street & Place Royale.

The contract for laying the buoys between Quebec & Montreal has been awarded to J. C. Kaine, tug owner, Quebec, for 5 years. It had been previously awarded to a Sorel party, but it is said he withdrew.

The Montreal Chamber of Commerce is of opinion that a successor to Capt. Howard as Harbor Master is not necessary, & that the salary attached to the office could be spent more usefully in improving the harbor.

The Campana will leave Montreal May 23, June 6, & fortnightly thereafter, for the different ports on the River & Gulf of St. Lawrence, ending at Pictou, & including Georgetown & Souris, in addition to the other ports in P.E.I.

The Canada Atlantic Ry. asks the Dominion Government for dredging at Coteau Landing to enable large barges & other vessels to load at the C. A. grain elevator there. Over half-a-million bushels of grain are en route from the west for the elevator.

The people of Gaspe ask that Mount Louis, on the north coast of Gaspe, be made the terminus of the proposed fast Atlantic steamship line. They say a railway of 120 miles would connect Mount Louis with the Intercolonial at Metis & give a direct route from the terminus to the interior. Mount Louis is claimed to be a 1st rate harbor, open all the year round.

The St. Lawrence pilots ask to have one of their number represent them upon the Montreal Harbor Commission in matters concerning pilotage, & to have the control & administration of 2% of the receipts of the Harbor Commission from pilotage, also that a member of their corporation should assist in spring in placing the buoys, in order to make

suggestions, & that Parliament should render obligatory the by-laws made by the committee of pilots & the Harbor Commission, after they have been approved by the Governor-in-Council.

Items of Personal Interest.

H. Johnston, last year purser on the S.S. Lakeside, has been appointed paymaster of the Welland Canal works.

W. A. Fletcher has been appointed General Tourist Agent of the Richelieu & Ontario Navigation Co. Headquarters, Chicago.

W. F. Cloney, of St. Catharines, Ont., has been appointed Travelling Passenger Agent of the Richelieu & Ontario Navigation Co.

W. Robert, cashier of the R. & O. N. Co., received a handsome present & address from the other employes on leaving the Co.'s service recently to enter the Bank of Hochelaga.

The Peterboro', Ont., Navigation Co. has appointed Capt. Lorne to the command of the steamer City of Peterboro'.

Capt. W. R. Taylor, who was for many years inspector for Canadian lake underwriters, & whose son, T. R. Taylor, now holds the same position, is living in Kingston & is hale & hearty at 87 years. He is among the oldest of Canadian lake vessel masters now living. He began sailing out of Prescott, Ont., in 1832, in the steamer Queenstown, & later in the steamer William IV. Between 1834 & 1869 he commanded, among other lake vessels, the steamer Coburg, steamer Sir Francis Bond Head, schooner Thistle, schooner Shamrock, propeller St. Thomas, schooner William Caley, schooner Governor, barge Superior, steamer Comet, schooner Annie Falconer & schooner Annie Minnes.

H. M. Bolger, Secretary of the R. & O. N. Co., was recently presented with an address & purse in Montreal on the occasion of his approaching marriage.

THE RAILWAY AGENT, CLEVELAND, OHIO.—Our Canadian friends are making THE RAILWAY & SHIPPING WORLD quite a factor in Canadian railroad literature.

MONTREAL HERALD.—"The Herald is in receipt of a new Canadian railway journal entitled THE RAILWAY & SHIPPING WORLD. The initial number of this new monthly publication is a bright & interesting one, & contains much valuable information relating to transportation interests. Besides this, it contains an excellent photogravure of the Hon. A. G. Blair, as a frontispiece, & several Klondike engravings. Hitherto the officials of Canadian transportation companies have been forced to depend on foreign publications for their 'trade' reading, so a journal of this character devoted to purely Canadian interests will fill a long-felt want."

VANCOUVER NEWS ADVERTISER.—THE RAILWAY & SHIPPING WORLD has just been issued from Toronto. It is devoted to steam & electric railways, shipping, express, telegraph & telephone interests—a comprehensive devotion certainly. The publishers' announcement says: "THE RAILWAY & SHIPPING WORLD will endeavor to give a full & accurate record of everything transpiring in Canada relating to the interests enumerated above, supplemented by technical & other articles of interest & value to the class of readers to which it addresses itself. Its publishers believe in performances rather than promises, & will content themselves with saying that no effort will be spared to make the publication a thoroughly up-to-date one, editorially, typographically, & in every other respect. Illustrations will be freely used whenever they can be made to serve a practical purpose." Mr. D. Todd Lees is the agent for the new publication in Vancouver. The price is \$1 per year.

ELECTRIC RAILWAY NEWS.

British Columbia Lines.

THE B. C. ELECTRIC RY. CO. has reduced the running time between Vancouver & New Westminster to $\frac{3}{4}$ of an hour, as formerly. The cheap Sunday rates are much appreciated & Vancouver City's proposed new agreement with the B. C. E. R. Co. provides, amongst other things, that the Co. shall place fenders on the cars & also enables the city, if at any time it shall be found necessary to call upon the Co. to substitute underground for overhead wires & connections of motor power.

This Co. is having installed a complete plant for developing the water power at Goldstream, 12 miles from Victoria, for operating the street railway & electric light plant. The plant is expected to be in operation by midsummer. Contracts for the electrical & hydraulic machinery have been closed, & construction is being pushed with rapidity. The electrical apparatus will be of the 3 phase type, using rotary converters & transformers to distribute over the line as the 2 phase, with a voltage capacity of 11,000. Two Pelton water wheels will be used, with a capacity of 600 h.p. each, delivering 1,000 horse power in Victoria. Provision is also being made for 600 additional horse power if required. The power delivered in Victoria will be sufficient to operate the street railway, electric lighting system, commercial & municipal, & also to furnish considerable power for the operation of stationary motors for manufacturing purposes, elevators, etc.

Manitoba Lines.

WINNIPEG ELECTRIC STREET RY.—Superintendent Somerset has been looking over the St. Paul, Minn., street railway system, with a view to introducing improvements in working the Winnipeg one.

WINNIPEG & ST. ANDREW'S.—See item under head of Railway Projects on an earlier page of this issue. The proposed line may use either electric or steam power.

WINNIPEG & SELKIRK ELECTRIC RY. charter would have expired this year if construction was not begun, but the Legislature at its recent session extended the time for another year.

Maritime Province Lines.

CHARLOTTETOWN.—The local gas company has made a proposition to the city to build a street car system in Charlottetown.

HALIFAX & BEDFORD ELECTRIC CO.—The Halifax Chronicle says the electric tramway scheme from Halifax to Bedford has been killed, so far as the H. & B. Co. is concerned. Its charter has been amended so as to enable it to build a tramway only from Three Mile House to Bedford, & to supply electric lighting between the same points.

HALIFAX ELECTRIC TRAMWAY CO. will spend about \$50,000 in improving its plant. It has just installed 2 large generators.

Northwest Territories.

THE LEWES RIVER TRAMWAY CO. has applied to the Dominion Parliament for a charter to build an electric or horse railway around the obstructions to navigation at Miles Canyon & White Horse Rapids on the Lewes River. This Co. proposes to operate on the eastern side of the river. Another company, to be known as the Miles Canyon & White Horse Tramway Co., has applied for a similar charter of incorporation to operate on the west side.

Ontario Lines.

BELLEVILLE TRACTION CO.—Toronto brokers recently offered \$70,000 5-20 year bonds of this Co. secured by a 1st mortgage on the entire plant franchise, property & extensions to be made. The Co. has a franchise for 20 years, with the right of renewal for 20 years longer; it has exclusive right on all the roads & bridges, is exempt from taxation, does not require to pay any percentage of receipts to the city, & can cease operating from December to March inclusive, if traffic does not pay. Two miles of track were built in 1895, & it is proposed by the sale of bonds to provide for 3 miles of extensions, to purchase additional cars, to relay the present line with steel, to dam the Moira River, pay off floating debt & either purchase or lease 30 acres for a park. The extension would be from Front St. West to the Cemetery, passing the Deaf & Dumb Institute, mineral baths & agricultural grounds. The termini of the present 2 miles of track being at the railway station & steamboat dock, the residential portion of the city is not reached. The receipts for the two years the Co. has been in operation have averaged \$5,569.21 a year, & the running expenses, \$4,036. We understand the brokers expect to place the bonds in Boston.

BERLIN & WATERLOO ST. RY.—H. H. Halburn has been appointed Manager.

FLOWER TO HAMILTON SMELTING CO.'S WORKS.—A survey is being made for a short line from Flower Station, on the K. & P. railway, to the mines of the Hamilton Smelting Co., A. Bell, C.E., of Almonte, having charge of the work. It may be either a steam or an electric line.

GALT, PRESTON & HESPELER ELECTRIC RY.—The manufacturers of Galt recently petitioned the Council, asking that this railway be allowed to carry freight down town, & also to put switches into several of the factories & foundries along the line of the transit. The G., P. & H. has connection with the C.P.R., & the G.T.R. protested against the granting of the petition, claiming that to do so would be to discriminate against the G.T.R., the latter not having running privileges over the G., P. & H. The Board of Works recommended to the Council that no action be taken, & the report was adopted. For the present, at least, the manufacturers will have to be content with existing transportation facilities. A great deal of interest has been taken in the question, not only by the railway companies, but the town at large.

At a meeting of Berlin & Waterloo business men, held at Berlin, April 20, to discuss the proposed trolley connection between Berlin & Preston, where connection would be made with the electric railway from Galt owned by the C.P.R., several business men reported that they had made thorough investigations & concluded that a trolley road was preferable to a steam road. The charter for the Preston-Berlin road expires this year. It was decided that the bonus of \$40,000 asked for would be apportioned between Berlin & Waterloo according to the respective assessments. The general opinion is that Berlin & Waterloo will have C.P.R. connection this year.

THE HAMILTON, CHODOKE & ANCASTER ELECTRIC RY. shareholders met May 3 & considered the city of Hamilton's offer to purchase the Beckett Mountain drive at \$12,000, payable in yearly instalments of \$1,000, but although the majority were in favor of accepting, the decision of the Co. was left over for two weeks, when another meeting will be held. It is stated that in connection with the construction of the railway there are financial difficulties which the directors hope soon to overcome, & with the money from the Beckett drive & the Ancaster bonus, they

expect to arrange matters so as to begin construction early this summer.

HAMILTON, GRIMSBY & BEAMSVILLE RY. Co.'s shareholders held their quarterly meeting recently. The quarterly financial statement showed an increase of 10% in gross earnings over those of the corresponding period of last year. The directors were empowered to issue debentures to pay off the floating debt of \$20,000. The present debenture debt of the road is \$85,000, payable in 30 years.

HAMILTON RADIAL ELECTRIC RY.—There is likely to be trouble between this line & Hamilton Street Ry. The latter has given the Radial Ry. notice to cease doing local business. The St. Ry. Co. will object to the passage of the by-law granting the Radial Ry. permission to change its line from Sherman to Birch Avenue unless some new agreement is made in regard to local fares.

HAMILTON ST. RY. CO. recently made application to the City Council for an amendment of the present agreement with the City under which the Co. has to pay over \$13,000 a year for percentage & mileage. At a meeting of the Finance Committee, the Co.'s solicitor, Mr. Martin, presented figures which showed that there had been a falling off in receipts last year, & that no dividends had been paid since 1895. He attributed the falling off in receipts to the building of the radial railways, which cut into the local business, & stated that at present the Co. could not operate under the conditions. He proposed that the by-law should be amended to provide for the removal of snow from the track; the Co. to sell 9 instead of 8 limited tickets for 25c., & to extend the time from 6.30 a.m. to 8 a.m., 11.50 a.m. to 1.30 p.m., & 5 to 6.30 p.m.; to carry children between 5 & 12 years for 3c., or sell 10 children's tickets for 25c., also to allow its tracks to be used by radial railways entering the City on terms to be agreed upon. In lieu of these conditions the Co. asked that the franchise be extended to 1928, the mileage abolished, & the percentage be rearranged as follows: Receipts up to \$200,000, 5%; receipts over \$200,000, 8%. An alternative proposition was to abolish mileages & percentages, & after paying expenses, etc., to equally divide the surplus between the city & the Co. until each receive \$10,000 a year, then the City to receive the percentages under the by-law, the franchise to be extended to 1928, & radial railways to be allowed to use the Co.'s tracks on terms to be agreed to. The Finance Committee submitted several questions to the Co., which were answered in the following words: "The actual cost of the H. St. Ry. is represented by the capital paid up in cash, \$204,704.40, & the bonds issued in 1894, \$500,000; total, \$704,704.40. The Co.'s charter does not permit it to sell the railway, nor can the Co. control the shares of the shareholders, or bind the bondholders to agree to a sale, neither has the city power to purchase the railway. Very special legislation would, therefore, be required to enable such a purchase to be made, & it would take almost 2 years to obtain such legislation & pass the necessary by-laws. If the City decides to purchase the railway, & will now make a definite offer which the Co. can recommend to its shareholders, with a view to obtaining their assent to applying for the necessary legislation, the Co. will take that step, provided the interests of the Co. are properly safeguarded in the meantime by the franchise being extended till 1928 substantially upon the terms of the draft by-law now submitted (or the alternative offer), it being further provided that the City shall have the option to purchase out the company at the agreed price within, say, 2 years, should the requisite legislation & authority have been obtained in the meantime." Some of the members of Council are in favor of the City acquiring

the railway, but there is a great difference of opinion as to the wisdom of municipal ownership, & the matter has been laid over for further consideration.—Electrical News.

THE KINGSTON ELECTRIC RY.'s extension from Princess Street to the lower G.T.R. station is expected to be completed in June.

In the appeal in the case of the City of Kingston vs. The Kingston, Portsmouth & Cataraqui Electric Ry. Co., of which particulars were given in our last issue, in which the city sought to compel the Co. to keep its cars running over the whole of its line of railway during the whole of each year, decision has been given against the city.

LANARK COUNTY ELECTRIC RY. breaking ground, a formality necessary to save the Co.'s charter, was accomplished by Jas. Doyle, of Perth, by turning over the sod for some distance on his farm.

NIAGARA FALLS BRIDGE.—The steel arch to take the place of the upper suspension bridge was closed April 18. It is a highway bridge, carrying trolley tracks & sidewalks. The new arch is 840 ft. long, being the longest arch in the world. It is built by the Penoyd Iron Works, contractors for the Niagara Falls & Clifton Suspension Bridge Co. L. L. Buck is chief engineer, & R. S. Buck resident engineer.

THE NIAGARA FALLS PARK & RIVER RY. is now using both tracks between Chippewa & Table Rock, & is also running early & late cars.

The N. F. P. & R. Ry. is making improvements in its power house at the Falls, & expect to have 1,200 h.p. of 2,000 voltage for sale to power users.

PETERBORO' TO CHEMONG & LAKEFIELD.—It was stated in our last issue that the Cornwall Electric Ry. had submitted to the Town Council of Peterboro' a scheme for the construction of an electric railway from that town to Chemong & Lakefield, & that the Co. proposed to lease the Chemong & Lakefield lines from the G.T.R., convert them into electric roads & take over the freight business, the cost being roughly estimated at \$350,000. Enquiry of the Cornwall Co. fails to elicit any information, but General Manager Hays, of the G.T.R., informs us that a proposition has been received from D. A. Starr, who is connected with the Cornwall Electric St. Ry., for leasing the Lakefield Branch to a company which he proposes to form, but that nothing has been determined in regard to the matter.

PORT ARTHUR STREET RY. is negotiating for a car 34 ft. long.

ST. CATHARINES, MERRITTON & THOROLD ELECTRIC RY.—This road, originally owned by E. Smyth & others, & sold under foreclosure by the Bank of Toronto, to Dawson & Symes, of Chignecto Marine Ry. fame, is likely to be extended to Pt. Dalhousie, as contemplated by the original charter, but never carried out, owing to the conditions imposed by the Department of Railways, for the crossing of the Welland Canals. The St. Catharines City Council has given a by-law its 1st reading for right of way from the line's present terminal to the northern city limits.

THE ST. THOMAS ELECTRIC RY. recently made application to the Railway Committee of the Privy Council for the right to cross the tracks of the London & Port Stanley Ry. It was decided to send up an officer to inspect & report.

Four cars for use on the new line have reached St. Thomas. It is expected the line on Talbot St. will be in operation on May 24 & that the whole road will be going by July 1. The Co. has purchased the Yarwood farm, adjoining Pinafore Lake, for a park.

SANDWICH, WINDSOR & AMHERSTBURG ELECTRIC RY. The statement of receipts presented at the recent annual meeting shows

ed a marked increase over those of the previous year.

SMITH'S FALLS, RIDEAU & SOUTHERN RY.—The Kingston News says a contract has been let to a U.S. Co. to build this line as a 3rd rail single track electric road for \$8,000 a mile. The charter granted by the Ontario Legislature fixed the capital stock at \$300,000. Power is given to issue bonds to \$14,000 per mile of road. The Co. is empowered to construct a single or double track in the town of Smith's Falls & thence through the townships of S. Emsley, S. Burgess, Bastard, S. Crosby & Kitley, to the villages of Portland, Jones' Falls & Toledo, county of Leeds; also through the townships of Montague, county of Lanark; Wolford, Oxford & Augusta, county of Grenville, & the villages of Merrickville, Oxford Mills & North Augusta, county of Grenville. The road to be worked by steam or electricity, as they may elect. The line will run over all the paying ground of the Kingston, Smith's Falls & Ottawa Ry.

Up to the time of going to press we have been unable to verify the statement as to the letting of a contract for construction. A Smith's Falls correspondent says nothing has been done further than to obtain the charter, & that he does not think a board of directors has been appointed.

TORONTO RAILWAY CO.—The gross earnings for the first four months of 1897 & 1898 are as follows:

	1897	1898	Increase.
Jan'y.....	\$74,545.55	\$86,562.36	\$12,016.81
Feb'y.....	69,744.61	82,402.19	12,657.58
March....	78,891.45	92,818.12	13,426.67
April.....	73,756.38	86,898.83	13,142.45

TORONTO, METROPOLITAN & MIMICO COS.—The charge of infringing the Lord's Day Act, laid against the Metropolitan St. Ry. Co., running from North Toronto to Richmond Hill, came up in Toronto recently. It was stated on behalf of the Crown that the railway had promised to run no more cars on Sunday, & the charge was withdrawn. A similar charge against the Mimico St. Ry. Co. will, however, be gone on with.

WALKERTON TO FLESHERTON.—Mr. McNamara, of Goderich, has received a letter regarding the Hurontario Electric Ry., which states there is still hopes of securing the construction of a railway from Walkerton to Flesherton.

Quebec Lines.

HULL ELECTRIC RY.—A bill to incorporate the Ontario & Quebec Bridge Co. recently was defeated in the Railway Committee of the House of Commons by 35 to 61. The proposed company asked power to bridge the Ottawa River from the foot of Bank St., Ottawa, to Ottawa St., in Hull. The promoter was the Hull Electric Ry., whose line extends to Aylmer, Que., where it connects with the Pontiac & Pacific Ry. These lines have no entrance into Ottawa, & were trying to secure such by means of the bridge, for which they did not ask any subsidy.

ST. ALPHONSE.—It is reported that A. Tremblay & Bro., of Herbertville, have purchased property at St. Alphonse with a view of constructing an electric railway there.

THE MONTREAL PARK & ISLAND RY. will make a number of improvements to its service during the summer in response to the marked appreciation of its efforts to meet the requirements of the suburban section of the population as well as the large number of people who use the cars in summer to secure an outing at a reasonable cost. A 15 minute service will be given on Saturdays & Sundays to the cemeteries. Fifteen open cars are under construction & will be put into service almost at once. Twenty motor cars are being equipped with strong, high speed motors, so that

the cars can be run at a speed of 25 miles an hour, including stops. The road bed will be improved so that the cars can be run at that speed with the greatest safety. Family book tickets containing 50 tickets for \$3.50, good on all the lines, will be issued.

MONTREAL STREET RY. CO.—The earnings for April amounted to \$110,819.37, & for the past 7 months to \$778,615.20. The returns are far ahead of the earnings a year ago, in fact, the increase for the 7 months being \$73,510.20. The average daily earnings during that period amounted to \$3,672.72, & the average daily increase is \$346.85. The figures in detail are as follows:

Month.	1897.	1896.	Inc.
Oct....	\$110,293.09	\$109,110.38	\$ 7,182.71
Nov....	110,929.60	100,818.57	10,111.03
Dec....	113,128.91	103,116.02	10,012.89
	1898.	1897.	
Jan....	110,140.83	99,620.55	10,520.28
Feb....	102,625.49	89,951.08	12,673.81
March...	114,677.91	99,441.87	15,236.04
April...	110,819.37	103,045.93	7,773.44
	\$778,615.20	\$705,105.00	\$73,510.20

The appeals of the M. St. Ry. Co. from the judgment of the Superior Court, awarding Mr. Jacquemin \$300 for injuries resulting from being struck by a street car while crossing Craig St., in 1895, & Miss Chartier damages for injuries resulting from a similar accident on Notre Dame St., have been dismissed by the Court of Appeal, the decision in each case being based upon the violation by the Co.'s employes of the city by-law ordering that the speed of the cars must never exceed 8 miles an hour, & that at all street crossings cars must be slowed up to the pace of a horse walking. The court held that as long as this by-law remained in force it would have to be observed, & the Co. will have to be held responsible for all damages & accidents resulting from its violation.

The M. St. Ry. Co. recently sued the Montreal Park & Island Ry. Co. to recover \$5,756, the amount of the loss sustained by the burning of the former Co.'s cars at the Exhibition grounds. These cars had been leased & the question to decide was whether the contract covered the loss by fire. The court held it did not. The Park & Island Co., by the contract, was only responsible for ordinary wear & tear & not for damages caused by fire when it had been shown, especially, that the fire had not originated in the premises occupied by it.

In October last the city of Montreal, through its engineer, Mr. St. George, made a complaint against G. H. Wood, a foreman in the employ of the St. Ry. Co., for tearing up the streets without authority. The Co. was laying some tracks on St. Lawrence St., & Mr. St. George claimed that it was tearing up the streets more than 6 inches from the rails, & was consequently damaging the city's property. The Recorder recently dismissed the action, on the ground that the city had failed to prove that the Co. had damaged the asphalt on that part of the street which was under the care of the city.

Judge Mathieu recently awarded Dr. Leprohon \$150, the full amount of his action against the M. St. Ry. Co. In Feb. last Dr. Leprohon got on a Notre Dame St. car. The car was crowded & there was not even a strap left by which he could support himself. Accordingly he caught hold of the side of the car door. Suddenly, without warning, the conductor shut the sliding door violently, catching the hand of the doctor, whose thumb got such a bad bruising that it has been useless since. Dr. Leprohon has since been unable to write or to dress himself unaided, & he instituted the action for compensation for the expense to which he had been put & the suffering which he had been caused. The Co.

did not appear, & the court rendered judgment as above.

The M. St. Ry. Co. has determined to construct the much talked of Cote des Neiges line, & the management is only waiting the return of Jas. Ross from England to commence operations. It is expected that Mr. Ross will be in Montreal by May 15. The new line will not go up the main road, but will pass by the gorge in the rear of the Seminary wall, which the Co. claims is the natural outlet of the road. The work of extending the Wellington St. line to Verdun will also be begun, & will be pushed forward rapidly. The ties & iron are already on the ground, & the grading & construction of the electric system is all that is required. An official stated that the fare would be 5c., as in all routes controlled by the Co.

The management is considering the remodeling of the street signs on the cars, so as to make them shorter & more easily to be understood by the public. Thus it is proposed to cut down the St. Denis St. car sign to "St. Denis to St. Henri," & so all along the line.

In our last issue it was stated that the M. St. Ry. Co. had invited tenders for the advertising privileges in its cars. The contract has been given to the Dominion Ry. Advertising Co., Montreal.

It is understood the M. St. Ry. Co. has closed with the Intercolonial Coal Co. for its year's requirements of slack coal, about 30,000 tons.

Over 100 more men are employed this year by the M. St. Ry., as it has 250 open cars & trailers as against 200 last year.

The M. St. Ry. is preparing for the construction of its tracks upon Common Street. The rails have been strung along the sides of the streets & the feed wires are being placed on the telegraph poles. The route will be extremely short at present, embracing McGill, Common east to St. Peter, up St. Peter to Youville, & along this street to McGill again.

The by-law authorizing the agreement with the M. St. Ry. Co. was voted on at Verdun May 9, when 83 proprietors, representing \$193,033.98, voted in approval of an immediate street railway service, & only 6, representing \$36,350, voted contrary. The by-law was therefore affirmed. The rails & other material for the extension through Verdun & up Frontenac street to the eastern abattoir are on the ground, & the work of construction is to be begun at once.

The Birmingham Tramway.

At the 1st annual meeting of the City of Birmingham Tramway, recently held in Birmingham, Jas. Ross, of Montreal, presiding, a dividend of 5% on the ordinary shares of the Co. was declared. This is the system which Messrs. Ross & McKenzie acquired an interest in a couple of years ago under an agreement with the City Corporation for the conversion of the road to electricity. The agreement between Ross & McKenzie & the city authorities was for an underground conduit system for about 10 miles in length in the central business portion of the city & an overhead system for the other districts. Acting under this agreement Ross & McKenzie organized a company, but it developed during the discussion which took place at this meeting that the City Corporation, after a deputation had made a tour of the continental cities, reported against allowing any overhead wires to be erected, & the Council adopted the report. The Co. claims the right under the agreement to construct a partial overhead system, & the question remains in abeyance.

TELEGRAPHS & CABLES.

The C.P.R.'s Trans-continental Line.

The construction of the C.P.R. new trans-continental telegraph line between Montreal & Vancouver was commenced at Montreal April 14. The line will pass via Vaudreuil & the Short line to Ottawa, thence by the main line to the coast. It will be strung under the general superintendence of W. J. Camp, C.P.R. electrician, in 3 divisions. The 1st will reach from Montreal to Fort William, & will be constructed by J. Townsley, Supt. of Construction, with about 100 men working simultaneously in 4 gangs. The next division will reach from Fort William to Donald, B.C., & will be under B. S. Jenkins, Superintendent of Telegraph, Winnipeg, with 3 gangs, Inspector Edwards being in charge of the field work. Work on this section commenced April 25. It will be necessary to rebuild some section of the pole line between Winnipeg & Donald, which will require 2 pole gangs. The final division will reach from Donald to the coast, & will be under the charge of J. Wilson, Superintendent of Telegraph, Vancouver, who, with 2 gangs of men, will commence operations almost immediately.

A great deal of trouble has been experienced by telegraph companies through the breaking of the glass insulators by which the wires are attached to the poles. Particularly is this so in the vicinity of schoolhouses & gravel trains, & a large number have been found broken through sportsmen having taken shots at them in default of better game. A test was therefore made at McGill University, Montreal, with a view to ascertain the comparative resistency of glass & porcelain insulators, with the result that it was found that porcelain resisted much heavier & a greater number of blows than the glass. Tests were also made with a 32-calibre revolver from a distance of 8 ft. The glass flew to pieces at nearly every shot, while the porcelain frequently showed no mark, save the lead from the bullet, & when they did break it was in such a way that, had they been attached to the pole, the wires would not have been affected. Seventy-five tons of these insulators are now on their way from Europe for purposes of C.P.R. construction.

The testing of the copper wire is also going on at the Applied Science Department of McGill, under the care of Graham Drinkwater. Every day he selects at random a sample of wire from each lot of ten bundles being turned out by the manufacturers, & subjects them to tests in order to insure that they come up to the requirements of the contract. The wire must be .137 of an inch in diameter; one one-thousandth of an inch only of a variation being allowed above or below this gauge. It must be perfectly cylindrical & weigh 300 lbs. to the mile, 4 lbs. of a variation being allowed in this distance. Frequent electrical tests are made upon pieces one one-hundredth of a mile in length, to determine the purity of copper used, which must be 99%. Each bundle weighs 170 lbs., & the wire must be in one continuous length, without joint or break. Each 6 inches of wire must be capable of being twisted 30 times at a uniform speed of 1 twist a second. The tests show that it will stand 40 to 50 twists before breaking. It must stand 6 close turns around another wire of equal diameter & be unwound without breaking. It must also stand an average breaking strain of 975 lbs., & before breaking it must have stretched at least 1%.

When completed there will be a length of about 2,900 miles of wire, constituting probably the longest direct land-line circuit, for daily work, in the world. To pass across this immense distance, signals will only occupy about $\frac{1}{4}$ of a second.

The C.P.R. Vancouver Island Cables.

As was briefly mentioned in our last issue, the C. P. R. Co.'s new cable from Vancouver City to Vancouver Island, a detailed description of which appeared in our March issue, was laid April 6, under the direction of F. B. Gerrard, Asst. Supt. of the Commercial Cable Co. at Canso, N.S.; & J. Wilson, Superintendent of the Pacific Division of the C.P.R. Telegraphs. The laying was done by the Co.'s S.S. Tartar, which brought the cable out from England in a steel tank about 35 ft. in diameter & 12 ft. in height, situated in the second hatch from the fore-castle. In the centre of the tank was a huge circular wooden frame, not unlike a mammoth spool, around which the cable was coiled. This tank was the centre of attraction all day. Fifteen perspiring, & at times, very frightened men, stood in it all day long & guided, or tried to guide, the course of the cable. The coil first passed through holes cut in 2 wooden beams on to a large iron pulley situated at the mouth of the well, & then through a pulley block in the mast almost on a level with the second deck. When the bow deck was reached it passed over 2 large guide pulleys, then on to a series of grooved wheels, which clamped together & prevented the cable paying out too rapidly. The pressure on the wheel was applied by a screw right over the stem of the vessel. So great was the friction caused by the rapid passage of the cable over these wheels, that a man was constantly employed playing water on them with a hose. Before the cable plunged into the water it fell over a final large pulley suspended from timbers projected over the bow, which made it trail down on the starboard side. The laying took about 10 hours, the actual distance being 32 miles, though 40 miles of cable were used.

The new cable starts at Little Beach on the Mainland about $1\frac{1}{4}$ miles north of Point Grey & 3 miles south of Bowen Island. Half-way across the Gulf it is resting 6 $\frac{3}{4}$ miles north of the old cable & at Departure Bay it is about $11\frac{1}{2}$ miles northwest. The landing place on Vancouver Island is between Jesse Island & Hornewell Bluff, about 2 miles northwest of Entrance Island, Departure Bay. With its open & easily accessible situation on both shores, the C.P.R. expects to meet with none of the old troubles. From Departure Bay, the telegraph poles will be strung along the Coal road until the E. & N. Ry. is reached, when the latter will be followed into Victoria.

The C.P.R. has chartered the tug Mystery to pick up the cable connecting Vancouver Island with the Mainland, which has recently been replaced by the new line from Vancouver City to Departure Bay, Vancouver Island. The old cable will be laid between Beecher Bay, Vancouver Island, & Port Angeles, Washington.

Rocky Mountain Telegraph Co.

This Co.'s system, comprising about 300 miles of line in Alberta & Montana, has been sold to the Postal Telegraph Co., & on May 1 the new owners took possession, the Rocky Mountain becoming a part of the Postal system. Many extensions of the plant are contemplated. The Rocky Mountain system connects with the C.P.R. telegraph system, & this deal gives the Postal new connections to the Atlantic & the Pacific coast.

The Rocky Mountain system extends from Butte, Montana, to Anaconda & Missoula, & from Anaconda to Deer Lodge, & thence across the mountains to Helena, then to Great Falls by way of Wolf Creek & Sun River. From Great Falls it extends along the Great Falls & Canada Ry. to Lethbridge, where it connects with the C.P.R. Connections are then made to Winnipeg & Montreal, & from there over the Postal lines to New York. A

new line will be built from Leadville, Colo., to Butte, Mont., thus providing another alternate route, not only for Montana business, but for points in the Northwest Territories.

Under the new order of things the Montana division will be in charge of W. P. S. Hawk, who has been manager of the now extinct Co. for some years, & it is understood that but few changes will be made in the employees.

Prompt Delivery of Messages.

C.P.R. agents & conductors have been notified by Manager Tait of the Eastern lines that too many cases of delay in delivery of commercial telegrams are occurring. Evidently some agents & operators do not understand that after train orders & similar duties in connection with the prompt movement of trains at their stations, the handling of commercial telegraph business is next in importance, & to satisfy the patrons of the Co., & by good service increase the telegraph business, the greatest possible dispatch is required. All commercial telegrams, when the duties above mentioned do not prevent, should be immediately delivered & receipt taken, which must show time. No excuse will be accepted for failure to produce such receipts when required.

There is too much uncertainty at present about the delivery of messages addressed to parties on trains. Hereafter such messages will be delivered to conductors, who will receipt to operators for all commercial messages. Due effort must be made to find parties addressed, if necessary "crying" the message in each coach of the train. If party cannot be found, message must be left at next telegraph office at which train stops, with a note on it to that effect, signed by conductor, on receipt of which operator will at once notify the sending office.

An Operator's Proxy.

R. M. Cameron, of Vancouver, B.C., tells a good story on himself as follows: "I was working as extra operator on a railroad in Georgia 'A' at 'B' and I did not 'pull' together amicably, & one day after we had had quite a 'chewing match' he declared he would thrash me the first opportunity he had. Having heard that he was a strapping big fellow, & that he had quite a reputation as a 'scrapper,' I was somewhat afraid to venture near 'B' office. Several weeks after this, a drummer visited our town who had 'written me up' for failing to deliver a message promptly to him from his firm, & who was going to 'B' that day on train No. 2. I thought now was my chance to get even. I called up 'A,' told him I was coming down on No. 2, & that we would have it out personally. I then described the drummer as accurately as possible, & told him to watch out for me. I was told afterwards that 'A' made for the drummer mumbling something about 'operator at C,' & that the poor drummer had only time to yell 'maniac.'—Telegraph Age.

The severing of the cable between Cuba & the main land forces the Spanish to fall back on Great Britain in order to secure cable communication with Cuba. No message can go to Havana except through British territory. Cable communication exists between Cuba & the British Island of Jamaica. Within the past few months, after long agitation, a line was finally completed connecting Jamaica with Bermuda, another British possession, which in turn connects with Halifax. Previously Great Britain used to communicate with Jamaica through the U. S. & Cuba, & but for the new line would have suffered severely by the latest move. This incident will probably have the effect of hastening the construction of the all-British Pacific cable. Imperialists are urging.

C. P. R. Telegraph Signs.

After a thorough trial, Manager Hosmer, of the C. P. R. Telegraphs, has decided to abandon the use of painted wooden signs for his offices, and to substitute enamelled iron, which is now being adopted everywhere as the most serviceable & up-to-date outdoor sign. As new offices are opened they will be supplied with the new standard signs & the old offices will be equipped with the new signs as fast as the old ones need replacing. The new standard sign is very effectively designed, having a miniature map of the territory covered by the Co.'s. lines in the centre. The single ones go flat against a building; the double ones with flange project at right angles to a building, & either will attract attention where an ordinary painted sign would be hardly noticed. They were supplied by the Acton Burrows Co., Toronto, who are the sole agents for Canada for the largest English manufacturers. As is well-known, the only satisfactory enamelled iron signs are all made in England, the experiments made in various places in America having so far failed to produce an article at all approaching them in quality.

Telegraph Office Changes.**GREAT NORTH-WESTERN,**

OPENED.—Ahmic Harbor, Muskoka Wharf, Tobermory, Port Ryerse, all in Ontario.

CLOSED.—St. Placide, Que.

Telegraph Ticks.

A cable steamer is being built in England capable of carrying 6,000 tons of cable. This is twice the capacity of the present largest cable steamer.

Wm. Christie, Victoria, B.C., Manager of the C. P. R. Telegraph, was married recently to Annie Sinclair, daughter of D. Holmes, of Springville, Pictou County, N. S.

Application is to be made, under the Quebec Joint Stock Co.'s Act, for the incorporation of the Soulanges Electric Co., with headquarters at Coteau Landing, & a capital of \$10,000, to produce electricity, & construct & operate telegraph & telephone lines in the County of Soulanges.

The C. P. R. has constructed a telegraph line between Niagara on-the-Lake & Niagara Falls by way of Queenston, from which place to Niagara Falls the wire is strung on the poles of the Niagara Falls Park & River Ry. The Co.'s. other new work on the Ontario division this year includes an additional railway wire between Smith's Falls & Toronto, & another wire from Toronto to Hamilton via Schaw.

The Postal Telegraph Co., operating the wires along the lines of the Chicago Great Western, is putting in 7 dynamos at Oelwein, Ia., to furnish electric current for all its telegraph lines centering at that point. About 600 cells of battery will be displaced. A 220-volt dynamo will be run by a direct-connected engine, & there will be 6 other dynamos. It is expected the cost of maintenance will be only about $\frac{1}{4}$ that of the batteries hitherto used.

A Vancouver telegram of May 8 says: "Mark Eschwege, of Vancouver, representing a syndicate of French millionaires, the Anglo-French Telegraph Co., with a capitalization of \$500,000, received a cable to-day to commence the survey at once for a cable from Vancouver to Dyea, Skagway & Wrangel. Eschwege left for Dawson to-day. Offices will be at Vancouver, Victoria, Dyea, Skagway, Wrangel & Dawson. The cable is now being manufactured in Europe." The Co. referred to has given notice of application to

Parliament for the necessary powers to construct a line by means of cable & land line from Vancouver to Dawson City, with extensions.

A bill has been introduced in the Hawaiian Legislature, authorizing the construction by the Pacific Cable Co. of a cable between the U.S. & the Islands. This Co., better known as the Scrymser Co., has obtained a favorable report from a congressional committee at Washington on a bill to enable it to lay the cable. The Hawaiian bill gives the Co. exclusive cable rights for 20 years. The cable must be laid within 18 months after the passage of the act by the U.S. Congress, & extended to Japan within 3 years. It must be capable of transmitting 15 words a minute, & the toll rate between Honolulu & San Francisco is not to exceed 35 c. a word, & to Japan it is not to exceed 90 c. a word.

TELEPHONES.**Long Distance Telephony in Canada.**

Rapid as has been the development in the application of electricity to the requirements of social & commercial life, in no direction has it been more surprising than in the science of telephony, & more especially in the extension of its capabilities for long distance communication. It is doubtful if the achievements of the long distance telephone are as yet fully appreciated by many who are well versed in the triumphs of other branches of electrical science, much less to the general public. Comparatively few people in Canada realize that to-day it is perfectly feasible to converse satisfactorily by long distance telephone, say, from Toronto to Portland; Montreal to Pittsburgh or Chicago; Hamilton to Baltimore; or Ottawa to Washington. Yet it can be, and is being done. Leaving aside altogether the enormous & constant application of inventive skill & capital which have been required to bring the local telephone service to its present efficiency, it is certain that the changes & the development of the long distance branch of the service have been equally radical & proportionately expensive.

The first attempt of the Bell Telephone Co. of Canada to establish a long distance service was made in 1881, by the construction of a single iron wire line between Toronto & Hamilton, then considered quite an achievement, & the line was well patronized. Within 3 years, 855 miles of poles & 1,500 miles of wire were constructed by the Co., but so rapidly did conditions change, that even in this short time this type of line was found inadequate to the requirements of a growing business.

In 1885 copper wire was substituted for iron wire, affording better results. The introduction of the electric light & trolley, however, soon forced upon the Co. another & a more radical change, & metallic circuits had to be adopted upon all principal lines. This change, begun in 1885, was carried on as fast as circumstances would allow until all the principal lines of the Co. were made metallic, or, in other words, 2 wires were necessary to transmit a satisfactory conversation where 1 would suffice before the introduction of electric cars.

The extension of the system, in the meantime, went on apace, until, at the end of 10 years, the Co. had in operation 4,484 miles of pole line & 13,148 miles of wire in its long distance service, & at the present time they have in Ontario & Quebec 6,095 miles of poles, bearing 16,567 miles of wire.

Connections have been established with the extensive long distance system of the American Telegraph & Telephone Co. & affiliated companies in the U.S., at Newport, Vermont, St. Albans, Ogdensburg, Buffalo & Detroit, affording a system of direct telephonic com-

munication as far south as Virginia & Tennessee, & from the cities & towns of the Atlantic seaboard westward to Nebraska.

The difference in the cost of the first long distance line of 1881 & the long distance line of to-day affords one of the serious problems in finance which the Co. has to meet. It is not a mere matter of change; it is a revolution requiring absolutely new & far more expensive construction. In 1881 a No. 9 iron wire (288 lbs. to the mile) was the best in use. To-day most of the construction is of 2 copper wires (which together weigh 532 lbs. to the mile). Formerly 32 poles to the mile were sufficient, but with the introduction of copper, in order to reduce the strain upon the wire, 40 poles to the mile are used; the poles have to be set deeper in the ground & more carefully stayed, all of which greatly increases the cost.

The long distance central office equipment of to-day is much more expensive than it was 10 years ago, improvements having been made to facilitate the work of operating & to secure the best results in communications. The astonishing results which the long distance telephone service of to-day affords is due as much to the improvement in instruments, switches & other apparatus, & to the system upon which these are employed, as it is to the improvement in the lines.

Many people suppose the long distance telephone is a competitor of the telegraph, & are unable to understand the cause of the difference in rates. The competition is largely, if not entirely, mythical, & the reason for difference in rates is easily explained. The telegraph employs a single iron wire conductor, & by means of a quadruplex instrument, this single wire is made to serve the purpose of four wires. The long distance telephone service requires 2 copper wires for each circuit, which together weigh nearly double what the single iron wire does, & costs over 5 times as much per pound. The general construction & office equipment of the long distance telephone service is also far more expensive than that of the telegraph. Nor does the comparison end here. An ordinary 10-word telegram may be transmitted in a minute, & it is practicable to transmit 4 messages simultaneously over 1 wire. Each completed conversation over the long distance telephone occupies 2 wires for an average of 10 minutes; the comparison, therefore, being 2 copper wires for 10 minutes, as against $\frac{1}{4}$ of a single wire 1 minute.

Another important difference arises from the essential difference in the 2 systems of communication. The sender of a telegram writes out his message & goes about his business, & the operator forwards it as other demands on the line will best admit, with slight reference to time, thus keeping the telegraph lines fully employed at all hours.

The correspondent by telephone must have the line when he requires it, or not at all, & practically the entire earnings of the long distance telephone line must be within such hours as business men generally are in their offices, the hours during which these lines are productive being thus limited; & as has already been pointed out, the capacity of the long distance line being confined to an average of 6 conversations an hour, it is clear that the rate must be sufficient to yield during that time an adequate return upon the investment & expenses.

Telephone rates are based on mileage and the time the line is occupied. The parties to a conversation absolutely control the line for the whole distance between them, on the average, 10 minutes (5 minutes for the conversation & 5 minutes to arrange the connection & to disconnect the line). It follows that in equity they must pay for the investment they control for the time it is at their disposal. Therefore, distance & time must be the ruling factors in fixing the rates.

The telegraph & long distance telephone have distinct functions & serve a different purpose to the commercial world. The telephone has, in reality, created a business for itself. Time is, to-day, the prime consideration in the transaction of much business, & the long distance telephone obliterates both time & space. Retail merchants no longer carry the heavy stock of former years, but promptly supply the requirements of their customers through the connection the long distance telephone affords with the wholesaler. So, through every branch of business the telephone has become a distinct & indispensable factor, the usefulness of which will be extended as its possibilities become more generally known & recognized.—Electrical News.

A Big Thing.

Winebiddle—Wilkins has invented a telephone appliance which cannot fail to make his fortune.

Gildersleeve—What is it?

Winebiddle—It is a device to enable two ladies to talk over the same wire at the same time.

The Merchants Telephone Co., of Montreal, has obtained authority to increase its capital to \$1,000,000.

Extensive alterations and improvements will be made in the Bell Telephone Exchange at Goderich, Ont., at once.

Claremont, Ont., wants telephone connection with the outside world. A 4 mile line will probably be run to connect with the Stouffville-Uxbridge line.

The St. Philemon Telephone Co., St. Philemon, Bellechasse, Que., is now a reality. The wires & other appliances have been bought, & men are about to commence work on them. The line will take in the parishes of St. Valier, St. Raphael & St. Philemon.

Stealing telephone service is a new form of misdemeanor in England, classed by the Croydon Police Magistrate as petty larceny, & punished by him with a fine of five shillings. An ingenious young man had made a false key admitting him to the public telephones of the National Co., which he used without paying.

The Bell Telephone Co. has commenced work on its new exchange in Quebec, which will be 30 x 88 ft., & will be built of granite, surmounted by a cornice of red copper, & will cost over \$17,000. The switchboard, now being made in Montreal, will accommodate 3,000 subscribers. It is expected the new building will be ready for occupation by July.

The first telephone in Canada was from the residence of Prof. Graham Bell's father in Brantford, Ont., to the house of the Rev. T. Henderson, in the same city. The first line of any length was from Paris, Ont., to Brantford. The battery was in Toronto, some 60 or 70 miles away from Paris. The first commercial telephone was established in Hamilton in 1877.—From the Alphabet of First Things in Canada, by Geo. Johnson, F.S.S.

In Spain the phonograph is used as a receiver for telephonic messages. One advantage of this arrangement is the facility it offers for repeating messages, since the operator at the transmitting station can hear the message spoken by the phonograph at the same time the operator at the receiving station takes it down. Also messages may be transmitted as fast as desired, & the operator at the receiving station can reproduce them at any time & at lower speed, so that the message can be readily taken down.

EXPRESS.

The Pacific Express in Canada.

In answer to an enquiry from this office, Superintendent Bresie, of the Pacific Express Co., wrote from Decatur, Ill., April 18: "This Co. opened offices at Buffalo & Niagara Falls, N.Y., Mar. 21. These are the only offices we have east of Detroit. We have no local service on the Grand Trunk—Wabash trains at present; but my understanding is when the Wabash trains run via St. Thomas to Ft. Erie on what is called the Southern division of the G.T. it is expected the Pacific will do local business, although I cannot state positively as to that, as I have not been advised by this Co. I will hold your letter as a memorandum, & notify you should there be any changes. You understand the Pacific occupy all lines of the Wabash Road, the Missouri Pacific & leased lines, the Union Pacific, also the Toledo, Peoria & Western, & the Keokuk & Western Ry., & several other roads in the west & southwest."

Arrangements have been made between the Canadian & Dominion Express Companies by which each Co. pays the money orders issued by the other Co. In this way the money orders of either Co. are good at all points in Canada.

The Dominion Express Co. has opened an office at Edmonton, Alberta. Hitherto the business has been done from the office at the terminus of the Calgary & Edmonton Ry., at South Edmonton, on the south side of the North Saskatchewan River, Edmonton being on the north side.

According to the last annual reports the G.T.R. owns \$1,500,000 of Canadian Express Co.'s shares & \$33,400 of Intercolonial Express Co.'s shares. The C.P.R. owns all the Dominion Express Co.'s stock, amounting to \$113,700, which represents the cost of original equipment & organization.

The Dominion Express Co. announces the opening of a route on the C.P.R. between Slocan Junction & Slocan City, B.C. This is over the Slocan branch of the Columbia & Kootenay railway, which has been recently completed for traffic. Offices are established at Lemon Creek & Park Siding.

Kind Words of Welcome.

CHAS. M. HAYS, General Manager G.T.R.:—"I have received vol. 1, issue no. 1, of THE RAILWAY & SHIPPING WORLD, and think you have succeeded very well in your first issue, & from all appearances will make a very creditable publication. The information you give in your first issue is very interesting, & I trust that future issues will show a continual improvement."

W. WHYTE, Manager Western Lines C.P.R., Winnipeg:—"I have long felt that our Canadian railways and steamships should have a paper devoted to their interests, & I am very pleased to know that you have decided to start one. For some years to come the great bulk of railway construction will be carried on west of Lake Superior, & your long & intimate knowledge of that territory should stand you in good stead in dealing with this feature of the work."

THOS. TAIT, Manager Eastern Lines C.P.R., Montreal:—"I am glad to hear that you purpose publishing a monthly railway & shipping journal in Canada, & wish you every success in the enterprise. I think there is an opening for a magazine of the kind."

A. C. HENRY, Purchasing Agent C.P.R.:—"I am glad to hear you intend bringing out a publication devoted to the railway & shipping interests of Canada. It seems to me there should be a good field for it, & I

should consider it a good medium for advertisers wishing to reach those classes."

W. J. CAMP, Electrician C.P.R. Telegraphs, Montreal:—"The matter published in your March issue was very good."

THE WESTINGHOUSE MANUFACTURING CO., Hamilton:—"We have received the first issue of THE RAILWAY & SHIPPING WORLD, & beg to say that our advertisement, & also the article on our works are entirely satisfactory; in fact, we think that as a whole the first issue does you considerable credit."

MYRA STAFFORD THOMPSON, Toronto, in Profitable Advertising, Boston: A new monthly publication, whose name is the index to its character, has just made its first bow to us. THE RAILWAY & SHIPPING WORLD, published in Toronto, will satisfy a long-felt need in Canada's business world, & its initial number gives promise that its future shall be highly successful. It gives a desired chance to many large manufacturers to appeal directly & exclusively to those interested in their goods. As a medium for such announcements, in addition to its railway & shipping news, it will be equally appreciated by the advertiser & all others interested in these industries.

STRATFORD, ONT., HERALD:—"An enterprising Toronto firm has found a field for a new monthly publication entitled THE RAILWAY & SHIPPING WORLD, vol. 1, no. 1, of which has just reached The Herald office. It is a well-gotten up & very interesting periodical devoted to steam & electric railways, shipping, express, telegraph & telephone interests. As might be expected, it starts out with an article on the Canadian Yukon Ry., a synopsis of the contract with Mackenzie & Mann & other matters of equal importance in the railway world & to the various interests it claims to represent. It does not enter into competition with any existing publication & promises to be independent of any corporation or political party."

MARINE RECORD, CLEVELAND, OHIO:—"THE RAILWAY & SHIPPING WORLD is the title of a highly creditable monthly journal which made its first bow to the public in Toronto in March. In its salutary the publishers announce that it takes its place in the field of periodicals for the purpose of representing the transportation interests of Canada—steam & electric railways & shipping, & the allied express, telegraph & telephone interests. The March issue contains 28 pages & the April number 56 pages, which is a very promising indication of the prosperity of the new journal. The Record wishes the new competitor for trade favors much success, & we believe that there is an excellent field for its steady growth & development under the apparent able management of its publishers."

NEW GLASGOW, N.S., WESTERN CHRONICLE:—"We have received the first number of THE RAILWAY & SHIPPING WORLD, a monthly issued in the interests of transportation, steam & electric railways & shipping in Canada, & the allied express, telegraph & telephone interests. It is a neatly gotten-up magazine of 28 pages, with suitable cover. The number before us contains articles on the Canadian Yukon Ry., the contract with McKenzie & Mann, the construction of the line, & the Act to confirm the contract, the Victoria Bridge—the Grand Trunk's new structure at Montreal, the Crow's Nest Pass, & the progress of the C.P.R. line to the Kootenay, the Westinghouse Air Brake, the Wabash in Canada, traffic & finance, telegraphs & cables, to the great Yukon gold fields by ocean & river, & a splendid map of the Yukon country. The number contains many fine illustrations, among which is a beautiful photograph of the Hon. A. G. Blair, Minister of Railways, on the 1st page. The first number is a credit to Canadian journalism & contains much valuable information."

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THE

Railway and Shipping World

Devoted to Steam & Electric Railway, Shipping, Express, Telegraph & Telephone Interests.

VOL. I. NO. 4.

TORONTO, CANADA, JUNE, 1898.

\$1 A YEAR.

The G.T.R.'s. General Manager.

Chas. M. Hays was born at Rock Island, Ill., in 1856, & on Nov. 10, 1873, entered the Passenger Department of the Atlantic & Pacific Ry. at St. Louis, Mo.; from Jan. 2, 1874, to Mar. 9, 1874, he was employed in the auditor's office, & from Mar. 9, 1874, to Jan. 1, 1877, as clerk in the General Superintendent's office of the same road; from Jan. 1, 1877 to April 1, 1884, he was Secretary to the General Manager of the Missouri Pacific Ry.; & from April 1, 1884 to Oct. 1, 1886, Secretary to the General Manager of the Wabash, St. Louis & Pacific Ry.; from Oct. 1, 1886, to July 1, 1887, he was Assistant General Manager of the same road; from July 1, 1887 to July 1, 1889, he was General Manager of the Wabash Western Ry.; on July 1, 1889, he was appointed General Manager of the Wabash Railroad Co. (successor to the Wabash Western & Wabash R'ys.); & in Feb., 1894 was appointed Vice-President & General Manager of the Wabash Railroad. On Dec., 31, 1895, he severed his connection with the Wabash Co. to accept the position of General Manager of the G. T. R. System, under a 5 years' contract, at a salary of \$25,000 a year.

Mr. Hays married Clara J., daughter of Wm. H. Gregg, St. Louis, Mo., & is a Presbyterian. His residence is 320 Drummond St., Montreal.

A contemporary, in speaking of Mr. Hays recently, said:—"There is no doubt at all about the fact that he is a great railway manager. He took charge of the G. T. when it was losing money right & left, & has already brought it to a point where revenue & expenditures meet. This is a great feather in the cap of the Manager, for no one had ever succeeded in doing it before.

"One of the great troubles with the G. T. used to be that it was managed from England. The Manager in Canada had to write or cable home whenever there was anything to be done that was at all out of the ordinary, & the consequence was that important moves were delayed so long that opportunities were always being lost.

"When Mr. Hays took charge of the road he stipulated on having autocratic authority to follow out his own ideas in his own way. There was some demur at this, but the power he sought for was finally conceded to him, & the result is seen."

Manitoba's Hudson's Bay Line.

In explaining to the Legislature recently the Government's proposal to aid in the extension of the Dauphin railway to the Great Saskatchewan, Premier Greenway said:—"I do not care what the reports will estimate as the length of navigation in Hudson's Bay, certain facts have been established which cannot be gainsaid. Ever since I was a member of a committee of the House of Com-

one of the new steamers that have been built to cut through the ice on the great lakes. It is perfectly marvellous to find what these steamers are able to do in this way, cutting through ice three feet thick. With these improvements it is impossible to say the advances that a few years may make.

"Thus we are not going to the Saskatchewan only to develop the country on both sides of the line; & here let me say that the line will pass through a portion of the Carrot River valley, a large, fertile district containing over a million acres of land. This is bound to be rapidly settled up, giving business to the line & extending the trade of Winnipeg & the whole Province. It is to our advantage to open up these lands & get the benefit of the trade, even though they may lie beyond the bounds of our own Province. Now that we are getting the Dominion authorities to treat us a little more reasonably in regard to our lands & what the Province ought to have in this respect, it is to be hoped they will take a reasonable view of this part of the question also & extend the boundaries of our Province to Hudson's Bay.

"No matter what view may be taken of the suitability of this land for grain growing there must be in the north large areas of land suitable for grazing cattle. If these areas do not extend down to the Bay they will extend to within say 200 miles of it, which will leave 400 miles or more from the boundary of the Province to the Bay suitable for raising cattle. These can be shipped out by the direct route from the Bay instead of going by the longer, more southern route. Besides this there are the possibilities for dairy produce. We do not know as yet what these wide areas are capable of, but we know that when the road reaches the Saskatchewan, settlers will go into that country & its capabilities will soon be made known & developed.



CHARLES M. HAYS.

mons in 1876, which received evidence on this matter, in view of the fact that the supplies for this country came in by the Bay for 200 years, I have been convinced that the route was to a great extent practicable; & I believe that we will find that navigation is possible for a considerable period each year. Mr. Hind, who appeared before the committee, showed that the straits were navigable for 4 months in the year.

"The other day I received a photograph which I will be pleased to show members, of

W. E. DAVIS, General Passenger & Ticket Agent G.T.R., Montreal, writes:—"I have just had an opportunity of examining the May copy of THE RAILWAY & SHIPPING WORLD, & find much information therein of interest. I enclose subscription for a year. In sending the paper to my address will you kindly have the wrapper marked 'Personal,' as so many papers come to my office that I do not see."

THE RAILWAY & SHIPPING WORLD.

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THE RAILWAY & SHIPPING WORLD CO., PUBLISHERS,
11, MELINDA STREET, TORONTO, CANADA.

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ADVERTISING RATES furnished on application to the publishers.

TORONTO, CANADA, JUNE, 1898.

FINANCE, MEETINGS, &c.

Quebec & Lake St. John Railway.

At the annual meeting of shareholders at Quebec, May 12, the following directors were elected: F. Ross, G. Lemoine, T. A. Piddington, Hon. P. Garneau, J. T. Ross, E. Beaudet, G. Moir, Hon. J. Tessier, E. Hanson, & F. W. Ross, in addition to the non-elective members of the Board, who are Hon. S. N. Parent, Mayor of Quebec; A. Robitaille, M.P.P., representing the Provincial Government, & Judge J. A. Gagne, representing Chicoutimi.

Following are extracts from the annual report: "The number of passengers carried during the year on the whole system has been 153,000, as compared with 130,009 in the previous year, and the number of tons of freight 199,441, as against 150,346. The freight carried in 1897 consisted of 2,020 carloads of cordwood & 740 of pulp wood, making 49,680 tons, 4,623 carloads of sawn lumber, 170 of square timber, 456 of ties, 366 of saw logs, equal to 67,416,000 feet, or 98,094 tons; 603 carloads of pulp & paper, 288 of brick & stone, 54 of cheese, 36 of grain & 1,966 of general merchandise or 51,667 tons, making in all 11,322 carloads or 199,441 tons. The quantity of cheese carried by the railway is constantly increasing, amounting last year to 2,082,676 lbs. against 1,421,459 in the previous year. The value of this was about \$200,000, in addition to which the railway also transported a large amount of butter in refrigerator cars, under the terms of an agreement with the Dominion Government, which is doing everything possible to promote the dairy industry. Several new mills have been built during the year 1897, & are giving an increasing traffic in sawn lumber. The pulp mill at Chicoutimi is completed, & is shipping its product daily. Another pulp mill is about to be erected near Roberval, & a chemical pulp mill at Lake Bouchette, & the extensive water power at the Jacques Cartier River is also likely to be utilized for manufacturing purposes during the coming year. An additional section of 10 miles of the Great Northern Ry. from Grand Mere westward has been completed by that Co. since the last annual report, & also a branch line into the Grand Mere pulp mills. Very extensive paper mills have been erected at Grand Mere, and will be in operation in July. Under an agreement between the Pulp Co. & the G. N. Ry., all the business of these mills is being carried over a portion of the G. N. Ry., which the Q. & L. St. J. Ry. is now operating. The new section of the G. N. Ry. also runs close to the Shawenegan Falls, a very fine water power which has recently been sold by the Provincial Government to a company, with the undertaking that \$4,000 will be expended in erecting manufacturing industries. The extension of the Great Northern road to a connection with the Parry Sound Ry. is not being pushed as rapidly as might be desired. This is much to be regretted, as the volume of traffic coming from Parry Sound eastward is already exceeding all expectations, 5 large steamships being now employed in carrying grain, flour & other freight between Chicago & Duluth & Parry Sound."

In connection with James Bay the report says: "During last year the Provincial Government sent an exploring party from Lake St. John to James Bay, through the centre of the large territory recently acquired by the Province in that district, covering an area of 70,000,000 acres. The result of this exploration proves that this immense country is much more valuable than has hitherto been supposed, the land being very level, well timbered, having a good soil & a climate quite as temperate as that of the Lake St. John district, & a snow fall about half that of Montreal. It is also reported to be rich in minerals. The exploration also proved the existence of an excellent route for a railway from Roberval to the mouth of the Nottaway River on James Bay, where there is a harbor having 27 ft. of water, with about 4,000 miles of coast line tributary to any railway which may be built there. This route will pass over a summit 300 ft. lower than that crossed between Quebec & Lake St. John, & will admit of the construction of a railway with very easy gradients. A charter for the construction of this road is held by the G. N. Co., & should it be carried out, must greatly enhance the value of the Lake St. John property.

"The settlement of the Lake St. John district has made very satisfactory progress during the past year. The Dominion Government having voted your Co. a grant of \$8,000 to assist in this work, a vigorous colonization movement has been pushed on. During the year 1,272 bona fide new settlers were carried free to Lake St. John under this agreement, & 191 delegates, representing 97 parishes & States, visited the country to report as to its advantages for settlement. A large proportion of these new settlers are repatriated Canadians from the New England States. The country is now becoming so well known that we may look for a very large influx of new settlers; already this spring we have sent in 291. The arrangements for carrying on this work are now very satisfactory, as there are several lines of steamers running from Roberval to the different points available for settlement."

Canada Southern Railway.

At the annual meeting at St. Thomas, Ont., June 1, the old directors & officers were re-elected as follows: President, C. Vanderbilt, New York; Vice-President, C. F. Cox, New York; Secretary, Nicol Kingsmill, Toronto; other directors, W. K. Vanderbilt, C. M. Depew, S. F. Barger, E. A. Wickes, J. E. Brown, New York; J. Tillinghast, Buffalo.

The number of miles of road in the C.S.Ry. system at the close of 1897 was 457.30, of which 380.04 were in Canada, 65.61 in Michigan, & 11.65 in Ohio. Second track 97.56 miles, & sidings 234.91, makes the total miles of single track 789.77. There are 151 locomotives, 117 cars of passenger equipment, & 3,814 of freight equipment.

RESOURCES OF THE YEAR 1897.

Net Earnings of 1897	\$282,402.16
Received from the Michigan Central Ry. Co., balance of 1896 account	153,036.68
Receipts from other sources	12,815.93
Cash & Cash Assets, Dec. 31, 1896	7,031.25
	\$456,486.02

DISPOSITION OF RESOURCES.

Dividend 24, paid Feb. 1, 1897	\$150,000.00
25, paid Aug. 1, "	150,000.00
Balance of Net Earnings, 1897, due from Michigan Central Ry. Co.	132,244.07
Cash & Cash Assets, Dec. 31, 1897	24,241.95
	\$456,486.02

CONDENSED BALANCE SHEET, DEC. 31, 1897.

ASSETS.	
Construction & Equipment	\$28,567,393.16
CAPITAL STOCKS	
Toledo, Canada So. & Det. Ry. Co.	\$1,547,662.50

Canada Southern Bridge Co.	450,000.00
Michigan Midland & Canada R.R. Co.	275,425.00
Leamington & St. Clair Ry. Co.	50,000.00
Sarnia, Chatham & Erie Ry. Co.	33,000.00
Niagara River Bridge Co.	700,000.00
	3,056,087.50

FIRST MORTGAGE BONDS:

Toledo, Canada So. & Det. Ry. Co.	1,511,737.50
Canada Southern Bridge Co.	1,000,000.00
Michigan Midland & Canada R.R. Co.	323,635.00
Sarnia, Chatham & Erie Ry. Co.	65,000.00
	2,901,372.50
Other Investments	40,321.68
Accounts Receivable	940.00
Due from Michigan Central R.R. Co.	132,244.07
Cash & Cash Assets	24,241.95
	\$34,731,800.86

LIABILITIES.

Capital Stock	\$15,000,000.00
New 1st Mortgage Bonds	13,925,000.00
2nd " "	5,650,000.00
Old 2nd " "	2,131.47
Dividend 26, payable Feb. 1, 1898	150,000.00
Dividends unclaimed	174.25
Accounts payable	894.48
Income Account	3,600.66
	\$34,731,800.86

INCOME ACCOUNT.

Balance shown Jan. 1, 1897	\$ 19,553.84
Net Earnings of 1897	282,402.16
Other Income	1,644.66
	\$303,600.66

LESS:

Dividend 25, paid Aug. 1, 1897, 1%	\$150,000.00
" 26, paid Feb. 1, 1898, 1%	150,000.00
	300,000.00
Credit Balance, Dec. 31, 1897	\$ 3,600.66

The annual meetings of the Canada Southern's various auxiliary companies was held at St. Thomas, June 1 & 2, when the following directors were elected:

TOLEDO, CANADA SOUTHERN & DETROIT RY. Co.—C. Vanderbilt, W. K. Vanderbilt, C. M. Depew, J. Tillinghast, S. F. Barger, E. A. Wickes, E. D. Worcester, C. F. Cox, H. B. Ledyard.

MICHIGAN, MIDLAND & CANADA R.R. Co.—C. Vanderbilt, W. K. Vanderbilt, C. M. Depew, J. Tillinghast, S. F. Barger, E. A. Wickes, E. D. Worcester, C. C. Clarke, C. F. Cox.

CANADA SOUTHERN BRIDGE Co.—C. Vanderbilt, W. K. Vanderbilt, C. M. Depew, J. Tillinghast, S. F. Barger, E. A. Wickes, E. D. Worcester, C. F. Cox, H. B. Ledyard.

NIAGARA RIVER BRIDGE Co.—C. Vanderbilt, W. K. Vanderbilt, C. M. Depew, J. Tillinghast, S. F. Barger, E. D. Worcester, C. C. Clarke, C. F. Cox, H. B. Ledyard.

SARNIA, CHATHAM & ERIE RY. Co.—C. Vanderbilt, W. K. Vanderbilt, J. Tillinghast, C. F. Cox, N. Kingsmill.

LEAMINGTON & ST. CLAIR RY. Co.—C. Vanderbilt, W. K. Vanderbilt, C. M. Depew, C. F. Cox, N. Kingsmill, J. J. Kingsmill, J. Ross.

NIAGARA GRAND ISLAND BRIDGE Co.—J. Tillinghast, C. Vanderbilt, W. K. Vanderbilt, S. F. Barger, E. D. Worcester, E. A. Wickes, C. F. Cox, C. M. Depew, C. C. Clarke.

CANADA & MICHIGAN BRIDGE & TUNNEL CO.—A. Onderdonk, D. O. Mills, J. Ross, N. Kingsmill, J. J. Kingsmill, G. S. MacKay, W. P. Torrance, W. H. Onderdonk, J. L. Onderdonk.

The last mentioned Co. has not yet passed under the control of the Canada Southern system, but it probably will.

Qu'Appelle, Long Lake & Saskatchewan.—The net loss in operating this line for April was \$677.99, as against net earnings of \$4,401.42 for the corresponding period. This is attributable to the cessation of traffic consequent on the partial destruction of the South Saskatchewan bridge.

Grand Trunk Interest, Rentals, &c.

Following is a statement of the annual interest on loan capital & debenture stock of the Co., as shown in the last annual report:—

Date of Maturity.		Amount.	Annual Interest.		
	BONDS AT SIX PER CENT.	£	£	s.	d.
July, 1919	Second Equipment Bonds	114,300	24,858	0	0
June, 1898	Hamilton & North Western	400,400	24,804	0	0
	Northern Third Mortgage	15,900	954	0	0
	BONDS AT FIVE PER CENT.				
July, 1902	Northern First Mortgage	611,100	30,555	0	0
Jan. 1912	Midland Consolidated	1,072,100	53,605	0	0
May, 1908	" Sectional	458,600	22,930	0	0
Jan., 1902	Montreal & Champlain Junction	104,100	5,155	0	0
Aug., 1903	Grand Trunk, Georgian Bay, & Lake Erie	187,500	9,375	0	0
	BONDS AT VARYING RATE.				
Extended to 1901	Wellington, Grey & Bruce	100,500	4,140	12	0
	Total Bonds	£3,372,500			
	DEBENTURE STOCKS AT FIVE PER CENT.				
Perpetual	Grand Trunk	1,270,375	213,518	15	0
"	Great Western	2,723,080	136,154	0	0
	DEBENTURE STOCKS AT FOUR PER CENT.				
"	Grand Trunk Consolidated	12,098,393	483,935	14	5
"	Northern	347,990	13,919	12	0
	Total Debenture Stocks	£19,439,858			
	Total Bonds & Debenture Stocks	£22,812,338			
	Matured Bonds not presented for payment	2,200	£1,023,094	13	5
	Total	£22,814,538			

The annual charge for rentals of leased lines & interest on outstanding bonds, &c., of controlled lines is as follows:—

		Amount Outstanding.	Annual Charge.	
			Rate.	Amount.
	RENTALS CHARGED IN NET REVENUE ACCOUNT.	£ s.		£ s. d.
999 years.	Atlantic & St. Lawrence	1,132,918 0	6	67,975 1 7
Shares	Chicago, Detroit, & Canada Grand Trunk Junction	117,977 10	4	4,719 2 0
Rental	Buffalo & Lake Huron	1,288,893 0		70,000 0 0
		£2,539,788 10		£112,694 3 7
Jan., 1902	Michigan Air Line	£144,700 0	5	£7,235 0 0
	* BONDS &c., OF CONTROLLED LINES.			
Jan., 1900	Chicago & Grand Trunk, 1st Mortgage	979,459 0	6	58,767 10 10
" 1922	Chicago & Grand Trunk, 2nd Mortgage	633,916 0	5	31,695 16 0
£298,100, Jan., 1901	Grand Trunk Junction Bonds.	494,200 0	5	24,710 0 0
£196,100, Jan., 1934				
Nov., 1918		495,295 0	6	24,312 6 0
Oct., 1900		590,856 0	6	35,451 7 2
	Detroit, Grand Haven, & Milwaukee Equipment	300,000 0	5	1,500 0 0
	Detroit, Grand Haven, & Milwaukee Consolidated			
	Detroit, Grand Haven, & Milwaukee, Mowatt's Mortgage	£1,133,636 0		£176,437 0 0

SUMMARY OF ANNUAL INTEREST & RENTALS AT DECEMBER 31, 1897.

Interest on loans & debenture stock	£1,023,665
Rentals	142,694
Interest on Michigan Air Line bonds	7,235
Interest on bonds, &c., of controlled lines	176,437
	£1,350,031
Annual Interest sanctioned but unexercised at Dec. 31, 1897	74,659
Total Annual Interest sanctioned at Dec. 31, 1897	£1,424,690

*This is a contingent liability, as the G.T.Co. is only responsible for this interest when the respective companies fail to earn it, & then only so far as it is responsible under traffic & other agreements.

Manitoba to Hudson's Bay.

Following are the various offers which the Province of Manitoba has made to secure a railway to Hudson's Bay:—1885, a bonus of \$1,000,000 Manitoba debentures payable in 25 years with interest at 4%.

1886, a guarantee of 4% for 25 years on the company's bonds for \$4,500,000, equal to a charge of \$180,000 a year. This was amended in 1887, but the guarantee of 4% on \$4,500,000 remained.

1890, cash bonus of \$3,000 a mile for 250 miles, a total of \$750,000 or a guarantee of interest at 4% for 20 years on bonds of the

company for \$5,600 a mile for the road within the province, which at 250 miles would be \$1,400,000, or \$56,000 a year.

1891, a cash grant of \$1,500,000 for a complete line to the Bay.

Quebec, Montmorency & Charlevoix.

At an adjourned special meeting of shareholders May 26, it was decided to exercise the rights vested in the Co., & to acquire the franchise & property of the Quebec District Ry. Co. before July 1—(Official). Further particulars as to the intentions of the Co. will be found on another page of this issue, in the department devoted to electric railways.

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases over 1897 from Jan. 1, 1898, are as under:

	Earnings.	Expenses.	Net Profits.	Increase.
Jan., 1898	\$1,672,372.04	\$1,156,744.45	\$515,627.59	\$142,284.49
Feb. ..	1,494,596.98	1,070,929.62	423,667.36	38,844.28
Mar. ..	2,079,479.06	1,320,245.55	759,233.51	233,020.67
April..	1,958,461.88	1,241,371.19	717,090.69	89,973.35

\$7,204,909.96 \$4,795,290.81 \$2,409,619.15 \$504,122.79

The approximate traffic earnings for May, 1898, were \$2,229,000, against \$1,948,000 in May, 1897, an increase of \$281,000.

Grand Trunk Earnings.

These figures include the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.

	1898	1897	Increase.
Jan.....	\$1,916,332	\$1,639,614	\$276,718
Feb.....	1,674,453	1,522,246	152,207
Mar.....	2,048,970	1,803,279	245,691
April.....	1,918,477	1,776,840	141,637
May.....	1,940,980	1,774,802	166,178

\$9,499,212 \$8,516,781 \$982,431

C.P.R. Reports Wanted.

The Editor of THE RAILWAY & SHIPPING WORLD wants, to complete a file, a copy of the C.P.R. Co's. annual reports for 1881, 1882, 1883, 1884 & 1886, together with the proceedings of the annual meetings at which these reports were adopted. Anyone who can supply any or all of these is requested to communicate with the Editor.

Financial Notes, &c.

British Columbia Railway Aid. A return recently presented to the Legislature shows that the amount of railway bonds guaranteed by the Government is \$647,072, bonds of Nakusp & Slocan; annual interest on bonds Shuswap & Okanagan, \$49,990, terminating in 17 years; Nakusp & Slocan, 4 per cent, \$25,882, terminating in 20 years; & Victoria & Sydney 2 per cent. \$6,000, terminating in 19 years, a total of \$81,875. Against this the Province annually receives 40% of the gross earnings of the Shuswap & Okanagan & Nakusp & Slocan. The amount of land set apart for subsidizing railways is 2,719,087 acres conveyed, & 3,656,040 acres reserved.

Brockville, Westport & Sault Ste. Marie.—At a recent meeting of directors at Brockville, J. G. Leiper resigned as President & was succeeded by E. R. Dick, of 310 Chestnut street, Philadelphia, Pa., who was also elected a Director.

Calgary and Edmonton net earnings for April were \$25,721.96, as against \$10,995.05 for corresponding period.

Central Ontario.—The annual meeting was held at Trenton, May 18. The directors elected & officers appointed at a subsequent meeting of directors are:—President, S. Burke, Cleveland, Ohio; Vice-President, H. S. Johnson, Cleveland; other directors, C. W. Bingham & H. P. McIntosh, Cleveland; G. G. Allen, Akron, O.; T. G. Blackstock, Toronto; G. Collins, Trenton; Genl. Supt. & Sec., G. Collins, Trenton; Treasurer, R. H. Spencer, Trenton. It was decided to extend the line from the present terminus at Coe Hill northerly to Bancroft, 18 miles. (Official.)

Dominion Atlantic receipts for the 4 months to the end of April were \$136,459, as against \$128,414 for corresponding period of 1897.

The Dominion Government has decided to pay the award of the Exchequer Court in favor of this Co., & to pay it \$100,000 for commutation of its privileges in respect of the drawback of customs and import duties.

Duluth, South Shore & Atlantic net earnings for the 4 months to the end of March were \$111,140, as against \$85,023 for the corresponding period.

Kingston & Pembroke. We made some reference in our May issue to the legislation this Co. is securing at Ottawa. It may be added that the road was originally bonded for \$5,000,000 in 30 year bonds, but no interest has been paid for the last 5 years. Some months ago the road went into the hands of a receiver, but that official had no power to sell the line. As a means of relief, it is proposed to allow the stock, amounting to \$5,000,000, to be reduced one-half, to issue preferred stock to an amount sufficient to pay off all liabilities, amounting to about \$150,000, & to discharge the overdue interest charge on the bonds. It is then proposed that bondholders surrender their 6% bonds for new ones at 3%. The difference of 3% for the unexpired portion of the 30 years is to be capitalized & distributed pro rata among the present holders of the bonds.

Lake Erie & Detroit River.—At the recent annual meeting at Walkerville, the following were elected: President, F. H. Walker; Vice-President, Dr. S. A. King; Managing Director, E. C. Walker; Treasurer, J. H. Walker; Secretary, Henry Lye; Solicitor, J. H. Coburn. The latter succeeds J. Leggat.

Manitoba & Northwestern.—In reference to the paragraph in our May issue, pg. 63, it may be stated that no action has been taken by the Manitoba Government on this Co.'s proposal to give the Government 590,000 acres of land at \$2 an acre, in extinction of its debt of \$1,185,000, which would leave the Co. 110,000 acres to sell. The proposal was made too late in the recent session for the Government to deal with it, so that nothing definite can be done before next session, even should the Government be favorable to the proposal, of which as yet there is no indication.—(Official.)

Minneapolis, St. Paul & Sault Ste. Marie net earnings for March were \$149,600, as against \$111,700 for the corresponding period.

Quebec Central net earnings for the three months to the end of March was \$10,397, as against \$13,559 for corresponding period.

PASSENGER MATTERS,

The G.T.R. Baggage Department.

A new edition of the revised rules & regulations of the Baggage Department has recently been issued by the General Baggage Agent, J. E. Quick, who, in response to an enquiry as to what important changes have been made, writes us as follows:

The Baggage Department has been practically reorganized throughout with a view of the betterment of the service. In all journeys undertaken for pleasure or profit, the baggage question is an important one, because upon its convenient, safe, & prompt transportation the success & satisfaction of such journeys almost entirely depend. To promote these results in the highest degree possible is the object of these instructions. The most important change of interest to the travelling public is the improved method of checking in the way of the introduction of card checks in the place of brass checks. The present system, as nearly every one who has had baggage checked is aware, consists of a brass check which simply bears the number & the name of the road issuing it.

In addition to being cumbersome & unwieldy to carry, it gives no information to the passenger as to the destination the baggage is checked to, & passengers receiving one of these for baggage feel that they only have a check calling for a certain piece of baggage, but are not at all certain that it is checked to the correct destination, or that they will find it at proper station when they arrive at destination, & feel more or less uneasy until baggage is again in their possession.

The new system that I have introduced is as follows: The check in itself is a neat card-board check, convenient to carry, with a good plain number, & with blank space in which

the baggagemaster must write the name of station destined for fully, so that passenger receiving check for baggage can see at once whether it is checked to proper destination or not. The strap portion of this check, bearing the same destination & number, is placed on a brass holder provided for that purpose, & attached to baggage. The advantages of this check over the old brass check are manifold. In addition to the convenience of handling & assured correctness of checking to a passenger, it is a much safer check to the railway company, & will avoid a great many vexatious delays & much unnecessary tracing for baggage by the railway company. These card checks are issued to the different stations from the General Baggage Office, & a correct record of such issue is kept, so that in case of a piece of baggage being short, a telegram to the General Baggage Agent, giving number of check, will enable him at once to trace same, as it will give him the starting point for such tracing.

It is the desire of the Management, in addition to systematizing the manner of checking & handling baggage, to avoid vexatious delays, to impress upon the staff the importance of handling baggage as carefully as circumstances will allow, & all cases of careless & rough handling will be investigated & severely dealt with.

The handling of baggage in England & on the European continent is generally more carefully performed than in America. This is not due so much to a higher standard of service as to the improved facilities for handling, to the fact that the men so employed have no other duties to perform, that the character of the baggage is not so heavy and unwieldy to handle, & that more time is granted for the work. Much of the complaint against the rough handling of baggage on our American railways is due to the high speed of trains demanded by the public for their accommodation & the rapidity required in consequence in the handling of baggage. The generous allowance of 150 lbs. free has also much to do with the matter. It is no uncommon thing for baggagemen to have offered to them trunks weighing from 200 to 250 lbs. each, &



The following leading railroads of Canada are using Page fencing in quantities of from 1 mile to 100: Canadian Pacific; Grand Trunk; Intercolonial; Lake Erie & Detroit River; United Counties; Canada Atlantic; St. Lawrence & Adirondack; Michigan Central; Manitoba & Northwestern; East Richelieu Valley; Toronto, Hamilton & Buffalo; Thousand Islands; Crow's Nest Pass.

For further particulars send to the Page Wire Fence Co., Ltd., Walkerville, Ont.

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compared to the small steamer-shaped trunk carried by Europeans, it is easy to understand why they cannot be lifted & handled with the same ease & safety. Passengers often complain of the manner in which their heavy packages are handled, without taking into consideration that they themselves are often to blame by appearing at the baggage room only one or two minutes before the departure of the train. Witness the excited crowd in the baggage room at a large station a few minutes before train time, with uplifted hands, all calling & shouting at the same time that their baggage must positively go on that certain train. How much trouble & anxiety could have been avoided by the admirable plan of having the baggage checked direct from the house by the transfer company.

Many of the packages containing baggage are unreasonably bulky; others, again, are insecurely fastened, or are too frail to withstand the ordinary usages of travel. In the practical operation of handling, a single employe is frequently called upon to load & unload trucks unassisted. When this is the case he is very often able, from the weight or bulk of a package, to exercise force enough to precipitate it to the ground; he cannot lift it or carry it, & when this is the case, the package, unless well secured, is very likely to

carriage of the passenger himself, so greatly concerns the traveller as the provision made for handling his personal baggage, & so far as the stockholder is concerned, the effective management of the baggage department directly & greatly effects the usefulness of his property & the income he derives from its operation.

"The baggage department, while once considered a department of protection, may now be considered one of both protection & revenue; for while the exemption of the company from claims, account damage, loss & detention must necessarily be secured by some comprehensive plan of handling & billing, coupled with the vigilance & care of its employes, the revenue collected from the charges for excess & storage & from the transportation of milk is sure to show equally satisfactory & improved results on the side of revenue."

The perplexities of the baggage business are many, & the difficulties are understood only by those having charge of its affairs. Many curious & interesting examples of complication could be given to prove that they are not far removed from the proverbial Chinese puzzle. The business of handling & checking baggage must be quickly performed, & while the railway cannot enforce regulations which in any way affect the public's con-

mistakes in identification when having their baggage checked at the baggage-room. Through the checking & the rechecking of the piece at the various junction points, the trace becomes difficult, & it may finally be located in California while the real owner is mourning its loss at some remote point in Canada. I enclose the Preface to the Book of Rules, which gives the gist of what is expected of employes in this department.

PREFACE.

"The relations & responsibilities of common carriers to the travelling public are such as require from the carrier the most constant & watchful care of the property of the traveller. As station baggage agents & train baggage-men you are entrusted with the safe keeping & proper transportation of effects which are valuable to the owners. Nothing can be more annoying to the traveller than the loss, abuse, or delay to his baggage. You are, therefore, expected and required by the Co. to become thoroughly familiar with the following rules & regulations in order to insure careful handling, proper protection & safe delivery of baggage, etc., entrusted to your care. The proper collection & reporting of all excess baggage, & the safe keeping of all excess baggage & C.O.D. checks, are matters that require the



A RECENTLY COMPLETED GRAND TRUNK MOGUL LOCOMOTIVE.

that the fault does not rest so much with the railway company as with the owner. If the former exercises every precaution in handling, consistent with the nature of the business & the amount of time & force available, every condition of care & diligence has been satisfied. If injury occurs under these circumstances in consequence of the package being insecure or unreasonably heavy or bulky, the fault lies with the passenger & not with the carrier.

The quantity of baggage handled by the railroads of the U.S. is enormous. M. M. Kirkman, Second Vice-President C. & N. W. Ry., in his book on the Science of Railways, says:

"The baggage of railways exceeds, generally, the express traffic; it is also of much greater value relatively, yet in its handling only a few officials are employed, while in the conduct of an equal amount of express business many supervising managers of high business capacity are engaged & paid salary commensurate therewith. The baggage traffic of railways may be said to represent an unknown quantity in their affairs, & while it seemingly offers only a limited field of inquiry, it is really extended in its scope & presents many interesting & curious problems. No phase of railway management, it may be said, save the be injured. In the latter case it is apparent

venience, it must at the same time adopt all necessary precautions for the care of property entrusted to its keeping. Passengers do not view with equanimity delays or damage to their baggage, & the inconvenience & annoyance resulting in consequence cannot be alleviated by an explanation of the cause. Safety is only secured by the careful observation of all rules and regulations for the government of the business, & the unceasing vigilance of all employes connected with this branch of the service. If the reports to the General Baggage Agent are always complete & accurate, & the check supply carefully protected & mismatched checks avoided; if the checking is always accurate according to the route & destination of ticket, & the baggage is carefully handled while in transit & guarded while stored at stations, it can be stated that loss, damage or delay could only occur through some unforeseen accident in the operation of the trains. But with the great volume of property handled, & the limited time in which the work must be performed, it is impossible, even under a most thorough & complete system, to prevent occasional mishaps. Passengers themselves frequently contribute to these. On account of the similarity in the shape & appearance in valises & trunks, & in the absence of marking, passengers often make

utmost care on the part of station baggage agents. While employed by the Co. you must try & give satisfaction to the public & establish a reputation for courtesy & civility to everyone. You are expected to be polite at all times, & to answer civilly all questions addressed to you, & if unable to give any necessary information, endeavor, when practicable, to obtain it. Endeavor to make this line popular, because its business is dependent on the good-will of the people."

It recently came out before the Public Accounts Committee in Ottawa that certain Dominion Government officials who hold railway passes use them when travelling on Government business & charge the treasury the amount they otherwise would have paid for fare.

The C.P.R.'s Summer Tours pamphlet comes out in 4 parts this season, divided as follows:—1. Quebec, Maritime Provinces, White Mountain & Atlantic Sea Coast. 2. The holiday resorts of Ontario, Niagara, The River St. Lawrence, Ottawa & Montreal. 3. The Upper Lakes. 4. Across the Continent to Banff, Glacier, Kootenay & the Pacific Coast. The four appear in different & attractive covers.

Muskoka Travel.

The G. T. R. has recently put out some very good literature about Muskoka, & also advertised this beautiful district in U. S. newspapers to a considerable extent, the result of which should be seen by a considerable increase in the number of visitors from the U. S. this season. But the Muskoka travel will never assume the proportions that the attractiveness & health-giving qualities of the district entitle it to until first-class hotel accommodation is provided. There are lots of hotels in the district now, many of them inferior, a few fairly good, but none on the scale required. The English syndicate, represented by R. D. McGibbon, of Montreal, which announced its intention of building a series of hotels in Canada, was figuring on one for Muskoka, but nothing further has been done. It is hardly likely that the G. T. R. will build one, as the management is understood to be opposed to the Co. going into the hotel business, but the Co. is so vitally interested in Muskoka travel that it is to be expected it would aid in such an enterprise by a liberal bonus, & the Muskoka Navigation Co. might do the same. What is wanted is an hotel somewhere in the vicinity of Port Carling, to cost, including equipment, from \$75,000 to \$100,000, with up-to-date plumbing & sanitation, & to be run in every respect as a first-class summer hotel. There should be no difficulty in filling it with guests at good rates, & after the 1st year it ought to be a paying investment.

Passenger Notes.

The C. P. R. Soo train now leaves Montreal at 10 p.m., instead of 9.10 p.m.

A general change of time went into effect on the G. T. R. & C. P. R. June 5.

A daily service has been established on the C. P. R., Shuswap & Okanagan branch.

The G. T. R. has issued orders to its agents to stop receiving large amounts of U. S. money, as the banks will not accept the same.

Commencing June 27, the C. P. R. will have a daily parlor car service, except Sunday, between Montreal & Old Orchard, both ways.

Beginning July 1, Pullman sleepers will be run on the G. T. R. between Toronto & Gananoque, instead of Kingston as in former years.

The G. T. R. has arranged for about 30 excursions to the Guelph Agricultural College

from various parts of Ontario during this month.

The C. P. R. now runs a special train from Fort William on Mondays, on arrival of steamer from Owen Sound, arriving at Winnipeg about noon next day.

The G. T. R. has decided to discontinue the through Seaside Special, running last summer from Chicago to Portland, by way of Montreal. It will, however, run through weekly sleepers during the coming season.

"Quebec, Summer & Winter," issued by the C. P. R. Passenger Department, has reached its 8th edition, appearing in handsome new type, & with up-to-date information.

Commencing June 15, the C. P. R. will run a through sleeper from Montreal for Portland. On & after June 26 it will run through to Old Orchard. There will be a similar northbound service.

The G. T. R. passenger literature for this season is a great improvement over previous years, especially in regard to the quality of the illustrations. H. R. Charlton, who is now in charge of this branch, is certainly doing very effective service.

The C. P. R.'s 1st eastbound sleeper will leave Montreal for St. Andrews Thursday, June 30, the next one Friday, July 8, & every Friday thereafter until Sept. 2. The 1st westbound sleeper will leave St. Andrews July 4 & every Monday thereafter till Sept. 5.

The C. P. R. is now running special sleepers between Toronto & Detroit, both ways. Eastbound leaves Detroit 12.35 a.m., eastern time, arriving in Toronto 8.05 a.m. Passengers may board car at Detroit at 9 p.m. Westbound leaves Toronto at 8.10 p.m. daily, except Saturday, arriving in Detroit at 3.15 a.m. Passengers may remain in car till 8 a.m.

The General Manager of the Wagner Palace Car Co. has issued the following instructions: "Rooms having 3 berths will be termed drawing-rooms; rooms having 2 berths & rooms now known as compartments will be termed staterooms; cars heretofore termed drawing-room cars will be termed parlor cars, and rooms in these cars will be termed compartments.

"East to the West" is the title of a handsome 100-page guide book to the principal cities of the Straits Settlements, China & Japan, & incidentally the C. P. R. transcontinental route, written by Eliza Ruhamah Scidmore, & published by the C. P. R. Passen-

ger Department. The covers, in colors, are very striking, the book is charmingly written & profusely illustrated.

The territory of H. Parry, General Agent of the New York Central at Buffalo, now includes the Province of Ontario as far east as Peterboro' & Cobourg. No change has been made in the agent at Toronto, J. J. McCarthy, who heretofore has held the title of Canadian Passenger Agent, but is now styled Canadian Agent, with office at Toronto, & jurisdiction over Ontario as far east as Cobourg.

The G. T. R. has made a contract with the Grand Rapids & Indiana by which it can give better service to Michigan points & also to Canada. Since May 15 the G. T. has been running through sleeping cars from Chicago to Montreal over its new connection, & also in connection with the Lehigh Valley to New York. By an arrangement with the Detroit & Mackinac & Flint & Pere Marquette roads the G. T. expects to secure the principal share of the travel from the territory around Ludington & Sheboygan.

The Wabash put its spring schedule in force June 5, its principal feature being the new fast train, "The Continental Limited," which is being operated as a daily through train between St. Louis & Chicago & New York & Boston. It is a splendid train, with wide vestibule equipment, the whole train, including the coaches, being operated through without change, dining cars being attached. This, with other through trains, is being run over the G. T. R. Southern Division via St. Thomas.

The U. S. Joint Traffic Association recommends to the lines in its jurisdiction the following rates for passenger train service for the U. S. military & naval forces & their equipments & supplies: Passenger fare of 1½c. per mile per capita, including the carriage in the cars, with the troops, of their personal effects & equipments. For animals, supplies & equipage, when transported in the same trains which carry troops, 20c. per car per mile. No mileage to be computed at less than 25 miles. Sleeping car fares to be charged additional, as may be agreed on with sleeping car companies.

T. WILLIAMS, Chief Accountant & Treasurer, Intercolonial Ry., Moncton, N.B., in remitting his subscription, says:—"I am much pleased with THE RAILWAY & SHIPPING WORLD, which, if kept up to its present standard, should prove a great success."

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24, 27, 32, 36, 50 & 72 inches.

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MAY BE HAD OF ALL LEADING WAREHOUSEMEN.

I. C. R. Refreshment Cars.

Three 1st class passenger coaches on this line were recently converted into combined dining & restaurant cars, the object being to accommodate a counter passengers who do not want to sit down to a regular dining car meal. The floor plan on this page is made from a drawing supplied by F. R. F. Brown, under whose direction the cars were converted, & who recently retired from the Mechanical Superintendency of the Intercolonial.

Each car is fitted with a standard, full-sized range, with steam table & other fittings, so that these may be used again if it is decided to replace the cars with 1st class, full length, dining cars, in which case the same kitchen & refrigerator equipment would be put in the larger cars, & the 18 ft. counter from the restaurant end would also be used. Four tables, it will be seen, are provided in the dining-room. These cars have been put on as an experiment, & while probably ample to meet the requirements during winter, it is possible larger ones will be built when the demand increases sufficiently. No changes were made in the framing or other parts of the car bodies, except where necessary to put in the new fittings.

A B.C. Switching Locomotive.

The new Vancouver Coal Mining & Land Co., Nanaimo, B.C., has recently received from the Baldwin Locomotive Works a 6-coupled switching locomotive. The cylinders

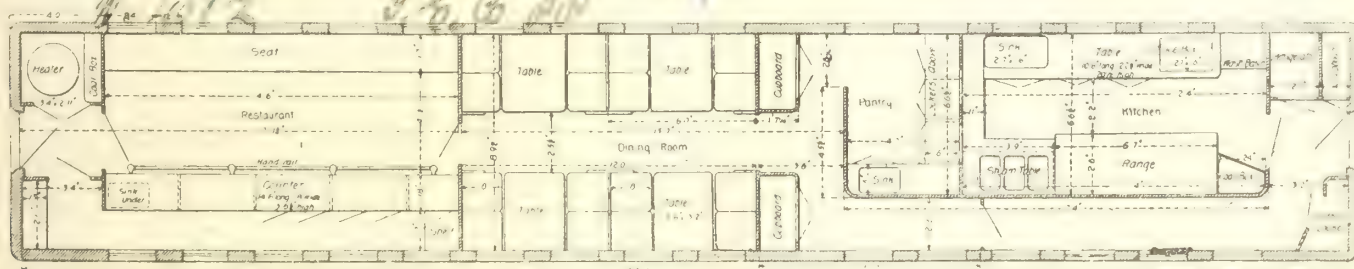
tion of freight cars & locomotives, both passenger & freight, in addition to the ordinary repair work, the men have their hands full.

In the third week of May the G. T. R. gave an order to the Michigan-Peninsular Car Co., Detroit, Mich., for 250 stock cars & 250 box cars, each car of 30 tons capacity. An order has been given to the Co.'s own Car Department to arrange for the construction of 250 refrigerator cars & 60 cinder dump cars at the Co.'s shops in Canada. (Official.)

The G. T. R. has had constructed at its London car shops 3 cars, known as the "road department equipment." They consist of a dining, kitchen & sleeping car. The kitchen car is fitted up with a large steel range, & a refrigerator in one end, while in the centre is the sink. A neat pantry & cupboard are also at hand. Pots, frying pans, dishes of all kinds & every utensil to prepare & serve an excellent meal are at the convenience of the cook. A large carving table stands on one side of the car. A cook will be taken along to look after this department. Each of the cars is supplied with a water-tank of 100 gallons' capacity, & all are well lighted & ventilated. The men, when on the road, will just work the regulation day hours, & then repair to their department cars, which will be side-tracked until the repairs or track laying is finished. A 2nd set of cars is under construction.

Canadian Pacific Items.

The C.P.R. has decided to make black the standard color for its trucks.



INTERCOLONIAL RAILWAY.—COMBINED DINING AND RESTAURANT CAR.

are 15x22 ins.; driving wheels 42 ins. outside diam.; centres 36 ins. diam. Wheel base of engine 10 ft. Driving wheel base 10 ft. Weight in working order about 74,000 lbs.; on driving wheels the same.

The boiler is of homogeneous cast steel, 7 $\frac{1}{2}$ in. thick, form straight, with 1 dome placed centrally; waist 42 ins. diameter at smoke-box end, and telescoping back. Tubes of iron, no. 13, w.g.; 102 in no., 2 ins. diam. & 11 ft. 1 $\frac{1}{4}$ ins. long. Fire-box 64 $\frac{1}{2}$ ins. long & 34 $\frac{1}{2}$ in. wide inside, of homogeneous cast steel; side & back sheets $\frac{1}{8}$ in. thick; crown sheets $\frac{3}{8}$ in. thick; flue sheet $\frac{1}{2}$ in. thick.

Stack, straight; grates, rocking & drop; smoke-box extended.

Tires of cast steel 3 ins. thick, front & back flanged 5 $\frac{1}{2}$ ins. wide; main pair flues 6 $\frac{1}{2}$ ins. wide. Axles of steel or hammered iron; journal 6 ins. diam. & 8 ins. long.

Tank, 900 galls. capacity, carried on boiler.

Grand Trunk Notes.

New Pullman cars are to be put on G. T. trains nos. 14 & 15, & new Pullman buffet cars are to be put on between Toronto & Brockville.

Our May issue (pg. 61) contained a description of the mogul locomotives recently built for the G. T. R. We were unable to obtain a photograph in time to accompany the description, so it is now given on page 80.

From the activity displayed in the shops of the Grand Trunk at Point St. Charles, Montreal, there is not likely to be any holidays again this season. What with the construc-

J. Osborne, Assistant to the Vice-President, is devoting considerable time to equipment matters, having especial oversight of the shops at Montreal, Perth & Farnham.

The Co.'s Perth shops are turning out from 8 to 10 a day of the 30 ton, 35 ft. box cars, of which 1,000 are being built. The last 300 of the order will be equipped with metal instead of wooden bolsters.

The Co. has adopted the consolidation type of locomotive, with compound cylinder, as the standard for its freight service. Since last September an engine a week has been turned out of the Co.'s Montreal shops.

The C.P.R. is building a lot of baggage cars, which are not provided with either platforms or hoods. Thus, it is said, reduces the weight about 1 $\frac{1}{2}$ ton, & does not rob them of any decided advantage in construction, as the platform & hood are of no use on a baggage car. A passage way is provided with cars attached to them by rubber diaphragms attached to the ends of the doors.

All the Co.'s passenger cars were put through the shops between October last & the end of May, with the result that the effective equipment is made about a third greater without adding to the no. of cars, as the whole equipment was in condition for continuous use during the busy summer months & will not require to go into the shops again until winter. Special attention is now being paid to getting the locomotives overhauled, so that they will fall in line with the equipment for the fall freight traffic.

The 10 sleeping cars now being completed in the Montreal shops will be far ahead of any now in use by the Co., which is saying a good deal. The interior decorations have been carried out under the personal supervision of Theodore Jongers, a member of the firm of Irene & Co., of Paris. He is a brother of the Professor of Modern Languages at McGill University, Montreal; & another brother is the celebrated portrait painter. A portion of the decorations was brought over from Paris. The carving is being done in the Co.'s shops.

It may safely be said that no system of electric lighting for passenger cars has been so far perfected as to warrant its general adoption in America or elsewhere. The C. P. R. has been experimenting for some time with a United States system of generating electricity from the axle, & has had it in operation on the sleeping-car Winchester, running between Montreal and Toronto, for the past two or three months. The test has been so far satisfactory as to justify a further trial, & the same system is now being placed on 10 sleepers now being built at the Co.'s Montreal shops. On the results obtained with these will no doubt depend the decision of the management as to the general adoption of the system. Vice-President Shaughnessy's private car Champlain is being equipped with an English system of car lighting by electricity from the axle, the same which is in use on some 70 lines in Great Britain, & is also used on the Queen's private train.

W. McWOOD, Superintendent Car Department G.T.R., Montreal, writes:—"I have now received several copies of THE RAILWAY & SHIPPING WORLD, & consider it a very good production."

L. H. WHEATON, Superintendent & Chief Engineer, Coast Ry. of N.S., writes:—"I am glad to know that you are publishing a paper devoted to the interests of the transportation companies in Canada, & have no doubt it will meet with success. It should certainly be to the interest of every transportation man in Canada to subscribe to this paper, & it should be a good medium for advertising."



TENDERS FOR STEEL RAILS.

SEALED TENDERS FOR 50,000 tons of steel rails, & 50,000 tons of steel fastenings, to be delivered up to noon on Tuesday, August 2, next, for the supply

of the Grand Trunk & Northern Railway, at the wharf at Summerside, Prince Edward Island.

5,000 Tons of 80-lb. Steel Rails & fastenings to be delivered on the Intercolonial Railway wharf at St. John, New Brunswick.

All the above to be delivered in the month of April.

For full particulars, see the Tender & Conditions of Sale, & the Instructions to Bidders, which may be obtained on application to the undersigned, at the office of the General Manager, Grand Trunk & Northern Railway, at the wharf at Summerside, Prince Edward Island.

J. H. JONES, General Manager, Grand Trunk & Northern Railway.

A HAMILTON INDUSTRY.

The Westinghouse Co's. Works.

In previous issues we have dealt with the Westinghouse Manufacturing Co's. air brake industry at Hamilton, Ont., & to avoid repetition we will refer readers to our March issue, pg. 15, & May, pg. 60.

In 1895 the Co., having made large contracts with the Grand Trunk, Canadian Pacific & Intercolonial decided to organize a company in Canada & to establish works at Hamilton. A suitable property was purchased there in Oct., 1896. On Jan. 27, 1897, the Westinghouse Mfg. Co., Ltd., was incorporated by Dominion Letters Patent, with a capital stock of \$500,000. The works began operations on Feb. 8, & the first shipment of air brakes was made on April 1. On this & following page we give a ground plan of the works & exterior & interior views, reproduced from photographs. The works comprise office building 40x48 ft.; machine shop, 95x57 ft.; pump & tool room, 57x47 ft.; store & packing room, 58x57 ft.; & warehouse 97x57 ft. The plant is thoroughly equipped with the most modern appliances for producing air brake apparatus. A large portion of the machinery is of special design, being in many cases duplicates of apparatus for similar purposes used by the home company at Pittsburg; while many of the general tools were purchased from manufacturers in Canada. The Canadian Co. started under the most favorable auspices. The capacity of the plant is in excess of 10,000 freight car equipments a year, in addition to locomotive & passenger brakes, so that it is fully adequate to all possible requirements of the Dominion.

The Hamilton establishment, as a manufactory, is a model machine shop, & the buildings, which are well-lighted & cleanly in every

& T. H. & B. R. By some it is regarded as the most important addition of recent date to the manufacturing interests of Canada.

The officers of the Co. are:—G. Westinghouse, President; H. H. Westinghouse, Vice-President; J. Caldwell, Treasurer; G. F. Evans, Manager; P. J. Myler, Secretary &

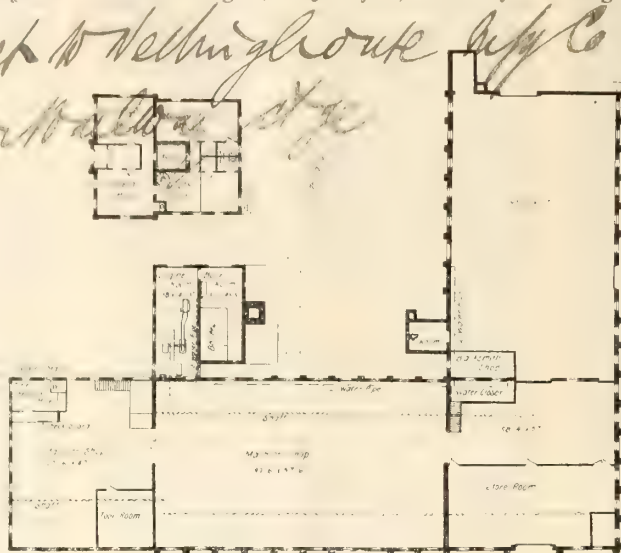
what account should the wages & expenses of general & local storekeepers, etc., be charged?" & "The minimum amount for which one road may make a bill upon another on account of overcharge & loss & damage claims." The voting rule was amended so as to give each member the right to vote on all questions. Heretofore each system has been allowed only one vote on matters of policy. After electing the following officers the convention adjourned to meet in Montreal in June, 1899: President, P. A. Hewitt, C.C.C. & St. L., Cincinnati, Ohio; vice-president, H. D. Bulkley, B. & O., Baltimore, Md.; second vice-president, Daniel Jones, Philadelphia & Reading, Philadelphia, Pa.; secretary & treasurer, C. G. Phillips, Chicago & Northwestern, Chicago. Executive Committee: H. A. Rubidge, Chicago & Eastern Illinois, Chicago; C. J. Pollock, M. K. & T., St. Louis, Mo., & W. B. Bend, Chicago Great Western, St. Paul, Minn.—Railway Age.

The Oldest Canadian Station.

As far as can be ascertained at the time of writing, the oldest railway station in Canada, or rather the oldest building now used as a station, is at Guelph, Ont., where the C.P.R. occupies as a passenger station the first house built in 1827 on the site of the present city. If any reader knows of an older one, he is requested to send the information to the Editor.

It would also be interesting to ascertain the oldest building in Canada, originally erected & since continuously used as a passenger station. Readers are requested to assist in this by sending in names & dates of erection of any very early ones they know of, so that accurate information may be obtained.

F. W. HALES, Secretary Charlottetown Steam Navigation Co., P.E.I., in remitting

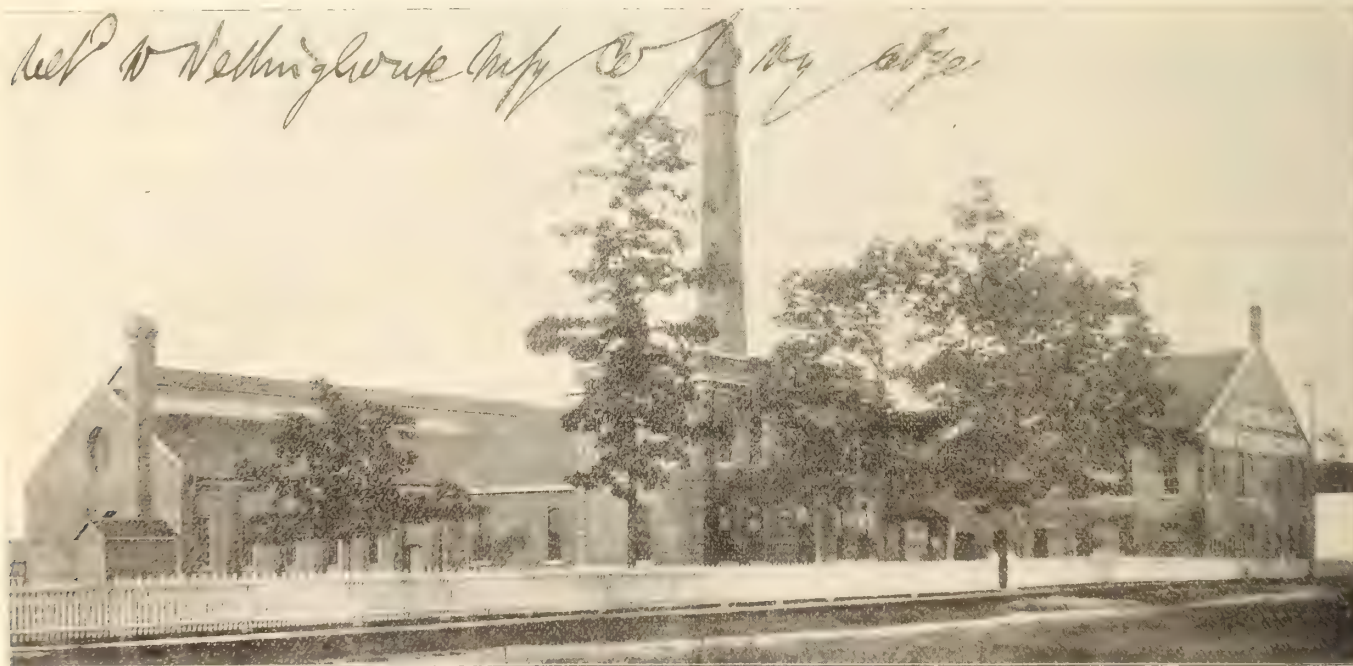


PLAN OF THE WESTINGHOUSE WORKS AT HAMILTON.

Assistant Treasurer. Messrs. Evans & Myler reside in Hamilton, where they administer the affairs of the Co. in a manner which appears to be equally satisfactory to its shareholders & to its customers.

Association of Ry. Accounting Officers.

Over 200 delegates attended the annual convention of the Association of American Railway Accounting Officers at Atlantic City, N.J., May 25 & 26, at which the following subjects were considered: "Classification of operating expenses," "Train & locomotive



THE WESTINGHOUSE MANUFACTURING CO'S WORKS, HAMILTON, ONT.

respect, have been adapted in every particular to the requirements of the Co., not only with a view to facilitating its own interest, but also with due regard for the comfort & health of the employees. The works are situated in the eastern part of the city & in close proximity to the tracks of the G.T.R., C.P.R., M.C.R.,

mileage," "Loss & damage claims," "Car accounting," "Car mileage bureau," "Bills of car repairs," "Classification of construction & operating expenses for electrical railways," "To what account should street lights prescribed by municipal ordinance maintained at highway crossings be charged?" "To

his subscription, writes:—"I congratulate you on your success with THE RAILWAY & SHIPPING WORLD. If you can keep it up, as well supplied with useful & entertaining information, you will deserve well from the community. I trust you will obtain a large subscription list."



INTERIOR OF MACHINE SHOP, WESTINGHOUSE WORKS, HAMILTON.

RAILWAY APPOINTMENTS, &c.

Canadian Pacific.—J. Murray, Superintendent at Winnipeg, who has been on leave of absence for some months, owing to illness, during which he visited Great Britain, has been appointed Track Inspector for all C.P.R. lines west of Fort William. His duties are to go over the road on a hand-car with each of the roadmasters & make a critical examination of every foreman's section, reporting to the Manager on the comparative efficiency of each foreman's division or roadmaster's section, observing carefully not only the condition of the track, but the condition of fencing, telegraph line & all other particulars. He will also make recommendation as to the number of men necessary in his opinion for the maintenance of each section summer & winter. This is a new appointment. E. A. James, formerly Chief Dispatcher at Winnipeg, who has been Acting Superintendent during Mr. Murray's leave of absence, will now be appointed Superintendent of the main line between Winnipeg & Brandon & tributary branches. (Official.)

Grand Trunk.—C. J. Crowley, who has been for many years in the G.T. service, & for some time past has been Resident Engineer of the Middle Division, with headquarters at Toronto, has resigned, much to the regret of the management, as he intends to reside in England. He is succeeded by F. L. Somerville, who has been assistant to Chief Engineer Hobson at Montreal.

W. White, Chief Operator at Bonaventure Station, Montreal, has been appointed Private Secretary to G.T.R. General Superintendent McGuigan. A. H. Lander succeeds Mr. White at the Chief Operator's desk at Bonaventure.

Wm. Yule, of Palmerston, Inspector of Bridges for the Northern branches, has been transferred to Stratford, Ont., to succeed J. C. Sanderson, who has gone to St. Thomas as Inspector of Stations & Bridges on the Southern Division. Mr. Yule will act as Station & Bridge Inspector for the line between Stratford & Sarnia, Goderich & Buffalo, & the Northern branches.

C. A. Hight is appointed solicitor in charge of the Co.'s legal business in New England, with headquarters at Portland, Me., vice A. A. Strout, deceased, to whom he formerly acted as assistant.

McKenzie & Mann's Manitoba Lines.

S. J. Jackson, M.P.P. for Rockwood, Man., has been appointed Purchasing Agent at Winnipeg for the McKenzie & Mann roads, includ-

ing the Dauphin & the Winnipeg & South Eastern. Mr. Jackson, who was one of Winnipeg's earliest merchants in the seventies, has for several years past been farming near Stonewall, Man. He has represented that district in the Legislative Assembly since 1883, & was Speaker of the House for several years.

Wagner Palace Car Co.—A. G. Adams has been appointed general accountant with office at New York, vice T. D. Boak, accountant, resigned.

Minneapolis, St. Paul & Sault Ste. Marie Ry.—Thos. Green has been appointed Acting Chief Engineer, vice W. W. Rich, previously Chief Engineer. W. R. Collins has been appointed Freight Claims Agent, vice A. H. Bode.

Death of E. D. Boswell.

E. D. Boswell, President of the Temiscouata Ry., died suddenly at Riviere du Loup, P.Q., June 4, aged 47. He was the grandson of the late Capt. Boswell, of the Royal Navy, & was born and educated at Cobourg, Ont., where his family had resided for many years. At an early age he entered the employ of the Bank of Toronto, where his conspicuous business ability & attractive personality won him rapid promotion. When stationed at Montreal he held a prominent position as an athlete, being especially proficient as an oars-

man. He filled many important posts for the bank, & was manager of the branch at St. Catharines when he resigned his position to enter the employ of Chas. Riordon. For some time Mr. Boswell held a responsible office in the Cosgrave Brewing & Malting Co., then under the control of Mr. Riordon, & left for Quebec at the time of the founding of the Temiscouata Ry., in which enterprise he was associated with his brother-in-law, the late Hector Cameron, C. Riordon, & J. J. Macdonald. He took up his residence at Riviere du Loup, where he lived until his death. He leaves no family; his wife, nee Miss Young, of Quebec, died several years ago.

Personal Mention.

J. W. Swan, of Norway, Ont., has been appointed G.T.R. photographer.

D. E. Brown, C.P.R. Agent at Hong Kong, is in England on a protracted holiday.

The Minister of Railways, Mr. Blair, expects to go to England shortly with his family.

Jas. Leeming, recently appointed General Freight Agent of the Erie Ry., is a native of Brantford, Ont.

Lady Mount Stephen was presented to her Majesty at the Drawing Room last month, by Lady Northcote, on her marriage.

Passenger Traffic Manager McNicoll, of the C.P.R., recently underwent a slight operation, rendered necessary through an accident whereby he injured his leg.

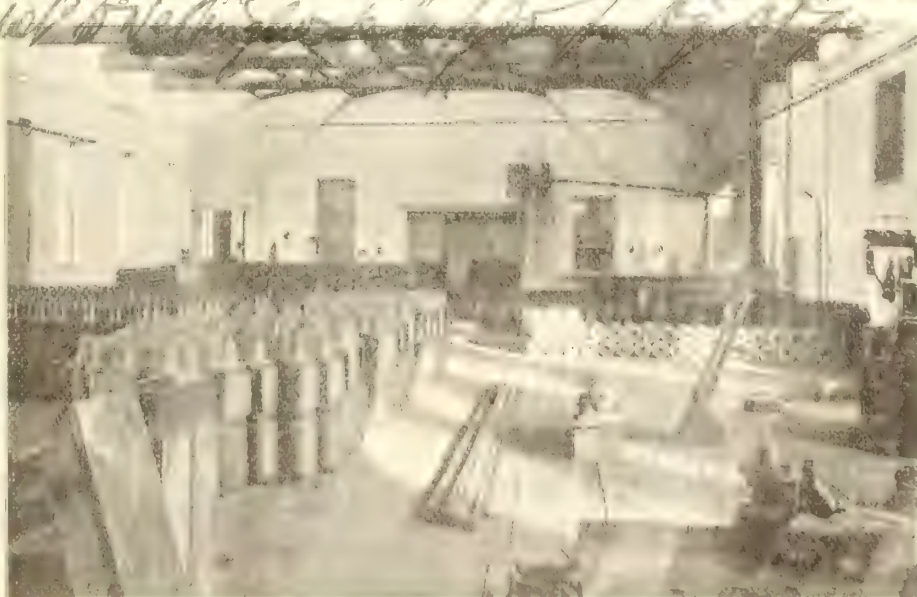
President J. J. Hill, of the U. S. Great Northern, has leased from the Quebec Government the salmon fishing privileges of the St. John River, on the north shore, for \$3,000 a year for 10 years.

J. F. Shaughnessy, a brother of Vice-President Shaughnessy, of the C.P.R., has been appointed Purchasing Agent of the Minneapolis, St. Paul & Sault Ste. Marie, in place of T. A. Switz, resigned.

R. N. Stevens, I.C.R. Mechanical Foreman at Truro, N.S., died May 11 of paralysis. He was 64 years old, & had been connected with the I.C.R. since it was opened & was engineer of the first train out to Coldbrook. He left a wife & family.

Wm. McKenzie, of McKenzie & Mann, left for England May 21, in connection with his various enterprises. It is understood that financial arrangements in connection with the building of the Ontario & Rainy River, the Winnipeg & South Eastern & the Dauphin railways, are the principal objects of his trip.

W. R. Baker, General Manager of the



INTERIOR OF WAREHOUSE, WESTINGHOUSE WORKS, HAMILTON.

M. J. H. & N. W. Ry., recently underwent an operation in Winnipeg General Hospital for a tumor in the calf of his leg, caused by a blow from a cricket ball. He lost a good deal of blood, & the wound did not heal at all satisfactorily at first, but he is now getting along favorably.

J. W. C. Haldane, C. E., of Liverpool, England, left there June 2, for a tour in Canada, with the object of gaining special information regarding the C.P.R. system. He will travel over the Co's. whole area as far as Vancouver. The knowledge thus obtained of the line, the country through which it passes; & its steamship connections with England, Japan & Australia, is intended for future use in new literary projects.

A. G. Wand has been appointed General Agent for North America of the London & North Western Ry. (Eng.), Caledonia Ry. (Scotland), & Great Southern & Western Ry. (Ireland), to succeed C. A. Barattoni, deceased. Mr. Wand has been in the service of the L. & N. W. nearly 25 years, and was transferred to New York from the London office of the Co. when the late agent was appointed in 1887.

A newspaper rumor at the end of May appointed B. B. Osler, Q.C., of Toronto, General Counsel of the G.T.R. at a salary of \$20,000 a year, to succeed John Bell, Q.C., of Belleville. We are in a position to say the rumor had no foundation in fact & it has already been denied by Mr. Osler. No doubt he will continue to receive briefs from the G.T. as in the recent case of Hannaford vs. the G.T.R., in which he represented the defendant at Sarnia Assizes.

A report was recently sent out from Moncton, N.B., to the effect that Collingwood Schreiber, Deputy Minister & Chief Engineer of the Department of Railways, was to be superannuated & succeeded by D. Pottinger, at present General Manager of the Intercolonial, who, in turn, was to be succeeded by J. E. Price, now District Superintendent at Truro, N.S. It is not thought in the best informed quarters that there was any foundation for the rumor. In any event Mr. Pottinger would not be given the dual position at Ottawa, as he is not an engineer.

Sir Wm. Van Horne left for England May 20, accompanied by R. B. Angus, another C.P.R. director. Of course, the dailies have been busy with "authentic" reasons for the trip. First it was the Manitoba & Northwestern Ry. bonds that had to be looked after; then they had gone to float the bonds of the Laurentide Pulp Co., & this was followed by the "positive information" that it was in connection with the establishment of a fast Atlantic service. The fact is, that business has very little to do with Sir William's trip. He has been far from well lately. Early in the spring he suffered from bronchial trouble, relief from which was sought in a brief sojourn at Atlantic City. Later the trouble was diagnosed as catarrhal fever; hence the ocean trip. Sir William's visit will be only a brief one; he is expected back before the end of June.

OPERATING.

The C.P.R. Graphic Car Record.

In the early history of railways in this country it was customary for them to do their business in their own cars, transferring freight destined to stations on a connecting road at the junction point of the two roads. While this system had the advantage of keeping at home the equipment of each road, it resulted in the very slow movement of freight, which became more & more annoying as the volume of traffic increased, so that the railways found it to their advantage to allow their cars to run through to the destination of the freight without transfer. The result of this is, that at present the cars of any one company may be scattered all over the country, & located on as many as 200 different lines. The control of the movements & the distribution of freight cars were at that time under the superintendents, while the computing of mileage & other statistics in connection with the same was done by the car accountant, who was under the control of the auditor. The general superintendent's duties were very numerous, & the greater part of his time was given to looking after the running of his trains, examining bridges, the condition of the roadbed, etc., so much so, that the handling and distribution of the cars received little attention, & was often entirely overlooked, in fact, in some instances the greater part of the distribution was done by yardmen & agents. As a natural result the expenditure for mileage of foreign cars increased very rapidly, while his own cars were allowed to remain on other roads just as long as they wished without any request being made for their return. Moreover, no check whatever was kept on foreign roads to see if they paid a fair amount for the use of the cars. The car accountant was not responsible for this state of things, as he considered it was his duty to only compile the mileage statements, the expenditure for mileage being a matter entirely under the control of the operating department, with which it was not his duty to interfere.

The general managers, however, noticed that in many cases half-a-million dollars annually was being paid out of the treasury for mileage, & were, therefore, confronted with the problem how to change this debit to a credit. The reply was—Improve the movements of cars belonging to your company by getting them home from foreign roads & reduce, as far as possible, the use of other roads' cars on your line, improve the time of through freight, & thereby improve the service. The first step towards the accomplishment of this result was to organize & fully equip the car service department. The head of this department is known as the manager of transportation, or superintendent of car service, & has been given full charge of the distribution & use of all passenger & freight car equipment, & the movement of time or fast freight, also the compiling of mileage & statistical statements. The duties of this of-

ficial have increased to such an extent on many of the large railways that it has been found necessary to appoint two subordinate officers, so as to relieve him of some of the routine work, & thus allow him to give more attention to the more important part of his duties. The two subordinate officers are known as car accountant & car distributor. The car distributor is, as a rule, immediately under the control of the head of the department; in fact, in many cases it is found necessary for him to be in the same room or office, so that the cars may be distributed to the best advantage & under the personal supervision of the head of the department. The car accountant's office may be divided into two parts, viz., mileage & record. In the 1st-mentioned is compiled statements of the mileage made by the different classes of cars on each division, section or branch, & the mileage of trains & locomotives, which information is extensively used by the accounting officers. The mileage made by other roads' cars on the line is computed, for which a stated rate per mile is paid, & monthly accounts issued for same. The record part of the office may be considered the most important, & is certainly the most interesting to the head of the department. It consists of a complete record being kept of the daily movement & location of each & every car upon the road, & may be considered a check on the distribution & handling of the cars on the line. The car accountant is called upon daily to give a variety of information regarding the location of the equipment. He must know what cars owned by his company are located in any foreign territory, where a large shipment is in sight to be loaded to or via his line, so that arrangements can be made to have his company's cars supplied for the shipment; watch the movements of the cars on foreign roads, & "catch on" to any abuse of them, & call the attention of the guilty parties to same; trace or write to foreign roads for cars delayed & endeavor to secure their return home, also issue to agents tracers for cars delayed over a certain period at stations on the line, & when the explanations given are not considered satisfactory, the tracers are referred to the head of the department for his action. He must also be able to supply at a moment's notice the location of the equipment owned by the company, which, perhaps, may be considered one of the most difficult problems with which car accountants have been confronted. It has been recognized by the managers of the principal railways that it is of the utmost importance to the welfare of their roads that the car accountants be placed in a position to instantly supply the various information called for, & therefore, no expense has been spared experimenting with many different systems, but, unfortunately, not altogether with success.

The movements of the cars have heretofore been generally kept in books specially ruled for that purpose, which method of car recording has been acknowledged to be unsuitable for this age, & everybody has felt the need of a change, so that car accountants, alive to

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the fact, have been endeavoring to evolve a more suitable system. The system that has been considered to be the nearest approach to success is known as the Graphic Car Record System, but this system has also got its drawbacks, which the car accountants have been endeavoring to overcome during the past two years. This system, which has been in use on the C.P.R. for several years, is a very radical change from the old book form of records, as the use of books & pens is abolished. It consists of:—

1st. A box 8 ins. deep, 14 ins. wide, & 36 ins. long, which is divided longitudinally by copper wires into 10 equal spaces, each space 1 inch wide.

2nd. A stick 8 ins. long, 1 in. wide, $\frac{1}{4}$ in. thick for 1 in. from each end, & $\frac{1}{8}$ in. for the 6 ins. in the centre. A groove is cut at each end to allow a piece of cardboard to be inserted. One end of the stick is flat, on which a piece of paper representing the car number is glued, the color of the paper designating the class of car; a brass nail is also inserted in that end so that any particular stick may be readily taken from the case. The other end is slightly bevelled so as to admit of it being quickly placed in the case.

3rd. A piece of cardboard $6\frac{1}{4}$ ins. long & 1 in. wide, which may be inserted in the grooves in the stick. The stick is the same length as the depth of the case, & the same width as the distance between the copper wires, so as to allow of it being placed in the box.

The box is built on an angle of 45° to prevent the stick from dropping out. The movements of the cars are entered on the cardboard, which is inserted in the stick, those of loaded cars in black pencil, & empty cars in blue. To facilitate the recording of the movements of the cars, the stations are designated by numbers & the junction, or interchange points, with other roads, by symbols. The boxes are divided into 10 divisions by copper wire, so that the stick may be filed according to the ending unit of the number shown on end of stick; for example, stick no. 12201 would be placed in the 1st division, & stick no. 12205 in the 5th division. In this way, if 400 sticks were in the case only an average of 40 would be examined for any particular number. As many of the boxes as are necessary are placed on a stand built for that purpose, & are again subdivided into sections by movable trays to suit requirements. The clerks have then before them one large case divided into sections & stations of the road, the sections of stations running in proper order from east to west. Branches intervening are allotted a box next to the station at which the branch connects with the main line, & all the cars represented by the sticks are located in the case in the same section or station as the car is located on the line. There is also another small case set apart for cars on foreign roads, each road being assigned a space commensurate with its requirements.

The movements of the cars are recorded from the train conductors reports, & one division of the case, representing a division of the road, is under the charge of one clerk, who records the movements of all the cars on the reports for that division. Thus, the reports are handled only by that clerk, instead of perhaps by several, as is the case when the book records are used. The saving of time is obvious. When the car moves from one station or section of the line to another, the movement is entered on the stick, which is also moved in the case, so that the work of locating the cars is always being done, & the car accountant can at any time say where the equipment is. This can not be done from the book record without a great deal of labor. It may be claimed that a clerk cannot record as many movements of cars by the graphic car record system as by the book system, but a prominent car accountant who adopted

this system 4 years ago states that one of his clerks records 1,200 movements daily, which is more than can be claimed for the book record.

There are many benefits to be derived from the graphic car record system, one of which is, that cars delayed on a division where cars are required can be traced without interfering with the clerk recording the movements of the cars in that particular case; for example, a road running from Chicago to California may, at certain seasons of the year, require cars in California, while a large surplus of cars are on their tracks in the vicinity of Chicago; therefore, that part of the case in which the sticks represent the cars in Chicago territory is not interfered with, while the tracing for cars delayed on other divisions in the vicinity of where they are required is being done. This would be an utter impossibility with the book record. Another good point of the graphic system is that the movements made by 1 car during 8 or 10 months & sometimes during 18 months may be entered on one paper. This overcomes the principal objection to the book record, which necessitates bringing forward the movements from one month to another at the expense of a great deal of time & clerical labor.

The Grand Trunk's New Rules.

As announced in our May issue, pg. 68, it was decided that the new rules of the G.T.R. Transportation Department would be put into effect on July 1. These rules are practically the standard code of the American Ry. Association, & have been printed & distributed to the employees. Directly the announcement was made, objection was raised, not by any considerable body of the men, but by the few agitators who are always looking for trouble, certain members of Parliament were loaded up with the idea that startling & unprecedented innovations were to be made, that the System was to be Americanised, & that the management was attempting an unwarranted departure from what was spoken of as a tried & satisfactory system. Member after member got up in the House & spoke in this strain, & though the rules had received the assent of the Governor-in-Council, not even the Premier or the Minister of Railways seemed to understand the question, or to be able to justify the Government in agreeing to the changes.

No one would go further than we would in condemning any attempt to "Americanise" the G.T.R. system, if that meant the displacement of competent Canadians, & the employment of United Statesers in their places, & while there may be ground for discussion of the policy of the present G. T. R. management on that score, the matter under consideration does not involve anything of the sort. The standard code of the American Ry. Association is not in any sense a new thing; it is the result of years of study by the most competent operating officials in America; it is in use on over 170,000 miles of railway in the United States; it is already in force on at least two railways operating in Canada, the St. Lawrence & Adirondack & the Northern Pacific, & we believe it is of the utmost importance that it should be put in force on every other railway in Canada with as little delay as possible, specially on those lines which run into the U.S. The standard rules of the American Association are now undergoing revision by a committee of which T. Tait, Manager of the C. P. R. Eastern Lines, is a member. As soon as this revision has been completed, it is probable the rules will be put in force on all the C.P.R. lines.

While thorough in its record with the policy of putting the standard rules in force, it seems to us that the G.T.R. operating officials were perhaps in a little too great a hurry, & that they would have done better had they not at-

tempted to work under the changed rules almost immediately after having them printed or distributed. Two or even three months delay would have made but little difference, & it would have given the men a better opportunity to post themselves. This has since been realized by the officials, the result being that the coming into operation of the new rules has been postponed from July 1 until a date hereafter to be determined. In the meantime each employe required to be familiar with the rules, has been notified to study them carefully, to embrace every opportunity to attend the schools of instruction at the several terminals, & to spare no effort to familiarize himself with the rules, so that he will be prepared for the examination which he must pass satisfactorily before the rules become effective.

In speaking of the new rules recently, a G.T.R. operating official said that the present system in use on that line was not only different from that employed in the U.S., but was not uniform throughout the G.T.R. system. In the matter of train orders, he said, the method of despatching train orders on three branches of the system. On the Great Western branch the duplicate telegraph order was employed; on the Grand Trunk proper the red & white rear flag & lamp signals were used; while on the Northern the old "Smith & Brown" system was adhered to that had been preserved from the days of pioneer railroading. Under the "Smith & Brown" system, trains were named after the conductor who had charge of them, instead of by numbers. The new train order system, which has been adopted from the American Ry. Association, provides absolute security to passengers, as the engineers & conductors on each train are provided with a copy of the running orders issued, which is a much better method than trusting to an engineer to stand still until the despatcher gives him orders to move.

The difference between the rules in vogue in Canada & in the U.S. was a great source of inconvenience to the G.T. management. A Canadian train crew could not pass over Suspension Bridge & take a train into the yards on the U.S. side, because they did not understand the signals. The G.T., therefore, had to keep a crew of men on the Canadian side who understood the American rules, & placed them in charge of every train crossing the line. The same state of affairs existed at Fort Erie, though on the C. & G. T. the Canadian rules are in force.

It is confessed that the alteration in the hand-lamp signalling is most material, but the G.T. official said the change would have to be made some time, & the men had better learn the new procedure. In this department of signalling the American code has superseded the Canadian.

The objection taken by the men, that the signal to be given from the top of a freight train to let the engineer know it has parted involves danger in its execution, is flatly contradicted by the official, who says the signal was specially contrived that it might be executed while sitting down, in which position a brakeman is safe from being pitched to the ground.

The new rule no. 36 has been the chief cause of complaint among the dissatisfied men. It refers to brakemen & conductors in charge of freight trains, & says: "They must ride on top of the trains as much as possible where they can apply the brakes, if necessary, & see that their brakemen do their duty; they must require all of their brakemen to be on top of the train at least one-half mile before arriving at & while passing all stations & stopping places, descending or ascending grades, or at any point or time when extra precaution is necessary to ensure safety." This rule, said the official, merely requires of brakemen & conductors to do their duty. They cannot attend to their train while lounging in the cab

or the caboose, & so long as brake-handlers are on the roofs of cars, men must get out in the end to twist them up. A sarcastic official remarked that when the Co. introduced air brakes on its freight cars it would not trouble the brakemen any longer.

In conclusion, the official stated that he thought the dissatisfied employes were most dull not to see that if they become acquainted with & used to working under the American Railway Association rules they would have a new field of enterprise open to them.

The C. P. R. trains using the G. T. R. tracks between Hamilton & Toronto will have to be run under the standard code of the American Ry. Association as soon as it goes into force on the G. T. R.

Train Signal Lamps.

The change in train signal lamps, which the principal Canadian railways are adopting in order to conform to the standard code of the American Railway Association, requires 2 tail lamps to be carried at rear end of all trains, held in brackets which fit into slots in corner of cars; these lamps are fitted with 4 lenses, 1 red, 2 green, & 1 white.

The code requires that 2 red lights shall be shown to rear when trains are running, showing green to side & green to driver; & when train runs into siding to allow a following train to pass, the lamps require to be turned in the brackets, showing 2 green lights to rear, green to side & white to driver. This change, from green to white, indicates to driver that rear end of train is standing clear of main line, & when driver of train following sees 2 green lights he knows train ahead is standing on siding clear of main line. After following train has passed, & driver of side-tracked train wishes to pull out, he can see from cab whether he has proper running colors behind, as if train hands have not turned lamps showing red to rear, he still sees white lights & knows the rear end of his train is not protected.

The code also requires that 2 engine signal lamps be carried, 1 on each side of boiler of engine, which are constructed so as to be changeable from green to white, or white to green; lights show forward & to side. When a train is run in 2 or more sections, all running on the same schedule time, the forward sections require to show green lights to side & ahead, indicating that a train is following running on the same schedule time & entitled to the same time-table rights as the train carrying the signals. An extra or special train is required to carry white lights on each side of boiler, showing white to side & ahead.

Noah L. Piper & Son, of Toronto, have invented both combination tail & engine signal lamps which conform to the rules exactly, & large orders have been placed with them by the C.P.R. & other roads. In their engine signal lamps the color can be changed from green to white or white to green, by simply lowering or raising the slides containing the colored glass.

The C.P.R. have also adopted a cupola lamp (also invented by Noah L. Piper & Son) which is placed on the top of the cupola of freight vans. This lamp is fitted with 6 in. lenses, & by an ingenious contrivance the colors can be changed to suit whichever way the van is running, showing red behind & green to driver when train is running, & when in on siding, green behind & white to driver. Freight trains carry one of these lamps on the van in addition to regulation tail lamps, & by this arrangement of lights the rear end of a freight train is readily distinguished from a passenger train, & indicates to driver when leaving yard that he has his complete train, as this lamp being on the top of cupola it can be always seen from cab, even when tail lamps could not, owing to train being in between 2 sidings full of box cars.

The C.P.R. Mountain Division.

In a recent interview Supt. Duchesney, who has charge of the Mountain Division of the C.P.R. at Donald, said: "I expect a few heavy slides to come down as soon as the hot weather begins. But we have arranged to avoid some of the worst of them this year, & I have a big stock of powder on hand to handle them with. I would rather fight the snow-slides now than the floods later on. The traffic has so increased that it will not stand much delay. Our daily average on the main line over the division between Donald & Kamloops is 180 full cars of freight, to say nothing of our own freight, rock, timber & supplies of all kinds & the passenger trains. During one 24 hours last week 260 full cars passed over the main line of the division. We have just received some fine new engines from Montreal, & expect 8 or 10 more for the mountain work. I am not in a position to say whether or not the workshops will be removed from Donald to Revelstoke this season. The matter was shelved in the spring, but will be decided pretty soon, & I am likely to hear at any time. In my opinion, the shops should be at Revelstoke, which is the most central point from which to handle the mountain division."

The Intercolonial Porters.

In the House of Commons, June 4, E. F. Clarke, M.P., brought up again the subject of the alleged displacement of colored porters in the sleeping car service of the Intercolonial Ry. He read a letter from C. T. Dixon, now of Toronto, saying that out of 6 colored porters, of whom he was one, who were formerly employed on the road, none were at present employed in the same capacity & only 3 in any capacity at all. Dixon charged there had been an attempt to draw the color line, as he said the men were summarily dismissed without any complaint against them. The Minister of Railways said he had no further information on the subject since receiving the letter of Superintendent Archibald, of the sleeping car service. Accompanying that was one from General Manager Pottinger, who said there were then more colored men in the employ of the I.C.R. than for some time previously. The Minister assured the house there was no disposition at all to draw the color line, & that when the service was reorganized for the summer travel, if there was any foundation for a complaint, there would be an opportunity to rectify it. He promised the matter would receive his attention.

The Montreal & Ottawa Ry., extending from Ottawa to Vaudreuil, which is expected to be opened for traffic some time in July, will become part of the C.P.R.'s Eastern Division, under the immediate jurisdiction of Superintendent H. B. Spencer, at Ottawa. At present the completed portion of the line between Vaudreuil & Plantagenet is attached

to the Ontario & Quebec Division. It is not the intention to run the Atlantic & Pacific trans-continental express trains over the new line, & they will continue to run between Montreal & Ottawa via Calumet. (Official.)

C.P.R. Cheques.—A general circular has been issued by the C.P.R. to merchants, storekeepers & dealers along its lines, giving a list of banks which have arranged to cash the Co's paymasters' wages cheques without charge. Practically every chartered bank will take them; & the circular says: "Merchants & others can safely accept these cheques from employes on the same terms as the banks, and it is hoped that those doing business along the line will aid the Co. in facilitating the negotiation of these cheques, without charge."

CONSTRUCTION & BETTERMENT.

The Cassiar Central Railway.

This Co. has decided to make Glenora, B.C., the starting point of its line which is to connect the Stikine River with Dease Lake. It is said Glenora has exceptionally good facilities for landing passengers & freight, & that it affords the Co. the best point to start from in order to ascend by slow degrees & easy gradients the high bench lands to the north towards Dease Lake. The Co. has erected warehouses & offices there & it is its intention to commence the erection of a wharf almost immediately. The railway work will be commenced at a very early date. In a recent interview, in the Vancouver World, the Manager of the Co., H. Hirschell Cohen, whose headquarters are at Victoria, B.C., said:—"We have sent in prospectors, assayers with a complete plant, surveyors, etc. The General Manager in Cassiar is E. D. Sell, who was formerly in the service of the Transvaal Gold Fields, Ltd., at Johannesburg, & that Co., which has large interests in the Cassiar Central, sent him from Johannesburg to B.C. expressly to exploit the Cassiar district. The interior headquarters have been established at Dease Lake, which will be the end of the railway line, & the Co's men are already dispersed over the country engaged in prospecting & mining work. The Co. has sent, & will continue to send, large supplies of stores to Glenora in order to give prospectors who will winter in the Cassiar every facility as well as to provide food for its own men, who will continue to work on through the winter months developing its properties. The Co's. operations will naturally conduce to a very large increase of mining enterprises, since it will be its policy to assist the development of the mining resources of the country, not only inside the immediate limits affected by the charter, but also the enormous area which must find an outlet along our railway. It will maintain, however, one starting point for supplies, & in view of this & the prospect of controlling there so many separate concerns in the country, a central distributing point

Ambrose Kent & Sons

Manufacturing Jewellers,
156 Yonge St., Toronto.



We have been appointed official
watch inspectors to the Grand Trunk
Railway for Toronto and York.

INSURE IN

The Canadian Railway Accident Insurance Co.

OTTAWA, ONT. A PURELY CANADIAN CO.

Authorized Capital - - \$500,000.
Subscribed Capital - - \$175,000.

J. W. McRAE, President.
HON. E. H. BRONSON, Treasurer.
JOHN EMO, General Manager.
JOHN P. DICKSON, Secretary.

We make a specialty of Railroad Employes Insurance, also issue all classes of personal accident insurance. Policies containing all the latest and up-to-date features at rates as low as consistent with safety.

HEAD OFFICE:
26 Wellington St., Ottawa, Ont.

became absolutely necessary. This point the Co. has decided shall be at Glenora.

"The road, according to the preliminary survey, will be 99 miles long. It will be narrow gauge & we hope to have 50 or 60 miles of it completed in the next 12 months—you can safely say before August, 1899. Probably the whole of it will be done by that time. By connecting the Stikine with Dease Lake by a railway, we connect the waterway of the Stikine, 133 miles, with further navigable water on Dease Lake, Dease River & the Liard, Pelly & Frances Rivers. The railway commends itself by passing through an attractive, but virtually unexplored territory, which, it is believed, will be found to be rich in minerals, & therefore, we expect to be in the best position to command the trade of the northwest country between Klondike & the Mackenzie River, whereas, the lines from Dyea & Skaguay will, if built, tap only a narrow strip between Dawson City & the coast.

"The country is perfectly open to everyone, & the Co. is only too ready to afford every prospect for all facilities for following his calling in the Cassiar. The Co. has made no designations whatever at the present time. By the charter we have 700,000 acres in the country when we choose to designate, but we haven't yet designated, & therefore, have acquired no rights, & the whole country is still open to everyone, & even when we do designate, prior rights have always to be respected & awarded. Statements to the contrary have been made by people ignorant of the Co's. charter, & actually of the benefit the Co. will be to miners & prospectors generally. I may say that I am very confident that within 18 months from now we shall afford employment to between 1,000 & 2,000 men in the Cassiar country.

"Among the principal financial supporters of the Co. are: The Transvaal Goldfields Co. of London & Johannesburg; L. Neuman, of A. L. Hirsch & Co.; G. Imroth, & L. Ebrlich, of London; Compagnie Commerciale General de Paris, London, & many other well-known African companies."

Work on C.P.R. Lines.

Atlantic Division.—The Co. has under way the work of ballasting to extend over 100 miles of the main line between St. John, N.B., & Megantic, fully completing the same in every particular; also the laying down of 53 additional miles of 73 lb. steel rails on the same portion of the line, which will almost complete the changing of the 56 lb. rails. It is also expected to add some 5 miles of sidings & yard extensions to facilitate the handling of the winter steamship traffic, & the elevator capacity at West St. John is to be increased to 1,000,000 bushels.

Considerable filling of trestles & erection of masonry & steel in place of wooden structures is being done, a list of which would occupy too much space; suffice it to say, there will not remain a wooden bridge or trestle of any importance on the whole of the line between St. John & Megantic when the season's operations are concluded. These works, more or less, extend to all parts of the Atlantic Division, but the particular portion upon which heavy expenditures are being made is between St. John & Megantic, over which passes the increasing winter port steamship traffic, of which a very large increase is expected next winter through the port of St. John. (Official.)

Viger Square Station, Montreal.—This magnificent building, which also contains a terminal hotel, is rapidly approaching completion & it is expected that both the station & hotel will be ready for opening in August. A view of the Craig St. front of the building, facing Viger Square, is given on this page.

Windsor St. Station, Montreal.—It has been well known for some time that this station is very inadequate for the amount of business centering there, & it is said it has practically been decided to build an addition entailing an outlay of \$250,000, or possibly more. The extension will be west on Osborne street & will make the building just twice its present size. It will be built of precisely the same material, & in the same style, & when finished will make one of the most complete & up-to-date railway offices & station on this continent. When questioned on the subject Vice-President Shaughnessy said: "The project will finally be carried out, but at present no details can be given."

Galt Bridge. The masonry contract for the improvements to the bridge at Galt, Ont., has been let to E. Chalmers, of Owen Sound. It amounts to about \$20,000.



C.P.R. STATION AND HOTEL, VIGER SQUARE, MONTREAL.

Branch from Hartney.—At the last session of the Manitoba Legislature aid was given to the Northern Pacific to the extent of \$1,750 a mile & a further bonus of \$20,000 towards building a branch from Belmont to Hartney. And now so important & valuable is this part of the country, & the traffic from it being looked upon as worth having, that the C.P.R. is also reaching out to it, & will build a spur line from Hartney running easterly, for about 20 miles. This line is only a few miles north of the N.P. extension & parallels it for that distance. (Unofficial.)

Winnipeg Station.—Owing to the enormous increase in the C.P.R. traffic the advisability of increasing the size of this station has been under consideration for some time past. It is said plans have been prepared for a 100 ft. extension eastward of the present building.

Western Division.—In speaking of his recent inspection of this Division, Vice-President Shaughnessy says: "Everything is in first-class shape. The improvements have been continual for some time past, & we propose to spend a large sum during the next few months in the construction of additional sidings to facilitate the quicker passage of traffic. The question of a double track between Winnipeg & Fort William has not yet been decided, but all the improvements east of Winnipeg are constructed in a manner to

be suitable for a double track whenever we consider the traffic is sufficiently large in volume to warrant the expenditure for such work."

Calgary Workshops.—The town of Calgary, Alberta, has granted a bonus of \$25,000, in return for which the C.P.R. will expend there as follows, exclusive of cost of tools & machinery: Round-house; \$50,000; coal pockets, pump-house, track & ash-pits, \$8,000; tracks, from \$25,000 to \$30,000. The Co. agrees to maintain its repair shops, division points, &c., there for 25 years, or to forfeit \$1,000 a year.

Crow's Nest Pass Branch.—The track had been laid to 118 miles west of Lethbridge. Vice-President Shaughnessy recently went over the whole route of the line from Lethbridge to Kootenay Lake, & expressed himself as well satisfied with the progress that has been made. He expected last summer that by the first of this year the road would be completed over the summit of the Rockies, but owing to the difficulties experienced on account of the inclement weather it was found impossible to accomplish as much

as was desired. However, the grading was progressing very well, & he had no reason to feel disappointed on that score. The grading had been well advanced to Kootenay Lake, the present terminus, which will be reached with the track this year. Two years is the time which the Co. has to complete the road to Nelson, & the work will be finished well within that time, although there are many difficulties to be overcome which will require a high degree of engineering skill.

The highest point on the branch is at a point about 1 1/2 miles east of Bull Head Prairie, where the road reaches an altitude of 4,330 ft. above sea level. Crow's Nest Mountain is 8,800 ft. above sea level.

A Western M.P. recently mentioned in the House of Commons the rumor that the C.P.R. intended not to build the last 50 miles of the Crow's Nest Pass Ry., from the crossing of Kootenay River along the west side of Kootenay Lake & on to Nelson, & that a steamboat service would be substituted for it. The Minister of Railways pointed out that the steamboat service was provided for in the contract, pending the completion of the line west of Goat Hill Landing, to which point the rails are to be laid this season. It is almost needless to add that there is not the slightest intention of shirking the construction of the western end of the line, which the Co. requires to give it through connection with its Columbia & Kootenay & Robson & East end branches, & with the extension of the Boundary Creek district, & on to the foot of Okanagan Lake.

The C.P.R. proposes to build a reservoir 2 1/3 miles southeast of Cranbrook at an elevation of 270 feet above the town-site, as a means of providing the town with a water supply. The reservoir will have a storage capacity of 1,200,000 gallons of water, affording a sufficient supply for a city of 10,000 inhabitants.

Columbia & West Ry.—Superintendent Gutelius has been instructed to proceed with the widening of the gauge of this line between Rossland & Trail, on the completion of which the train service between Rossland & Robson will be greatly improved.

When appearing before the Railway Committee at Ottawa last session to oppose D. C. Corbin's application for a charter to

to build into the Boundary Creek district of B.C., Vice-President Shaughnessy refused to build it, but if the application was refused the C.P.R. Co. would build in there this year. This pledge has been promptly redeemed, the Co. having already let a contract for the construction of the line from the Columbia River to Midway on Kettle River, the route being shown on the map of the Kootenay District presented with this issue. The contract has been given on schedule prices to a syndicate composed of McKenzie & Mann, of Seattle & Montreal; Foley Bros., of St. Paul, Minn., who have been contracting on the Crow's Nest line; & P. Larson, of Vancouver, one of the largest firms of railway contractors in the west. The work is to be completed by the end of the year. W. F. Tye, C.E., will have charge of the work for the C.P.R.

It is estimated that the cost of the 100 miles will average \$30,000, an aggregate of \$3,000,000. The construction of the line from Robson to Christina Lake will require engineering skill of a high order. McCrae Pass, which is 13 miles in length, is even more difficult than the C.P.R. pass in the Rocky Mountains. There will be a number of tunnels & numerous bridges & every mile will represent a vast outlay. From Robson the line will run along the Columbia River to Dog Creek. The route from there on is up Dog Creek to McCrae Creek Pass, thence down McCrae Creek to Christina Lake to Cascade City; along Kettle River to Grand Forks; up the north fork & Brown's Creek to Eholt Pass; down Eholt Creek to Boundary Creek, & through Greenwood, Anaconda & Boundary Falls to Midway.

The construction will be done under the charter of the Columbia & Western Ry., which is the property of the C.P.R. By a recent arrangement with the B.C. Government, the C. & W. Co. surrendered its right to a land grant of 20,000 acres, accepting in lieu of it a cash subsidy of \$4,000 a mile.

In a recent interview Vice-President Shaughnessy, in reply to several questions regarding the railway situation in the Boundary Creek country & Mr. Corbin's desire to build into that region, said in substance that he did not know of any arrangement that had been or would likely be made between the C.P.R. & Mr. Corbin by which the latter would use the C.P.R. tracks along the Kettle River as far as Midway, nor did he know of the reported deal in which the C.P.R. would gain an entrance to Spokane over the Spokane Falls & Northern tracks on a basis advantageous to the Canadian route. He remarked that to have granted to Mr. Corbin a railway charter along the Kettle River valley would have been a terrible mistake on the part of Parliament. Had Mr. Corbin been given the right to build this line, he said, the ores of the Boundary Creek country would, to a great extent, have been smelted at Northport instead of on this side of the international boundary.

The total distance between Robson & Pen-tiction, at the foot of Okanagan Lake, is estimated at 216 miles. From Midway to Pen-tiction it is expected a line will be built under the charter of the Vancouver, Victoria & Eastern, which is controlled by McKenzie & Mann.

Colossal Expenditure.—In a recent interview Vice-President Shaughnessy stated that the work the Co. is now carrying out in the West will involve an expenditure of at least \$25,000,000, of which \$15,000,000 has already been provided for, & the remaining \$10,000,000 will be provided as soon as it is required.

H. W. Van Every has been appointed agent for the Ogdensburg & Lake Champlain Ry., with headquarters at Toronto.

H. D. Annable has been appointed Traveling Agent of the C.P.R. at Montreal, succeeding J. E. Millward, deceased.

Construction & Betterment Notes.

Atlantic & Lake Superior.—This line is now in operation between Metepedia Station, on the Intercolonial, & New Carlisle, 98 miles. The eastern terminus will be Gaspe Basin, 80 miles from New Carlisle, & it is expected to build 20 miles or more of 1st-class road in that direction this year. The country in that region is more beautiful than any person who has not seen it has any idea of. The Co. has purchased from the C.P.R. the line between Sorel & Yamaska, including the bridge over Yamaska River, & acquires the Government subsidy of \$50,000 for the reconstruction of the bridge. This purchased line will form a part of the A. & L. S. Co's. line between Montreal & Levis, the proposed termini between Montreal & Gaspe, the Co. having by its charter power to acquire running rights over the I.C.R. between Levis & Metepedia. Considerable work was done on the Montreal-Levis line last autumn, & the Co. announces its intention of resuming work very soon, so as to construct the line as far as Levis this year. (Official.)

Bay of Quinte.—At the last session of the Ontario Legislature this Co. was voted a subsidy of \$90,000, being \$3,000 a mile for such extension or branches of, or additions to, its projected & authorized line northerly of the village of Tweed as will enable the Co. to connect its existing line with the iron ore deposits or other mineral lands lying northward of Tweed, in renewal of the amount voted the K. N. & W. Ry. in 1893. We have so far been unable to ascertain anything as to the intentions of the Co. in regard to this work.

British Yukon.—Chrysler & Bethune, Ottawa, solicitors for this Co., make this announcement:—"The Co. is actively engaged in the construction of its railway from Skaguay through the White Pass to Lake Bennett & onward to Fort Selkirk. The portion of the line between Skaguay & Lake Bennett will be completed & in operation not later than Sept. 1. The U.S. Congress has passed a law extending bonding privileges to Canadian goods shipped into the Yukon district via Skaguay, & as soon as the railway from Skaguay to Lake Bennett is opened, Canadian goods can be shipped through in bond without payment of U.S. duties. Shippers & travellers may rely upon this route being opened as stated."

Steamers arriving at Vancouver & Victoria during the 1st week of June reported that when they left Skaguay work was in full swing on this line, some 700 men & 300 horses being employed. The men were getting \$3 a day, paying \$1 for board, & the Co's. officials stated that 1,000 would be put on if they could be got.

It is said the charter of the British Yukon Co. has been secured by the Pacific & Arctic Rys. & Navigation Co., of West Virginia, & that the work above referred to is being done by it.

The British Yukon Mining, Trading & Transportation Co., sometimes called the Duke of Teck's Co., from the fact that his name is 1st on the list of incorporators, was incorporated by the Dominion Parliament in 1897. In addition to extensive powers as to mining, trading, & operating vessels, the Co. is authorised to build & operate a railway of any gauge it may elect from a point in B.C. or in the N.W.T., near the north-western or western boundary of B.C., between 134° & 136° west longitude, near the head of the Lynn Canal, or at some point in a n.e. direction therefrom, across the White Pass, thence northerly & westerly to Fort Selkirk. The Co's. capital stock is £1,000,000 sterling.

Canada Atlantic.—President Booth visited Quebec recently & had a conference with President Garneau & Manager Scott of the Great Northern with reference to pushing

work on the latter road so as to give the Canada Atlantic connection with Quebec city.

The Canada Eastern has built a commodious wharf at Marysville, N.B., the old one being out of date.

Canadian Yukon.—In our May issue information was given of a contract having been made between the B.C. Government & Mackenzie & Mann for the construction of a line from an ocean port in B.C. to Teslin Lake, the Province of B. C. giving a subsidy of \$1,600,000. It was also stated as probable that the Dominion Parliament would aid the work with a land grant & a postal subsidy. The Dominion Government, however, decided not to submit any proposition to Parliament, & at the end of May it was announced from Ottawa that Mackenzie & Mann had notified the B. C. Government of their intention to abandon the contract. On June 10 Faith Fenton sent a dispatch from Glenora to the Globe, stating that Mackenzie & Mann had stopped work & withdrawn their outfit. A meeting at Glenora passed resolutions urging the Dominion & B. C. Governments to aid Mackenzie & Mann to complete the wagon road from Glenora to Teslin Lake, 14 miles only of which have been built. The dispatch added that Mackenzie & Mann had ceased giving the men supplies, & that the situation was critical. D. D. Mann reached Victoria June 9 to confer with the B. C. Government, but no announcement of the result has been made.

The Hudson's Bay Co. with its unending enterprise is putting a pack train of from 200 to 300 horses on the trail between Glenora & Teslin Lake.

The Supplementary Dominion Estimates provide \$5,000 towards defraying the expenses of an exploratory survey to ascertain the most practicable route for an all-Canadian railway from some point on an existing railway into the Klondike district.

The Stikine River Journal, Fort Wrangel, of June 4, says, on the authority of J. H. Russell, who has built a brewery & hotel at Glenora:—"There are about 2,000 persons encamped at Glenora. McKenzie, Mann & Co. have 250 men at work on the wagon road 12 miles out of Glenora. It was to be completed to the summit by June 4. Neil Keith, Superintendent of Construction, told Mr. Russell the road would be completed to Lake Teslin by July 4. People are already packing over the trail from Glenora to Lake Teslin. At Glenora McKenzie, Mann & Co. have 4 warehouses 50x100 ft. stored full & 3 at Shakesville. They had cleared, when Mr. Russell left, about 7 miles of the right of way out of Glenora, & have some 200 men at work on it all the time."

Central Ontario.—This line runs from Picton to Coe Hill, Ont., 104 miles. At the recent annual meeting it was decided to extend it 18½ miles, from Coe Hill to Bancroft, but no definite decision has been come to as to when this will be done. It is quite likely that a preliminary survey, & possibly a location, will be made this summer, but no further work will be done until next season at earliest, when it is possible that construction will take place. (Official.)

Great Northern.—The title of this line is really a misnomer. It belonged to roads chartered to run north, but which have been diverted into another channel, the chartered name not having been changed. The charter (Dominion, 1892,) authorized the construction of a line from Hawkesbury, Ont., including a bridge over the Ottawa River, near that point, to a point on the Quebec & Lake St. John Ry., in the vicinity of Quebec city, a distance of about 226 miles, 55 of which have been completed & accepted by the Dominion & Provincial Governments. For the present it is intended to build only 73 additional, as that mileage will suffice, by utilizing 58 miles

of the Q. & L. St. J. & 40 miles of the Lower Laurentian, to make the required connection between Quebec & Hawkesbury, where the line will connect with the Canada Atlantic for Ottawa & Parry Sound. These several links will form a new trunk line, 553 miles in length, between Quebec & Parry Sound, made up as follows:

The Q. & L. St. J. Ry. runs for the 1st 58 miles from Quebec in a nearly westerly direction to Rivière à Pierre Jct., 58 miles.

From Rivière à Pierre westward, the Lower Laurentian Ry. is completed to St. Tite, near the River St. Maurice, & the G.N. thence to Shawenegan, 50 miles.

A link is being constructed from Shawenegan to Montcalm, near Joliette, about 53 miles.

From Montcalm to St. Jérôme, the G.N. Ry. is built 28 miles.

A link will have to be built from St. Jérôme to Grenville on the River Ottawa, & a bridge over that river to Hawkesbury, where a very favorable location has been surveyed, 35 miles.

From Hawkesbury, the Canada Atlantic Ry. is built to Ottawa, 84 miles.

From Ottawa, the Ottawa, Arnprior & Parry Sound Ry. is built to Parry Sound, 265 miles.

This gives a total mileage of 578 miles, which it is proposed to reduce later on to 553 miles by building two short links, one between Lake Simon & the Batiscan River, the other to shorten the mileage between Hawkesbury & Ottawa. (Official.)

We are unable to give any particulars at present as to the progress of construction on this line, but some reference to it will be found in the report of the annual meeting of the Q. & L. St. J. Ry., on pg. 86 of this issue.

This Co. has asked the city of Quebec for \$200,000 30-year 3½% debenture bonds, of which \$50,000 is to be used for the Hawkesbury bridge, \$50,000 for workshops in Quebec, & \$100,000 for completing the line. The City Council has decided to ask authority from the Legislature to subscribe to \$200,000 capital stock of the Co., payable only upon completion of the line, so as to form a through route from Quebec to Parry Sound & the building of the workshops in the city.

Irondale, Ottawa & Bancroft.—This line is projected to run from a junction on the G.T.R.'s Lindsay-Haliburton branch easterly to Brockville. At present it is completed & in operation from the G.T.R. Jct. to Baptiste, near Bancroft, 45 miles. At the last session of the Ontario Legislature it was voted a bonus of \$30,000, being \$3,000 a mile for a 10-mile extension from a point 45 miles from Irondale, at the end of the portion to which aid was granted in 1896, & thence easterly. It is not expected that any work will be done on the extension this year. (Official.)

Intercolonial.—The contract for the deep water terminus at North Sydney has been let to M. J. Ross & J. B. McManus, of North Sydney. The work consists of grading & laying about ½ a mile of track from the station to the wharf & on the wharf, the building of a new wharf & retaining crib work & filling in between the crib work & the old wharf. (Official.)

The I.C.R. station at Moncton, N.B., now approaching completion, is a handsome building of buff brick, with red sandstone trimmings. The interior is finished in B.C. cedar & Douglas fir. The lower ceilings are of wood, the walls being wainscotted the whole height to the ceiling with panels. The extreme length is 195 ft., width 47 ft. The ground floor has the following accommodation: Express office, 39½ x 9 ft.; refreshment room, 26 x 34 ft.; ladies' waiting room, 30 x 33 ft.; ladies' parlor, 17½ x 22 ft.; ladies' lavatories; vestibule, 14¾ x 21¾ ft.; ticket office, 7½ x 21½ ft.; agent's office, 6½ x 14½ ft.; parcels, 10½ x 10½ ft.; men's waiting room,

30 x 33 ft.; smoking room, 17½ x 22 ft.; men's lavatories, mail & baggage, 32 x 34 ft. On the first floor is accommodation for Trackmaster, W. U. Telegraph Co., Train Despatcher, trainmen, etc. The plans were made under the direction of the ex-Chief Engineer P. S. Archibald, in 1896, the contract being carried out by Rhodes, Curry & Co., of Amherst, N.S.

Lake Erie & Detroit River.—Two by-laws to aid the proposed extension of this line from Ridgely to St. Thomas have been defeated. As mentioned in our last issue on May 11, the ratepayers of Dutton defeated a \$5,000 by-law, & on May 27 a \$20,000 by-law was defeated by St. Thomas ratepayers.

The L. E. & D. Ry. slip dock at Port Stanley is expected to be completed by Aug. 1. The Shenango line of car ferries will operate between Port Stanley & Cleveland, Ohio. The ferries have a capacity of 28 loaded cars.

Lake Manitoba Ry. & Canal Co.—Work on the extension from Sifton to the Saskatchewan River is under way in charge of R. J. McKenzie. A yard has been laid out at Sifton. It is expected about 80 miles will be built this year & the balance of 60 miles next year. Contractor Buchanan brought in his outfit from the Crow's Nest Pass & is at work on this line.

Michigan Central.—A press statement that the main line of the Canada Southern between Essex & Taylor, 65 miles, would be double-tracked this season would appear to be without foundation; at least, Division Superintendent Morford, at St. Thomas, informs us he had not heard of it. Of the 226 miles between Windsor & Suspension Bridge, N.Y., 93.6 miles have double-track, viz: Windsor to Essex, 16 miles; Dutton to Springfield, 32.1 miles; & Cayuga to Suspension Bridge, N.Y., 45.5 miles. (Official.)

Midland of Nova Scotia.—Location surveys are in progress for this line from Windsor east 60 miles via Kennetcook River to Truro. The contract for building has been let to W. G. Reid, of Montreal, who has sublet in part to Fitzpatrick Bros. The work is not difficult. There will be a bridge on the Subenacadie River, expected to cost between \$60,000 & \$100,000. Bids have been asked for equipment. The road is to be completed Sep. 9. It will furnish an air line from Sydney to Boston, & will pass through a fertile & populous country which should afford much local traffic.

Musquodoboit.—At the last session of the Nova Scotia Legislature a charter was granted for a railway from the Musquodoboit Valley to some point on the I.C.R. It is proposed for the road to run from Parker's Corner to Windsor, about 40 miles. A survey is now in progress under W. Yorston, C.E. (Unofficial.)

Nelson & Bedlington.—Surveys are reported to have been commenced for this line from Bonner's Ferry, Idaho, on the Northern Pacific, north through the valley of the Kootenay River to Kootenay Lake, B.C., a distance of 52 miles. N. D. Miller, Chief Engineer, Nelson, B.C.

New York & Ottawa.—As mentioned in our May issue, pg. 68, track was laid last fall for 53 miles between Cornwall & the junction of the Canada Atlantic at Hawthorne, about 5 miles from Ottawa, & ballasting is being pushed ahead. On May 30, the Railway Committee of the Privy Council granted the Co. permission to cross the Canada Atlantic tracks at grade, near Hawthorne, where connection will be made with the Montreal & Ottawa Ry. (C.P.R.) over the tracks & new Rideau Bridge of which Co. the N.Y. & O. will run as far as the deep cut, from which point the Canada Atlantic tracks will be used into that Co.'s station at the Canal Basin in Ottawa. The application for a grade crossing was opposed by the Canada Atlantic, on the

ground that the large and increasing traffic of its line at that suburban point would render a level crossing dangerous. It asked that the applicant be compelled to make an overhead crossing. The Deputy Minister of Railways examined the site, reporting in favor of a level crossing, which the Committee ordered, stipulating that the N.Y. & O. should put in the best possible equipment, maintain signals, &c., & pay the cost of the application, some \$500.

The St. Lawrence Bridge at Cornwall is being pushed with all possible speed. It will be 842 ft. long over the north channel & 1,110 ft. over the south channel, crossing from a point about a mile above the town of Cornwall to Cornwall Island & from the south side of the Island to the U.S. shore.

Northern Pacific.—J. R. McArthur, contractor for the 50-mile branch from Belmont to Hartney, Man., commenced grading June 13, & expects to complete it by the middle of October. The Ry. Co. supplies the ties & rails. G. A. Simpson, C.E., is in charge of the work for the Co., & D. D. McArthur, the contractor's brother, is manager for him.

Ottawa Central Station.—The C.P.R. & New York & Ottawa Ry. have secured permission to use the Dominion Government land leased to the Canada Atlantic & Ottawa, Arnprior & Parry Sound Rys., & also the Central Station at the canal basin. The application of the C.P.R. & N.Y. & O.R. was based on a claim to use the land as joint tenants with the C.A.R. & O., A. & P.S.R. These claims were argued at length, & the committee was asked to recognize the principles of their application & then the railways would get to work & settle the details of the agreement among themselves. The committee was also asked for an interim order allowing the two new railways the right to take possession, without prejudice to either party, pending the final settlement of the terms. On the other side it was claimed that Mr. Booth's roads should be treated as the primary tenants, who take all the risks of the lease, & that it was impossible to fix the terms, as it is not yet known what will be the character of the business done. The Minister of Railways announced that the claim of joint tenancy could not be entertained. Mr. Osler added that he hoped it would not hurt the dignity of the other roads to come in as Mr. Booth's tenants, to which Mr. Clark replied that it was dividends they wanted, not dignity. After considerable cross firing & persuasion on the part of Mr. Blair, Mr. Osler, on behalf of his client, stated that the C.A.R. would handle the trains of the 2 new roads. Mr. Blair urged him to name a rental pending a permanent agreement. This Mr. Osler did not appear inclined to do, but at length \$1,500 a month from each of the 2 roads was agreed upon. This arrangement is merely temporary, & if a less sum is agreed upon the difference will be refunded. The matter will come up again before the Railway Committee on September 6, when the Committee will fix the permanent rental, if the 3 lines interested do not come to an agreement in the meantime.

Pembroke Southern.—We have been unable to verify the press report that a contract for building this line from Pembroke to Golden Lake, Ont., has been entered into. We have written several letters to the Manager of the Co., but they have not elicited any reply.

St. Thomas, Ont., Union Station. A press report that a movement is on foot to build a union station to accommodate the G.T., the Wabash, the C.P. & the Lake Erie & Detroit River Rys., is probably without foundation. A prominent C.P.R. official, who would be likely to know if such a thing was on foot, says there is nothing in it.

The Toronto, Hamilton & Buffalo & O. C.P.R. are cramped for track room at Hunter St. station, Hamilton. Options have been obtained for the purchase of property on the

south side of Hunter Street, between James & Catharine streets, & it is possible the station property will be extended. The matter has been under consideration by the T., H. & B. Board for some time. (Unofficial.)

Vancouver, Victoria & Eastern.—This line is projected to run from the Mainland coast of B.C. in the neighborhood of English Bluff, near Point Roberts, via Chilliwack, to Penticton, approximately 230 miles, thence to the Boundary Creek district, approximately 100 miles. The charter is controlled by McKenzie & Mann, & the B.C. Government has granted a cash bonus of \$4,000 a mile for the whole distance from the coast to Boundary Creek, where it will connect with the Columbia & Western, which the C.P.R. has just placed under contract, & thence with the Crow's Nest, thus affording a second through line from the Pacific Coast to the Prairies. It is believed that McKenzie & Mann have made arrangements with the B.C. Government which will ensure the immediate construction of the line from Penticton to Boundary & also a start on the work in other sections from the coast eastward. See C.P.R. map of Kootenay district presented with this issue.

Wabash.—A press item was recently published to the effect that this Co. was about to erect a repair shop at St. Thomas, Ont. Nothing definite has yet been decided on. (Official.)

Washington County. The C.P.R. is getting a connection at St. Stephen, N.B., with the Washington County Ry. This line, the contractors for which are the J. P. McDonald Co., Calais, Me., connects at Washington Jct. with the Maine Central, whence it runs to Calais, 102 miles. Seventeen miles from Calais it turns & runs to Eastport, 17 miles, making a total mileage of 119 miles. Connection is made with the C.P.R. at St. Stephen's, over the St. Stephen & Middleton branch, 4 miles in length, now under lease to the C.P.R., & a short piece of the St. Croix & Penobscot road from Calais about 2 miles west. (Official.)

It is said that the Washington County line is controlled by Russell Sage, of New York, who also controls the Shore Line from St. Stephen to St. John, N.B.

Winnipeg & Southeastern. Work was commenced about the middle of May on the first 35 miles, between a point about three miles S.E. of St. Boniface, & St. Anne, which has been awarded to contractors Sinnott, Fisher & Strevel. In places the country is said to be pretty wet owing to little or no drainage having been done, but the railway drains & culverts will make these spots rapidly disappear. R. J. McKenzie is in charge of construction, Mr. Bruce being the engineer. It is said property has been secured in St. Boniface for terminal purposes, & that a bridge may be built across the Red River between St. Boniface & Winnipeg. Surveys will be made during the summer between the end of the 80 miles to be built this season at Whitemouth Lake & Lake of the Woods. As explained in our May issue, pg. 65, Whitemouth Lake is a common point from which the line can be continued about 25 miles across the narrows of the Lake of the Woods, or, if this route is found impracticable, it can be carried through Minnesota, which, however, would lengthen the distance about 35 miles. The decision of the Manitoba Government as to which route should be adopted is to be given by Jan. 1 next.

Grand Trunk Items.

The largest round-house on the system is to be built at the east end of the Sarnia tunnel.

The rumor that the Co. is about to double track its line between Hamilton & Niagara Falls is said to be without foundation. (Official.)

Work on the Victoria Jubilee Bridge at Montreal is proceeding very satisfactorily. Twelve of the 24 spans are in place & the rest should be up by the end of August.

The Montreal City Council's offer of a free site for the Co.'s general offices, consisting of 109 ft. on McGill St. & 135 ft. on St. Paul & William Sts. respectively, having been accepted, work will be gone on with as soon as possible. The Co. agrees to put up a building to cost not less than \$250,000, the assessment to be levied on that amount only for 20 years & the plans to be approved by the City Council. The arrangement will have to be ratified by the Legislature, but the Co. is willing to take an interim agreement from the city & start construction.

News of the Lines.

Cobourg, Northumberland & Pacific.—This Co. was incorporated in 1889 to construct a line from Cobourg Harbor, Ont., to the River Trent, to the Ont. & Quebec branch of the C.P.R., & to the mining regions of Mar-mora & Belmont. By subsequent legislation in 1891, 1892, & 1894 the charter was revived & powers given for extension to the mineral lands of Hastings County, & for leasing the line to the C.P.R. The Dominion Parliament has authorized assistance to the extent of \$3,200 a mile for 50 miles from Cobourg to Central Ontario Jct. on the C.P.R., with a further subsidy of 50% on cost in excess of \$15,000 a mile, the total subsidy not to exceed \$6,400 a mile. Municipalities on the route have voted their bonds for \$93,500. A contract has been made with the C.P.R. to lease the line, when completed, to that Co. for 999 years, the C.P.R. to provide rolling stock & equipment, pay rates & taxes, & pay the C. N. & P.R. Co. 40% of gross earnings. The C.N. & P.R. Co. has recently, through its contractor, C. H. Bower, issued on the London market £151,200 5% perpetual 1st mortgage debentures of £100 each at £102. Subscriptions were invited up to June 16, but at the time of writing (June 23) the result was not known here. Should the issue be successful, it is understood construction will be proceeded with at once. The directors of the Co. are R. Mulholland, Peterboro; W. J. Crossen & G. Guillet, Cobourg; J. B. Carlow, Township of Percy; E. Cochrane, M.P., & W. W. Armstrong, Campbellford. The Toronto General Trusts Co. is trustee for the debenture holders. Sir Douglas Fox, M.I.C.E., is Consulting Engineer in England, and F. Turner, C.E., Toronto, is Engineer to the Co. (Official.)

Grand Trunk.—In the case of E. P. Hannaford, ex-Chief Engineer of this Co., against the Co., for gravel & other material taken from his land at Blackwell for use in the construction of the Sarnia Tunnel connection in 1891, & which was heard at Sarnia Assizes early in May, judgment has been given for plaintiff with costs, the counter claim of the Co. being dismissed with costs. It is said the Co. will appeal.

In the case of E. P. Hannaford against the Co. for alleged wrongful dismissal, the evidence of President Sir C. Rivers-Wilson & ex-General Manager Sergeant, taken in England by commission, was read in Court in Montreal, June 8. Mr. Sergeant denied all knowledge of the Co.'s employees working at Mr. Hannaford's house & of Mr. Hannaford having used the Co.'s material for private purposes. Some witnesses were examined & Judge Davidson said he would hear the arguments later in the month.

F. Dupont has taken an action for \$10,000 against the G.T.R. on account of the death of his son, the late F. Dupont, M.P., from injuries sustained in an accident near Sherbrooke.

A bill designed to prevent the G. T. R. from securing control of the Central Vermont

has passed both branches of the Vermont Legislature & been signed by the Governor. It provides that no alien railway company shall be interested in the stock of any Vermont railway hereafter reorganized under Vermont laws, without leave of the Legislature, or shall own or acquire title thereof.

Great Northwest Central.—At the recent Dominion session the Co. was empowered to issue preferential debentures for \$12,000 a mile for the portion already built, & what may be placed under construction, these debentures to supersede to that extent the existing bonding power. The existing bonds are to be got in by the Co. & deposited with the High Court of Justice of Ontario, & the amount of claim of any claimant on existing bonds is to be paid either in money or new bonds. The new bonds will take priority of the old bonds. The proceeds of the new bonds are to be applied 1st to the extension of 10 miles of the line from its present terminus at Hamiota, Man., which is to be completed by Dec. 31 next, & afterwards in payment of charges on the old bonds. The time for construction of the next 20 miles beyond Hamiota, which includes the 10 miles above mentioned, is extended to Aug. 1, 1899, & the date for the completion of the whole line is further extended for 5 years from that date. A. Charlebois, who was the contractor for the portion of the line so far built, 56 miles, & who has been in litigation with the Co. for years, recently obtained from a local judge at Ottawa an ex-parte injunction, restraining the Co. from raising money for any purpose, & from transferring shares, J. B. Delap, who has invested heavily in the road, being made a party to the suit. Charlebois claims he is the owner of all the capital stock of the Co., by reason of the Imperial Privy Council having set aside the contract, which he alleges was the consideration for which he parted with the shares. Pending the receipt of the Privy Council order the injunction has been continued, & it is of course hampering the Co.'s operations. A representative of the Co. informs us that it is the intention to go on with the work as soon as possible, but if anything should prevent the new bonds being issued the obligation to build 10 miles this year will lapse. A. F. McCallum, C.E., is now going over the proposed route between Hamiota & the western boundary of Manitoba with a view to securing a final location of the extension. (Official.)

Montreal & Sorel.—A Montreal telegram says:—Negotiations are pending for the purchase of the Montreal & Sorel Ry. by the Atlantic & Lake Superior Ry. The M. & S. Ry. has never been prosperous, but its absorption by the A. & L. S. will remove a competitor for part of the distance to be traversed by the latter. If the negotiations are completed, Mayor Prefontaine, who is one of the directors of the A. & L. S., will go to England to endeavor to obtain the capital for the road. A necessary part of the scheme, however, is an \$8,000,000 bridge at Longueuil, & it is not probable that this can be floated just yet. The M. & S. Ry. runs from St. Lambert, 6½ miles south of Montreal, to Sorel, 45 miles. From St. Lambert it gains access to Montreal over the G.T. tracks & Victoria Bridge. We fail to see why, as stated in the dispatch, another bridge is necessary.

Pontiac & Pacific Jot Ry., & Ottawa & Gatineau Ry.—Special general meetings of the shareholders of both of these companies were called to be held in Montreal, June 1. In each case the objects stated were precisely the same, to authorize the issue of \$500,000 1st mortgage bonds of each company, to build the Interprovincial Bridge across the Ottawa River between Nepean Point & Hull. Application to the Secretary of the two companies has failed to elicit any information as to the result of the meetings.

A C.P.R. Inspection Trip.

Vice-President Shaughnessy returned to Montreal June 20, after a month's absence in the west. From Montreal he went via Toronto, Chicago & St. Paul, thence taking the Minneapolis St. Paul & Sault Ste. Marie line to Portal & on to the main line of the C.P.R. at Assiniboia, Assa. He again left the main line at Dunsmuir, proceeding to Lethbridge, & from there over the Crow's Nest line for the distance the track was then laid, 116 miles, continuing on to the Kootenay district, where he inspected the Columbia & Kootenay, Columbia & Western, Slocan Lake & Nakusp & Slocan ranches, then on to the main line at Revelstoke, visiting Vancouver & Victoria & returning by Winnipeg & the north shore of Lake Superior.

On his return to Montreal he spoke of his trip as being a very satisfactory one, having found the system in first-class condition from Montreal to the Pacific. He was struck with the evidences of prosperity on every hand, & there was every indication that during the coming summer there would be a bountiful harvest & that the people of the Northwest would be in a satisfactory condition so far as the crops were concerned.

In answer to a question in regard to the solution of the smelter question & the profitable production of the low grade ores of British Columbia, he said the C.P.R. had taken steps to do the best possible for the country, & it remained to be seen what the results would be. The Trail smelter would be blown in July 1, after a thorough re-arrangement of the plant, & it was expected that the results would be of a satisfactory nature. This is the property which was purchased some time ago from Mr. Heinze, & the proposition was to make it profitable for the mines to ship their ores there for smelting. At present an average of 225 tons of ore is being shipped to the smelter each day, mostly from 3 or 4 mines, but it is expected that later on a larger number of mines will be shipping. The heaviest shippers at present are the War Eagle & Centre Star mines. The re-arrangement of the smelter is expected to bring about the most satisfactory results.

The Vice-President was very much pleased with the progress British Columbia was making. No other concern, said he, was in a position to judge of this so thoroughly as was the C.P.R. Co., whose interests in B. C. now are simply enormous, & still they are extending & spreading out in every direction. Said Mr. Shaughnessy: "The people of B.C., generally are not aware of the fact that the works that the C.P.R. are carrying on this year in the West will involve an expenditure of at least \$25,000,000. Of this \$15,000,000 has already been provided for, & \$10,000,000 more will be forthcoming as soon as it is required. Referring to the progress Vancouver was making, Mr. Shaughnessy stated that since his visit there last September he had observed a great change, & all for the better. He had never wavered in his opinion with regard to Vancouver, & that was that it was certain to become Canada's Liverpool on the Pacific coast.

While it was true that the Klondike boom had subsided for the time being, Mr. Shaughnessy thought the general improvement all along the line in business would make up for the loss in that respect. In conclusion, he remarked that the outlook for business generally, from one end of Canada to the other, was never more hopeful than it is at the present time. This is possibly the most prosperous time that Canada has ever enjoyed, & it is likely to last for some time.

The fast C.P.R. service between Montreal & the Pacific coast, of which something has been said, is at present under consideration, but nothing has yet been definitely decided in regard to it.

The Crow's Nest Pass Commission.

On returning to Montreal recently from his western inspection trip, Vice-President Shaughnessy of the C.P.R. was interviewed in reference to the Crow's Nest Pass Commission report.

"In the 1st place," said Mr. Shaughnessy, "I have been travelling; in the 2nd, I have not seen the report of Judge Dugas in its entirety. What I have seen have been extracts from that report, something of the discussion in the House, & certain comments in the papers. I prefer not to go into the question at the present. If, after I am seized of the full report in question, it seems necessary for the C.P.R. to make defence, I will not be slow in doing so."

Reference was made to the deaths of the two men from diphtheria under conditions suggesting the grossest cruelty & inhumanity.

"I have no objection to refer to these two cases," Mr. Shaughnessy remarked, "but observe that I am not going into the general question. If any person, in whatever capacity has been guilty of cruelty in the cases you mention, the C.P.R. will consider it an imperative duty that such person or persons be punished. But it is not for the Co. to punish; it is for the authorities to take the matter up, & I understand that the Government, before the close of the session, gave a pledge in the House that an investigation would be made. We are thoroughly in accord with public opinion on this point. I venture to think I know the conditions which prevail in railway construction a little better than some of the critics. These two men, when they started out, probably did not know the nature of their disease. They were ill, & they wanted relief. But the moment the character of the disease was discovered, no camp along the line would take them in. Why? Not because the men in such camps were inhuman. But self-preservation is the first law of nature. This law exerts itself in a railway camp precisely as it exerts itself, say, on Dorchester street in this city. Suppose application be made to the private residents of Dorchester street on behalf of two men suffering with smallpox or diphtheria, that they be given shelter, how many do you think would respond to such an appeal? Not one, I venture to say; & this not because they were at all inhuman, but because of the imperative law of self-preservation. These men would not be taken into any of these camps; they could not be received into any of the tent hospitals, because there were other patients there who would be liable to catch the disease. Mind, I say the cases were heartrending; but it will remain for this Government investigation to show that anything more could have been done under the circumstances of the case. I do not know if there was negligence or cruelty which might have been avoided under the peculiar circumstances, but if so, then the guilty party should be punished."

To the remark that as the public money had been given for the construction of the road, & that therefore the public had an immediate interest in having all the circumstances in connection with the employment & treatment of the men fully disclosed, Mr. Shaughnessy said that this reference to public money having been given was just what he objected to. "Why, the Co. gives back to the Government & the country far more than it receives. A subsidy is granted; but the Co., in a low schedule of rates & concessions, gives an ample—a full equivalent—for what it receives. The construction of the Crow's Nest Pass Ry. is simply a bargain, which we are carrying out. Whether the money be public or private, every man connected with the work, in whatever capacity, should receive fair play. That is certainly the duty of the Co. I do not urge the point that it is not public money

to justify any improper treatment of any man; but the contention in this regard is misleading. The Co., I may say, is no novice in the matter of railway construction. We pretend to know a little about it. We have employed hundreds of thousands of men. At present there are between 4,000 & 5,000 men employed on the Crow's Nest Pass Ry., which I expect will reach Kootenay Lake this fall. The work is proceeding satisfactorily; all is harmonious; it was never anything else as far as the Co. was concerned. At the time of these complaints there were between 2,000 & 3,000 men working away with the utmost content. I would not be understood as criticizing the judicial report at all, for I have not seen it in its entirety; but I may remark that the clause providing for the fare for the return journey is a perfectly proper one, for if it were not inserted in the agreement with the men, not a few of them, ill-selected, unfit for the work, not understanding the conditions, would be demanding to get home the second day. It is one thing to put that clause in the agreement to ensure some degree of permanency in the employment, & another thing to enforce it when the work is done. But the wages offered were the highest in Canada, & that is why so many flocked to the work. I am not aware that even at home, & without the deductions which have been enumerated, & working 20 days in the month, laboring men are able to save a great deal at the end of a given period of work."

Mr. Shaughnessy also made the remark that it was contrary to the experience of railway construction that when men chose to leave work they were fed by the camps along the way. "Such a practice would have the most demoralizing effect. It is no slight thing to handle 5,000 men. You must have strict rules; & when I say that no man in Canada need be idle at present, I mean no man who is willing to work. I do not mean loafers or vagabonds, who only mean to give trouble. I am speaking in a general way with respect to public works of any kind."—Montreal Witness.

Across the Plains by the C.P.R.

Westward from Manitoba it is easy to realize that Canada has the greatest railway system in the world. The night, the long day, & again the night over the level prairie, the winding, straining climb among the mountain peaks, where the clouds settle in the thin atmosphere a mile above the ocean level, the giddy descent from ledge to ledge, skirting along the mountain sides high above the swift rivers & mirror-like expanses, tunneling projecting crags, bridging dizzy gorges, & falling gently with the more subdued landscape, to where the salt tides rise & fall on the western shore of the continent—these tell of a heroic struggle with nature in her grandeur & her greatness. Awakening on the prairie, the first impression is that of an open sea.—S. T. Wood, in Toronto Globe.

A Russian Air Brake Contract.

For some months negotiations have been going on between representatives of the Manchurian Ry. in Russia & the Westinghouse Air Brake Co. of Pittsburgh & the Westinghouse Brake Co. of London, Eng., for the purchase of a large quantity of Westinghouse air brakes. A deal has just been closed by which the Manchurian Ry. purchases between \$2,000,000 & \$3,000,000 worth of Westinghouse air brakes. The placing of this contract means that shops for the making of these air brakes will be built in Russia, probably in St. Petersburg, by the Westinghouse Air Brake Co. The contract is the largest that has ever been placed for air brakes & means that other roads throughout Europe will probably adopt this brake.

Along the Winnipeg & Southeastern.

In speaking in the Manitoba Legislature recently on the proposal to aid in the construction of a railway southeasterly from Winnipeg, Mr. Greenway said: "This road will be a great advantage to Winnipeg for the reason that it will connect it with a country of great resources. There is building up now even under unfavorable circumstances a little place down there called Mine Centre. The population of the settlement is about 1,500 people. They get their supplies, no doubt, for a short season of the year, from Canada, but at certain times their supplies are purchased from U.S. cities. It is a very great advantage to Winnipeg that this district should be connected with it. One of the most important things we can undertake to do is to provide all the facilities we possibly can for making Winnipeg the great distributing centre of all the surrounding country."

"Perhaps we do not always realize just what that country is. I was curious to look into the matter myself, & I have the opinions of some gentlemen who have traversed the country, & who have something to say in regard to it. They refer first of all to the timber which is to be found there. In that regard I believe the Canadian lumbermen have been husbanding our own timber & drawing their supplies from U.S. territory, & that in the Rainy River country the timber is almost intact."

Surveyor Dawson gives the same opinion respecting the country. He says: "There appears to be a large extent of good land northwest from Rainy River, & there are doubtless large tracts of good land in other parts of the territory, & it is said that the country is very good for agricultural purposes. I think it is generally admitted by those who have looked into it that there is a very fine area adjacent to the river of agricultural lands."

Hon. Mr. Hardy says: "There is a stretch of 80 miles along the Canadian bank of unparalleled fertility, capable of maintaining at least 500,000 people. Wheat threshes out 30 or 40 bushels to the acre. The balance may be called mining or timber districts, with parcels of land capable of being converted to agricultural uses."

Frank Yeigh estimates "the total area of the Rainy River to be 22,500 square miles. The Rainy River takes its course through a rich valley of over 80 miles, & is eminently adapted to support a large agricultural population. Land fronting on the river fit for settlement reaches back 20 or 30 miles from the river. The greater part of this land requires little or no drainage. Very little snow."

Mr. Blue, Director of Mines, Ontario, says: "I saw lands equal to the best in Ontario."

The representative of that district in the Local Legislature, says: "The belt of good land is not confined to the valley of the river, but extends northeast along the shore of the Lake of the Woods & for a considerable distance along the northern shore of Rainy Lake. I estimate the agricultural belt is equal to an area of 140 miles in length by 40 miles in width, or 4,084,000 acres. This by no means includes all the good lands in the district; there are other valleys of excellent land, but none so large as Rainy River valley. The valleys of the Kawawagamog and Seine Rivers, emptying into Rainy Lake for instance. The means of access to this agricultural belt is by way of Rat Portage & Lake of the Woods. Too much cannot be said in praise of this country & its resources as a home for the settler. That it will yet contain millions of people I have not the slightest doubt."

I have a very large number of these extracts, but do not propose to detain the House by reading them all.

As regards the mineral wealth of this country only little is known, but that is sufficient to indicate that considerable traffic must take place over a railway passing through

this territory, & it is safe to assume that a large portion of the produce required must come from Winnipeg or the fertile region about Rainy River. There are numerous mining camps springing up, & the town of Mine Centre on Vermillion Lake is a prosperous place, from which & to which considerable is drawn. Immense quantities of supplies are now drawn from Tower, Minnesota, which on the opening up of this country must be drawn from Winnipeg for the territory now supplied. Numerous small towns would spring up & the mining industry would receive such an impetus that the trade of Winnipeg would be materially improved, & the produce of Manitoba farmers go to feed the miners of Ontario.

Dominion Railway Legislation.

Following is a list of acts relating to railways passed at the recent session of the Dominion Parliament:—

Respecting the Lake Erie & Detroit River Ry. Co.

Respecting the Hudson's Bay & Pacific Ry. Co.

Respecting the Ontario & Rainy River Ry. Co.

Respecting the Columbia & Western Ry. Co.

Respecting the B. C. Southern Ry. Co.

To confirm agreement between the St. Stephen & Milltown Ry. Co. & the C.P.R. Co.

Respecting the C.P.R. Co.

Respecting the Calgary & Edmonton Ry. Co.

Respecting the Edmonton District Ry. Co.

Respecting the Brandon & South-Western Ry. Co.

To incorporate the Miles Canyon & Lewes River Tramway Co.

Respecting the Montfort Colonization Ry. Co., & to change its name to the Montfort & Gatineau Colonization Ry. Co.

Respecting the Nakusp & Slocan Ry. Co.

Respecting the Kingston & Pembroke Ry. Co.

To incorporate the Windsor & Detroit Union Bridge Co.

Respecting the St. John Bridge & Ry. Extension Co.

To incorporate the Montreal & James Bay Ry. Co.

Respecting the Brockville & St. Lawrence Bridge Co.

Respecting the Lake Manitoba Ry. & Canal Co.

To incorporate the Seven Miles Canyon & White Horse Tramway Co.

Respecting the Ottawa & New York Ry. Co.

To incorporate the London & Lake Huron Ry. Co.

Respecting the Vancouver, Victoria & Eastern Ry. & Navigation Co.

Respecting the Canada Atlantic Ry. Co.

To incorporate the Timagami Ry. Co.

To incorporate the Canada Atlantic Transit Co.

To incorporate the Toronto & Hudson Bay Ry. Co.

To authorize the Canada Eastern Ry. Co. to convey its railway to the Alexander Gibson Ry. & Mfg. Co.

To incorporate the Lake Bennett & Klondike Ry. & Tramway Co.

Respecting the Saskatchewan Ry. & Mining Co.

Respecting the London & Lake Huron Ry. Co.

Respecting the transport contract between her Majesty & the Winnipeg Great Northern Ry. Co.

Respecting the repayment of the moneys advanced to the St. John Bridge & Ry. Extension Co.

To confirm a certain award in favor of the Dominion Atlantic Ry. Co.

Incorporating the Western Alberta Ry. Co.

To further amend the Railway Act.

To incorporate the Ottawa Inter-Provincial Bridge Co.

Respecting the Montreal & Southern Counties Ry. Co.

Respecting the Montreal & Province Line Ry. Co.

Respecting the Great North-West Central Ry. Co.

Lunenburg Marine Railway.

The port of Lunenburg, N.S., 45 miles west of Halifax, & the most important fishing centre in the Dominion, has lately had completed the most up-to-date marine railway in the Maritime Provinces. It is constructed specially for handling the bank fishing fleet & vessels engaged in the West India trade, although it can accommodate vessels of 400 tons capacity. There are 2 cradles, 120 ft. & 75 ft. in length on one track. These cradles can be operated separately or together, at will. The foundation is of piling driven to bedrock, & all the timber used in the construction of the track is pitch pine & hard wood, sheathed from low water mark outward with zinc & iron over felt. The hauling is done by a pair of horizontal coupled reversible engines of the most improved pattern. No expense was spared in the construction, & it is considered as good a wooden railway as can possibly be built. It is owned by the Lunenburg Marine Railway Co., & cost \$20,000.

C.P.R. Land Sales.

	Acres.		Amount.	
	1898	1897	1898	1897
Jan.....	22,044	9,943	\$7,924.00	\$33,872.00
Feb.....	20,550	8,163	66,399.00	27,573.00
Mar.....	35,421	8,727	109,010.00	29,080.33
April.....	43,145	10,785	140,275.84	37,745.09
May.....	43,148	15,802	13,783.500	51,508.00

There are 41 ships engaged in the ocean cable telegraph service. The total capital invested in the submarine lines is estimated at \$200,000,000 & the number of lines is 1,305, of which 37 are over 1,000 miles long & 93 over 500 miles.

Kingsmill, Saunders & Torrance, solicitors for the Canada Southern Ry., have sent J. Montgomery, from their Toronto office, to take charge of their St. Thomas office, where the local railway work is transacted. He succeeds Mr. Plunkett, the previous clerk in charge.

A report sent out from Vancouver to the effect that the C.P.R. steamships Athenian & Tartar were to be leased to the U. S. Government for the carriage of troops to Manila is not believed to have any foundation in fact, as the C.P.R. officials most likely to know of such a matter deny it emphatically.

The Government has acquired 9 Wagner cars to be attached to the Maritime express running between Montreal & Halifax on the Intercolonial. They consist of 6 sleeping & 3 dining cars, their total value being placed at about \$175,000. The sleeping cars are named the Raritan, Raleigh, Rialvke, Inca & Inex, & the dining cars are nos. 600, 402 & 403. They are identical with the Wagner cars running on the Lake Shore between New York & Chicago.

In answer to Mr. Ganong, M.P., the Minister of Public Works recently stated in the House of Commons that in June, 1897, a cursory survey was made with the S.S. Newfield, which was then on the ground engaged in cable repairs, with a view to ascertain the cost of establishing telegraph communication by cable between Deer Island, Charlotte County, N.B., & a point on the mainland near Eastport, Me. The approximate cost was placed at \$3,500, which would include telephone communication between the fishing villages on the island & the landing-place of the cable.

NOTICES TO MARINERS.

By the Dominion Department of Marine.

All bearings, unless otherwise noted, are magnetic & are given from seaward, miles are nautical miles, heights are above high water, & all depths are at mean low water.

No. 21, May 4.—Temporary Range Lights—Main Channel, Parry Sound.—On the western Lyon rock has been erected a white-washed pyramidal beacon which from a height of 20 ft. above water exhibits a fixed white light visible in the line of the range towards Gordon rock channel 6 miles. On the south end of the large heavily timbered island next north-east of Knightsleigh Island has been erected a similar beacon which also from a height of 20 ft. above water exhibits a fixed white light visible in the line of range 6 miles. These two lights in one bearing S.E. by E. lead through the channel at Gordon rock in 5 fathoms least water. On the south-east side of Harold Point (Kill Bear Point) has been erected a whitewashed pyramidal beacon surmounted by a pole which from a height of 25 ft. above the water exhibits a fixed white light visible in the line of range 8 miles. On the main land 1,300 ft. N.E. by E. $\frac{3}{4}$ E. from the front light is erected an exactly similar beacon & pole which from a height of 50 ft. above the water exhibits a fixed white light visible in the line of range 8 miles. These two beacons & lights in one bearing N.E. by E. $\frac{3}{4}$ E. lead fairly between Nias Islands & Carling Rock on the north-west & Rose Island, Hugh Rock & Cameron Island on the south-east. In passing through the channel the range should be held exactly on to lead past a rock with 10 ft. water on it (black buoy) lying east 2,000 ft. from the east side of Nias Island & also to lead past a rock with 16 ft. water on it (red flag buoy) lying W. by S. $\frac{3}{4}$ S. 2,000 ft. from Cameron Island beacon. These rocks lie only 50 yards off the line of range, one on each side.

SAILING DIRECTIONS.—A vessel entering Parry Sound after passing the 15 ft. spot off Hooper Island should either return to the Jones Island—Gordon rock range, or bring the above range on bearing S.E. by E. to pass through the Gordon rock channel. Keep this on until the lights on Harold Point are seen clear of the south-east point of Nias Island, when haul up for Hugh Rock light bearing E. $\frac{1}{4}$ N. until the lights on Harold Point come in line bearing N.E. by E. $\frac{3}{4}$ E. Keep them exactly on until abreast of Cameron Island when proceed as directed in Notice to Mariners no. 15 of 1898. If leaving Parry Sound, before passing Cameron Island, see that the Harold Point range is exactly on bearing N.E. by E. $\frac{3}{4}$ E. Keep it so until between Hugh & Gordon Rock, when haul up for Gordon Rock bearing W. $\frac{1}{4}$ N. until the Lyon Rock range comes on to lead through Gordon Rock channel bearing S.E. by E.

Steer on this range (Red rock light should be seen a little on the port bow) until the Jones Island—Gordon Rock range comes on, when haul over for Twin Rocks for a short time to avoid the 15 ft. spot off Hooper Island. When Pancake Island comes abreast (it can generally be made out even on a dark night) a vessel will be abreast of the shoal & may haul over to get the range on again & she must keep it so. This affects Admiralty charts 327 & 1731.

No. 22, May 10.—Color of Buoy on Middle Ground, Midland Harbour.—1. The buoy on Midland Bay shoal, Midland Harbour, Georgian Bay, is a red spar buoy & not a black buoy as shown on charts. This affects Admiralty charts 327, 678 & 2102.

2.—Russell Island Upper Light no. 12. Notice has been received from the U.S. Light-house Board that on or about May 5, 1898, the fixed red lantern light will be moved to & established on the structure on the upper end of

the shoal at the head of Russell Island, & about 3,600 ft. N. by E. $\frac{3}{4}$ E. from Russell Island light no. 11, with which it will form a range to guide in the St. Clair River above the head of the shoal. The light will be 14 ft. above water. The structure consists of a crib, in 15 ft. of water, surmounted by a white lantern house, from the top of which the light will be shown. This affects Admiralty charts 339, 332 & 978.

No. 23, May 10.—Government Rifle Range, McNab's Island, N.S.—1. The usual annual notice has been issued by the Chief Staff Officer of the Imperial troops in garrison at Halifax with reference to target practice on McNab's Island, commencing May 10, as follows: Owing to the extreme range of the Lee-Metford or magazine rifle, with which the musketry training of the troops will in future be conducted, & with a view to the better protection of the public, it has been found necessary to demarcate more clearly the area of water seawards, & to the south of above ranges, liable to be struck by spent or ricochet bullets. This area has been marked by four spar buoys, placed at intervals between the Thrum Cap Shoal & the Eastern Passage, at a distance of 3,000 yards from the stop butts. The buoys mark the extreme limits of the danger zone. The spars are painted red, & are surmounted by cross heads painted red & white. Any ship or boat passing inside these buoys, during the hours of practice, incurs serious risk, & no attempt should, under any circumstances, be made to cross the aforesaid area as long as the red flag hoisted at the south end of McNab's Island is left flying.

2.—No Hand Fog Horn at Cape Gaspe Light Station, N.S.—There is no hand fog horn at Cape Gaspe light station, as stated in the Canadian list of lights & fog signals. A statement to this effect in the column, under the no. 509 in the 1897 list, should be struck out.

No. 24, May 14.—Navigation on the Stikine River, B.C.—The Department of Marine has made arrangements for a system of signalling at Little Canyon on the Stikine River to prevent collisions. Immediately after the opening of navigation a station will be established at each end of the Canyon, at which signals will be displayed for the guidance of vessels. A white ball or disc hoisted on the top of a mast will denote that the channel is clear, & that a vessel may enter the Canyon from the end at which the ball is displayed. A black drum or square will denote that the channel is not clear & a vessel must not enter the Canyon on any consideration when the drum is displayed. The drum & ball shown together will be a signal between the two stations for information of the signal men, & no vessel may enter the Canyon when this signal is shown. In the event of vessels approaching the Canyon from both ends simultaneously, the upward bound vessel will be held below the Canyon until the descending vessel has run the Canyon. One prolonged blast of a steamer's whistle will be a request to the signal men to give the all clear signal. In any other part of the river within Canadian territory if a vessel is warping up, a downward bound vessel must keep clear of her & her warping lines, stopping & tying up if necessary to prevent collision. In the event of 2 vessels simultaneously approaching where warping is required, the upward bound vessel must allow the downward bound vessel to pass before running out her warping lines. Two long blasts followed by 2 short blasts of a steamer's whistle will be a signal that she is actually engaged in warping.

No. 25, May 14.—British Columbia.—1. **Dangerous Rocks in Race Passage.** Information has been received from the Commander of H.M. surveying ship Egeria of the location of a dangerous rock with 10 ft. water on it at low water spring tides in Race Pas-

sage, Johnstone Strait. This is the rock reported by the Master of the ship Richard III., as described in Notice to Mariners no. 14 of 1898. It occupies nearly the position given on Admiralty chart no. 581 as 7 fathoms, Ripple shoal, & bears S. 42° 30' W. from the extreme of Eden point, Thurlow island, distant 1.2 miles. Also of a pinnacle rock with 20 ft. water on it in the position occupied by 9 fathoms on Admiralty chart 581, with the extreme of Eden point bearing N. 23° E. distant 0.95 mile, or $4\frac{1}{2}$ cables from the 10 ft. rock.

2 Buoyage of Northern Channels.

1. **RIPPLE ROCK.**—A steel can buoy, painted in red & black horizontal bands, was on April 23rd moored in 6 fathoms water near the 10 ft. spot on Ripple shoal above described. Lat. N. 30° 24' 0"; Long. W. 125° 51' 20". This affects Admiralty charts 581 & 1917, & B.C. Pilot, 1888, pg. 207.

2. **DALL PATCH.**—A square, steel platform buoy, surmounted by a pyramidal wooden slatwork with a diamond-shaped topmark, the whole painted in red & black horizontal bands was, on April 25 moored on Dall Patch, Seaforth Channel, to replace the less conspicuous spar buoy heretofore maintained there. The buoy is moored in 2 fathoms water close to the more easterly and shoaler part of the patch. Lat. N. 52° 13' 0"; Long. W. 128° 11' 1". This affects Admiralty charts 1923 B & 2449, & B. C. Pilot, 1888, pg. 372.

3. **Hewitt Rock.**—A black steel can buoy was, on April 25 moored in 3 fathoms on Hewitt rock, Hickish narrows, Finlayson channel. Lat. N. 52° 52' 50"; Long. W. 128° 30' 40". This affects Admiralty chart 1923 B. & B. C. Pilot, 1888, pg. 387.

4—Dangers in Alice Arm & Approach.

1. **PADDY PASSAGE UNSAFE.**—Paddy passage, on the east side of Brooke island, Observatory Inlet, is reported by local Indians to be unsafe for navigation, & should not be used until examined.

2. **ROCK OFF LARCOM ISLAND.**—The rock marked awash on Admiralty chart 2458, off the south-east extremity of Larcom island, shows 3 ft. at high water.

3. **ROCK OFF SOUTH END OF LIDDLE ISLAND.**—A rock, drying about 6 ft. at low water, lies $1\frac{1}{2}$ cables west from the south extreme of Liddle Island. A line from the north extreme of Perry Bay Point past the south extreme of Liddle Island passes through the rock.

4. **ROCK IN PASSAGE BETWEEN LIDDLE ISLAND AND DAVIES POINT.**—A rock on which a depth of 10 ft. at low water has been found lies between Liddle island & the point separating Hastings arm from Alice arm, which will hereafter be known as Davies point. The rock lies nearly in the middle of the passage, where 16 fathoms are shown on the chart. The channel on the west side of the rock is recommended, being the wider, with six fathoms in the middle. There is a ridge between the island & the point with a greatest depth of 8 fathoms. Sextant angles to locate the rock are as follows: Hans point & Davies point, 83° ; Davies point & east tangent Brooke island 109° 52'.

5. **ALICE ROCK.**—A dangerous rock, with 7 ft. on it at low water, exists in Alice arm, $1\frac{1}{4}$ miles north of Liddle island, almost in mid-channel, & nearly where the soundings of 39 fathoms, no bottom, is shown on the chart. There is deep water between the rock & the point on the western shore, & 13 fathoms between the rock & the eastern shore. The west tangent of Brooke island sounds one with the west tangent of Brooke island clears the rock $\frac{1}{2}$ cable to the eastward. The channel east of the rock is the wider & should be used. Sextant angles to locate the 7-ft. spot are as follows: Hans point & tangent of point north of Sopha island, 109° 52'. — Sextant point on Davies point 36° 9'.

This affects Admiralty charts 2431 & 2458, & B. C. Pilot, 1888, pgs. 477 & 478.

No. 26. May 17. Changes in Yellow Island Light, B.C. It is intended to replace the present revolving light on Yellow Island, southern entrance to Baynes Sound, by range lights arranged to clear Maple Spit. The present revolving light will consequently be permanently discontinued on or about May 17. Pending the construction of the range light towers a fixed white light will be shown from the present lighthouse tower, visible 7 miles from all points seaward. Further notice will be given of the establishment of the proposed range lights. This affects Admiralty charts 580 & 1917, B.C. Pilot, 1883, with supplements, pg. 156, & Canadian List of Lights & Fog Signals 1902.

No. 27. May 31.—Navigation in U. S. Waters.—1. Masters of Canadian vessels sailing to U. S. ports are warned that in consequence of the existence of war with Spain, the U. S. Government has discontinued the exhibition of several lighthouses on the U. S. coasts, has taken up several buoys, and has laid submarine mines in many harbors. It is therefore necessary for masters to keep themselves informed respecting the latest regulations issued by the U. S. Government for the safe navigation of the coasts and harbors of that country during the continuance of the war, and they are especially cautioned not to approach fortified harbors at night, no entrance being allowed between 8 p.m. & 4 a.m., & a risk of being fired upon being incurred in the event of violation of the published regulations.

Newfoundland.—Alteration in color of day marks, St. John's Harbor.—2. Notice has been received from the Newfoundland Government that on or about April 30 last the color of the day marks on the 2 leading light structures in the harbor were changed from black & white to white. This affects Admiralty charts 296, 298 & 2902, & Newfoundland & Labrador Pilot, 1897, pg. 422.

Richelleu & Ontario Navigation Co.

G. A. Browne, Assistant Traffic Manager, has been appointed Traffic Manager, to succeed Alex. Milloy, who has been pensioned by the Co. after a continuous service of over 50 years. On retiring, Mr. Milloy issued the following circular to passenger & ticket agents: "After over 50 years of active service, increasing infirmity compels me to pass to the retired list of the Co. I have served so long. In doing so, it is a pleasure for me to issue one more circular to my old friends, the passenger & ticket agents of Canada & the U.S. Although I will not be personally with you in the future as in days gone by, I will ever continue to watch & take a deep interest in all that concerns our vocation. It will also be a great enjoyment for me to recall the many gatherings we have had; the many consultations for mutual benefit; the many social reunions at which, amid quip & yarn & other entertainment, the inner feeling which gave zest to everything, was that we were brothers a'. I believe in this sentiment of brotherhood. It smooths much of the friction of our business life, it is conducive to honorable dealings & to the best interests of the public, as well as of our employers & ourselves, & I trust that it will long continue a leading feature with the members of our craft, in their intercourse with each other.

"On this occasion I am sure I have only to ask & you will gladly accord to my successor in office, G. A. Browne, the same consideration & courtesy which has always been so cheerfully extended to myself; & if, in the conduct of your work, it should also be in your power to do a good turn for my old Co., with its improving service; & if you can occasionally call a pleasant thought for its long-time traffic manager, I will esteem these kind actions on your part very highly, & feel that you

are doing for me what I would in like case do for you. Trusting that success & happiness may attend you & yours, I remain, your old friend, A. MILLOY."

The Co.'s steamer *Toronto*, now being built at the city after which it is named, will be launched June 21, & it is said an effort will be made to have her in commission by August. She is to run between Toronto & Prescott, where passengers will be transferred to the Co.'s smaller boats, in which they will run the rapids. The Co. is contemplating building another boat of the same size for the same route, to be ready some time next year.

The Co. has decided to meet the competition of the railways on all its boats while the rate cutting lasts. The single rate put in force by the Co. is \$5 from Toronto to Montreal, the same as the railways, this rate being good on all boats except the *Hamilton*, where the rate is \$4.50.

The Co. is having its head offices in St. Paul street, Montreal, thoroughly renovated & altered after the fire of last winter. At the up-town ticket & stock transfer office even greater changes are being made, & soon the office of the past will have been transformed into one of the handsomest ticket offices in the Dominion.

The name of the Co.'s steamer *Passport* has been changed to the *Caspian*, & she will appear on the river this season practically a new boat.

The Co.'s steamer *Canada* had a collision on the night of May 16 with an ocean vessel which was anchored in the St. Lawrence. The hull was not damaged, but the paddle-box & the railings were smashed. She put into Sorel to be fixed up, & the *Quebec* took her place on the Montreal-Quebec line.

A B.C. Wrecking Tug.

The latest addition to R. Dunsmuir & Son's fleet is the tug *Pilot*, the hull of which has been built under the supervision of Capt. J. S. Gibson, at Chemainus, B.C., where she was launched May 30, after she was towed to Victoria for completion. She will be fitted with the most modern appliances, including a towing machine, which is the latest device known to shipbuilders. It consists of a small steam engine fashioned somewhat after the style of a winch, which replaces the solid bitts usually used. By using this machine there is no strain on the tug or its tow, as the drum of the machine gives & takes as the hawser is tightened or slackened. She will have a large electric light plant with a 3,000 candle power searchlight, a patent windlass, & a large quantity of wrecking appliances, so that she may be a wrecker as well as a tug. She is 132 ft. long, 24 ft. on the beam, 12 ft. 6 in. deep, & has an 8 in. close frame. Her keel is 14x20, her keelson 18x20, & sister keelsons 18x18, making a most solid backbone. In her hull 168,000 ft. of lumber have been used, 5,000 locust treenails & 15 tons of copper & iron fastenings. Her engines & boilers are ready, & will be put in at once, & a force of shipwrights put to work on her to finish her. She will be ready for service about the middle of July.

The *Pilot* is to be fashioned somewhat differently from the usual style in which tugs are built, & the forward part housed in from the bow to the towing machines, only the space aft being left open to allow play to the hawser. A hurricane deck will cover the forward house, & on this will be built a wheel house & chart room similar to that of the *Lorne*. She is built expressly for ocean towing, taking long tows, such as to Alaska or San Francisco, & for wrecking purposes, in which work she will undoubtedly be of much profit to her owners; for since the *Whitlaw* was lost there has been no wrecking vessel on the B.C. coast. She will have 2 masts & be schooner rigged. The crew will have quarters in the

after hold & the officers & engineers in the deck houses forward.—Victoria Colonist.

The C.P.R. Kootenay Steamers.

Capt. Short, the pioneer commander on the C.P.R. steamers on the Columbia River & Arrow Lakes, has been given the command of one of the steel steamers built by the C.P.R. to run on the Stikine River between Wrangell and Glenora. Capt. Short was in command of the *Lytton* in 1890-91, before the *Columbia* was built, & stuck to the old boat till very recently, when Capt. Gore, of the *Nakusp*, became Commodore on Capt. Troup's removal to Vancouver to establish the C.P.R. Co.'s fleet of Stikine River steamers, when Capt. Short took command of the *Kootenay*. The *Columbia* & the *Nakusp* were both burned to the water's edge, the former near Waneta in 1894 & the latter at Arrowhead last December; but the old *Lytton* is still in active service. She has never met with a serious accident, Capt. Short being one of the most careful as well as most courteous pilots on the river. Capt. Short is succeeded on the *Kootenay* by Capt. J. Whitmore, who for years filled the position of Mate on the *Nakusp* & latterly as Capt. of the *Lytton*. Mate McLennan, of the *Lytton*, has been promoted as Capt. of that boat. Albert Forslund is Capt. of the *Rossland*, & Capt. Fraser has charge of the cargo steamer *Trail*.—Vancouver News-Advertiser.

Recent Dominion Legislation.

Among the Acts passed at the recent session of the Dominion Parliament were the following:—

Further to amend the Act respecting Government harbors, piers & breakwaters.

Further to amend the Act respecting certificates to masters & mates of ships.

Respecting the inspection of steamboats & the examination & licensing of engineers employed on them.

To incorporate the Klondike & Peace River Gold Mining, Land & Transportation Co.

To authorize the Quebec Harbor Commissioners to borrow money.

To authorize certain contracts with steamship companies for cold storage accommodation.

To grant further aid to the Harbor Commissioners of Montreal.

To incorporate the Lake Champlain & St. Lawrence Ship Canal Co.

Respecting the Montreal, Ottawa & Georgian Bay Canal Co.

The Fast Atlantic Service.

A London cablegram of June 7 says:—Messrs. Petersen have failed to satisfy the Canadian Government, as they undertook to do before May 31, of the completion of the underwriting of \$6,250,000 of capital in the new company. This failure causes to lapse the supplementary contract by which the Government extended the time for building, & made other concessions. The general outside idea is that this lapse of the supplementary contract frees the Government's hands. On the contrary, Mr. Petersen now falls back on his original contract. Unless he is bought out, no fresh steps to carry out the service can be taken until he absolutely fails, to place two steamers on the route in July, 1899, though everyone realizes that it will be physically impossible to build the steamers in the time.

Among the legislation of the recent Dominion session was an act to incorporate the Dawson City & Victoria Telegraph Co., & one to incorporate the Northern Commercial Telegraph Co.

The Edmonton-Yukon Route.

A. C. Waters, of the Alaska Trading & Mining Co., wrote us from Edmonton, Alberta, May 26, as follows: "Next week the machinery & fittings for our large screw propeller that will run from Ft. Smith to Peel River will leave Athabasca Landing, together with another flat boat on which I am taking 6 large draft horses & 3 waggons & 200 bushels of oats. These teams will be used at the Portage at Smith's Landing, 16 miles. The hull of this boat is completed, & as soon as the machinery is placed on it on the other side of Smith's Landing, & the cabin placed on it, we will be ready. This will not leave Ft. Smith until June 25, on account of the ice on Great Slave Lake, which goes out from about June 15 to 25. The boat will be ready to start on schedule time, & several days before."

"We have completed at Athabasca Landing a 40-ft. screw-wheel boat that will remain there until June 10, to take any passengers & tow any freight that goes down & is ready at that date. This boat makes connections with the large boat at Ft. Smith. Passengers will be taken to Grand Rapids, towed in a 45-ft. flat boat the same as the Hudson's Bay Co. uses. Our guide here takes this flat bottom boat through the Rapids from Grand Rapids to Ft. McMurray, while the 40-ft. screw-wheel steamer is lined down light. At McMurray this steamer tows the boat to Smith's Landing, making connections with the large boat. This 40-ft. boat is taken across the portage, where we have trucks & horses. This boat will attend to the towing during the busy time, & when the big boat returns with any passengers from Peel River will take the same on this side & tow them back to McMurray. From McMurray to Grand Rapids passengers are tracked to Grand Rapids, 87 miles; this is the weak point in this route, but it is by no means an unpleasant trip when in experienced hands."

"We have just sent to Athabasca Landing the machinery for a 50 ft. flat-bottom, paddle-wheel boat. This will be built inside of 30 days, & will run to Grand Rapids, where flat boats will be taken to McMurray, & then the steamer to Smith's Landing, making connection again with the large boat. This may seem complicated, but it is the way I manage it to get the boats in their places & at the same time make money."

"After this 50 ft. paddle-wheel steamer is completed & makes a trip, I will place it on the run from McMurray to Smith's Landing, & shall build another small 50 ft. boat of the same kind to use on the run from Athabasca Landing to Grand Rapids, while the 40 ft. screw boat will be placed on Great Slave Lake permanently for towing purposes."

"The run from Grand Rapids to McMurray will probably always have to be made with 40 ft. flat boats, & to avoid changing cargo so often, it is better for the passengers to get in them at the Landing & be towed down to the Rapids, & then run through to McMurray, where they can take the steamer."

"You can rely on it, I can get passengers & freight through to Peel River & in good time. I have over 20 at the Landing who will go down with us next week. I brought the machinery & fittings complete for 3 boats from the U.S., beds, pilot wheels, &c., & have the same, over 16 tons, now at Athabasca Landing."

"The run from Athabasca Landing to Grand Rapids, 167 miles, is good, smooth sailing. The small Pelican Rapids, which do not amount to much, are in this run. From Grand Rapids to McMurray there is one rapid after another, which necessitates a guide. From McMurray to Smith's Landing, 287 miles, is good water, perfectly safe. There are two ways of making the Smith's Rapids, by making several short portages or by going over the 16 miles. From Smith's Landing

down is good water navigation. Great Slave Lake gets very rough at times, & is as bad as any other large lake. The side of the lake is rocky for a considerable part of the distance. There is a stretch of 30 miles, where a boat has to run before one finds a place to get into should a storm come up."

"From Edmonton to Athabasca Landing, 98 miles overland, freighters have been charging 1c. a lb. There are plenty of freighters, & now they are hauling for 75c. per 100 lbs."

If readers will refer to the map of the routes to the Yukon gold fields published with the March issue of THE RAILWAY & SHIPPING WORLD they will find it useful in connection with the above article.

Cariboo-Omenica Chartered Co.

At the recent session of the B. C. Legislature F. Owen, W. J. Stokes, R. G. Newman, Lord Henry Fitzgerald, R. P. Sellon, C. V. Paull, H. Walters & G. Whitehead, all of London, Eng., were incorporated as the Cariboo-Omenica Chartered Co. The Co. contracts to execute works of improvement necessary to render navigation possible, & to establish & maintain during the season of 1898, 1899 & 1900, regular steamboat communication between Quesnelmouth, Cariboo district, & North Tacla Lake, Omenica district, via the Fraser River, the Lower Nechaco River, the Stuart River, the Thatcher River & lake, & the Middle River; the means of communication employed to be fit & proper for the safe navigation of the waters to be traversed & to provide suitable accommodation for the carriage of freight & passengers; & the contractors undertake, as common carriers, the carriage of passengers & freight between the points mentioned.

The contractors also agree to engage, equip, transport & maintain during the working portions of 1898, 1899 & 1900, corresponding as nearly as may be with the season of navigation, an exploring party for the exploration of the Omenica, Cassiar & Cariboo districts, to continuously & efficiently explore in one or all of these districts during the whole of the seasons.

The contractors also contract to examine & explore the north fork of the Fraser River, lying between Fort George & the Giscomb portage, & ascertain the extent to which such portion of the river is navigable, & so soon as may be possible after such fact is ascertained; to establish steamboat communication between the said points, & to maintain such communication regularly during the seasons 1898, 1899 & 1900, which shall not have elapsed at the time such fitness for navigation shall have been ascertained.

In return for these privileges the government agrees to allow the Co. to purchase 6 tracts of land in the districts named, each tract to consist of not more than 640 acres, & the right of passage along waterways & highways traversed by the Co.

B.C. Freight and Shipping Report.

R. P. Rithet & Co., Victoria, B.C., say under date of May 31: The activity noted in our last circular has not been maintained. Indeed, practically nothing has been done in chartering from San Francisco, & any fixtures reported have been for the Columbia River & Puget Sound. Spot rates are high, but as low as 31s. 3d. has been done from Tacoma to Portland at charterers' option, Sept.-Oct. loading. Lumber tonnage continues scarce. Thus for many destinations freights are more or less nominal, but the tendency of the market is towards greater ease, & in some instances quite substantial reductions have been made on the quotations previously current. Business is also more limited in scope, which accounts for the smaller list of charters annexed.

OCEAN, LAKE & RIVER.**British Columbia & the Yukon.**

The B.C. Iron Works Co. has built a steamboat, the Marquis of Dufferin, for the British America corporation.

All the leading transportation companies of Vancouver, San Francisco & Seattle have agreed to make the rate to Dawson via St. Michael's \$300 first-class & \$250 second.

The Bennett Lake & Klondike Navigation Co., headquarters at Victoria, B.C., announces that 3 swift steamers will shortly be running from the head of Lake Bennett to Dawson City.

The Stikine River steamer Skagit Chief ran against a rock recently, and had her escape pipe blown off. All the live stock in her hold were killed by being scalded to death. The vessel suffered other injuries.

Two barges, one 100 ft. long, the other smaller, built for the British-American Corporation, were launched at Vancouver June 4. The smaller one will be placed inside the larger for towing to St. Michaels. They are to be used on the Yukon.

The Klondike, Yukon & Stewart River Pioneers' stern-wheel steamer James Donville, built at Vancouver, was launched early in June, & is now on her way to St. Michaels in tow of the S. S. Manauense. She will run on the Yukon & tributary streams.

The C.P.R. Co.'s stern-wheeler steamer Yukon is making splendid time on the Stikine. On June 1 she left Wrangel at 1.30 a.m., with her usual load of passengers & freight. She discharged at Glenora, reloaded & got back to Wrangel at 9.20 p.m. the next day, making her time for the round trip less than 44 hours.

The Casca Trading & Transportation Co. has been incorporated under the B.C. Companies Act, with a capital of \$100,000, & headquarters at Glenora. Amongst its objects are the carrying on of business as wharfinger, forwarding & shipping agent, also as carrier by land & water, underwriter & insurer of ships.

The C.P.R. stern-wheel steamer Tyrrell was launched in Vancouver June 6. Her steel hull & machinery were built in Toronto by the Polson Engine Works. (See our April issue, pg. 50). The C.P.R.'s other 2 stern-wheel steamers, of which the steel hulls were also built in Toronto, are now being put together at Vancouver.

On May 17 the Passenger Department of the C.P.R. issued the following circular: The Stikine River is open for navigation & the C.P.R. Steamer Hamlin has just returned to Wrangel, having made the round trip between Wrangel & Glenora in 3½ days. It is expected the trip will soon be made regularly in less time. It is stated that a number of contractors are putting teams on the Glenora-Teslin trail.

The supplementary Dominion estimates provide \$14,000 for Stikine River examination, &c., & Chief Engineer Anderson, of the Marine Department, left Vancouver at the end of April for the north coast, after arranging for a new light at Garry Point, at the mouth of the Fraser. He went to Wrangel on the Quaden, attending on the way to inspect the coast & arrange for its proper buoying & lighting.

At Vancouver, May 20, Commissioner Chipman, of the Hudson's Bay Co., christened the Co.'s 2nd north coast river steamer, Strathcona, when she was launched at Burrard Inlet, with the Commissioner & an influential party on board. The Strathcona was chartered by the Omenica Chartered Co. for the transportation of passengers & freight on the Stikine River to Wrangel in October. Captain Odin commands her.

At the end of May the Canadian Development Co.'s stern-wheel steamer Victorian,

The Victoria, was given her trial trip, & a few days later was sent north to her route on the Stikine. She is 147 ft. long, & 33 ft. 4 ins. beam, registered tonnage 150 tons, draught about 17 ins. The lower deck & hold will carry about 250 tons of freight, & on the upper deck there is accommodation for about 250 passengers. Capt. Foster is in command.

The regulations adopted by the treasury department at Washington to govern the transshipment of goods at Wrangel up the Stikine River to the Yukon are said to be of such a character as to meet every requirement for the Canadian Yukon trade. It is expressly provided that goods arriving in a British vessel may tranship at Wrangel under customs supervision into another British vessel, & this river boat may proceed up the river, with permission to land to purchase fuel & supplies & for passengers to land temporarily.

The Alpha, an iron screw, bark-rigged steamer, 653 tons gross, & 514 tons net register, owned by Pickford & Black, of Halifax, N.S., & formerly running between Halifax & Bermuda, is to be put on between Victoria, B.C., & St. Michaels, Alaska. She left Halifax May 6 for Victoria, from which port she will tow to St. Michaels, the Yukon & Hootalinqua River Navigation Co.'s stern-wheel steamer, Reindeer, which will run on the Yukon between St. Michaels & Dawson City. It is expected the Alpha will make 2 trips during the season to St. Michaels, from which point her passengers & freight will be taken up the Yukon by the Reindeer. The latter steamer, recently built in Victoria, is 135 ft. long by 22 ft. beam, & has a speed of 15 knots in smooth water.

The Union S.S. Co.'s steamer Cutch, formerly used between Vancouver & Nanaimo, has been remodelled & improved at a cost of about \$40,000, & is to be put on between Vancouver & Wrangel, where with the same Co.'s steamer Coquitlam, she will connect with its 3 Stikine River boats. The Cutch has had new boilers put in, the engines & machinery have been overhauled, electric light & heating plants have been installed, & cabin accommodation for about 60 has been provided on the upper & lower decks, together with accommodation for about 140 second-class passengers. She is expected to average 14 miles an hour on the northern trip. H. Newcome, her former Captain, is again in charge, with Mr. Saunders as 1st officer & Mr. Kick as chief engineer.

The Klondike Trading & Transportation Co.'s stern-wheel steamer Iskoot, recently built in Vancouver, left there May 30 under her own steam, for Wrangel, Capt. Gray in command. She is 145 ft. long, 31 ft. 5 in. beam, powerfully engined, supplied with electric light, including a searchlight, & has capacity for 200 passengers & 125 tons of freight. The Nahleen, a sister boat, owned by the same Co., was completed about 2 weeks later. The Iskoot went ashore on June 1 in Kuna-lone Inlet, on the north side of Granville Channel, about 5 or 6 miles from the mouth of the Stikine, & is likely to become a total wreck. It is said the pilot, Capt. O'Brien mistook the Inlet for the mouth of the river. The Iskoot is listed badly & has a large hole in her bottom on the starboard side. The tug Chieftain & a barge were secured at Essington to take out her machinery & stores.

Lake Superior to the Rockies:

This season promises to be the busiest in the steamboat line in the history of the Lake of the Woods.

The Hudson's Bay Co. is offering its Saskatchewan River stern-wheel, steamboats, Northwest, Northcote & Marquis, for sale by tender.

One of the latest industries that has taken up the attention of Winnipeg's mechanics is a boat for the Athabasca River which will be driven like a tandem bicycle. The pedals, cranks, sprocket wheels & chains are exactly as on a high-g geared tandem, but the rear axle is bevel-g geared to a shaft which drives a 3 blade screw at high speed. Sails & oars are also provided, so that the traveller has a choice of 3 kinds of motive power.

Pilot W. D. Clark reports that he was successful beyond expectations in removing 7 of the worst boulders from the channel in the Grand Rapids of the Athabasca River. As a result, boats can now be run with their cargoes, & 6 days' hard work can be accomplished in 2. Clark had to stop work owing to the scarcity of dog feed & the water rising on the ice. He thinks \$2,000 would make a channel that boats could drift through with full cargoes.

The Pioneer Steam Navigation Co., Wabigoon, Ont., is building 2 propellers, each 65 ft. long, with 12 ft. beam. One will run on Rainy Lake, the other on Wabigoon Lake in conjunction with the Co's other 2 steamers,

making a through connection from Wabigoon to Port Frances & Mine Centre in 20 hours. This new route is directly through the Wabigoon & Manitou mining districts, & will provide transportation for places which have hitherto been practically inaccessible.

The Maritime Provinces.

The steamer Victoria commenced running on the St. John River route May 24.

The S. S. Marion has begun her trips from New Glasgow to Pictou, N.S. for the season. Capt. McDonald is in charge.

The public are anxiously awaiting the arrival of the new boat for the Guysboro, Mulgrave & Port Hood service.

Capt. R. Pratt, of Cheverie, N.S., is building a steamer to run between there & Windsor, N.S., & one trip a week to St. John, N.B.

The S. S. Evangeline, belonging to the Dominion Atlantic Ry., is making regular trips between Parrsboro & Kingsport, N.S.

Capt. Micehan, late of the S. S. Blue Hill, will command the steamer lately purchased in Quebec for the Mulgrave & St. Peter's route.

Capt. Rudolf of New Glasgow, N.S., thinks of placing the S. S. Mayflower on a route between Pugwash & some point in P.E.I.

G. F. Baird, St. John, has secured the subsidy for running the S. S. Monticello between Dalhousie, N.B., & Gaspe. The S. S. Admiral formerly ran on the route.

It is reported that the Dominion Atlantic Ry. will shortly give up Yarmouth as the place for the arrival & departure of its boats, & that Digby will be the point selected.

Letters patent have been granted incorporating J. T. Burchell, of New Campbellton, J. J. Moffatt, John Vooght, of North Sydney; N. McDonald, of Sydney, & A. C. Bertram, of North Sydney, N.S., as the Bras d'Or Steamboat Co., Capital, \$20,000.

The Nova Steamship Co. has been incorporated with a capital stock of \$50,000, & headquarters at Halifax, to operate steamships & other vessels for general transportation purposes. The incorporators are J. T. Hamilton, A. E. Jones, G. Musgrave, R. T. Braine & F. J. Phelan, of Halifax.

It is now anticipated by the Yarmouth Steamship Co. that the new steamer Express will shortly leave England for Yarmouth, N.S., in command of Capt. E. O. Smith, & she will be put upon the south shore service of the line,

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& may be transferred to the service between Yarmouth & Boston in conjunction with the steamers Boston & Yarmouth, should the business of the Co. warrant taking such a step.

The steamer Weymouth will run between Sydney, North Sydney, C.B., & Aspy Bay & intermediate points along the eastern shore of Victoria County, in place of the Arcadia, which has been running there for the past 2 or 3 seasons. Capt. Carlin of Sydney will command her. This is a most convenient route by which tourists can visit the well-known & interesting scenery & the excellent fishing grounds around Cape North, Ingonish & St. Ann's, in northern Cape Breton.

Dominion letters patent have been issued to the following companies: The Ship Africa Co., capital \$5,000. The Ship Ontario Co., capital \$3,000. The Ship Bristol Co., capital \$5,000. The Ship Hamburg Co., capital \$10,000. The Ship Austria Co., capital \$10,000. The Ship Swansea Co., capital \$4,000. The Ship Persia Co., capital \$5,000. The Ship Plymouth Co., capital \$5,000, & The Ship Avon Co., capital \$2,000. The incorporators of these nine companies are the same for each company, & are G. W. Churchill, J. Churchill, E. Churchill, L. M. Churchill, & W. C. Churchill, all of Hantsport, N.S.

A number of promotions are expected to take place in the service of the Dominion Atlantic Ry. when the new steamers Prince George & Prince Arthur have been put on the service. Capt. A. N. McGray, of the Prince Edward, is slated for the captaincy of the Prince George, recently launched at Hull, Eng., & the command of the Prince Arthur will probably fall to either Chief Officer Kinney, of the Prince Edward, or to the present skipper of the sidewheeler Prince Rupert, running between Digby, N.S., & St. John, N.B. Second Officer Stanwood, of the Prince Edward, stands a good show for promotion this summer, when the new boats are commissioned.

Ontario & the Great Lakes.

Capt. Henry Donaldson, well-known as a steamboat master on Lake Ontario, died at Toronto recently.

The Wahnapiatae Navigation Co. is being wound up by the liquidators, F. Cochrane & B. Chapin, of Sudbury.

Donnelly Bros., of Kingston, have sold the steamer Cambria to G. Palmer, of Toronto, & others. She will ply between Buffalo & Point Avenue Park this season.

The Minister of Public Works recently stated that he quite realized the importance of having a dry dock at Owen Sound, but he had no proposal to make regarding it.

The steamer Carmona, of the Brown Line, is being almost rebuilt at Collingwood. She is to be completed early in July, when she will ply between Detroit, Sarnia, Goderich & Southampton.

It is said the traffic on the Welland canal this year has so far been the greatest in the history of that waterway. The immense quantity of grain going to the sea-board accounts for this.

Capt. Finlay McKay, of Belle Ewart, one of the pioneer navigators of Lake Simcoe, died recently, aged 78. He had been successively captain of the steamers Morning, Simcoe, Victoria, Emily May & Orillia.

The steamer Empress of India is on her usual route between Toronto & Port Dalhousie. She had extensive repairs made to her this spring, & it is said that next year it is proposed to build an entirely new hull for her.

Parliament has voted \$2,000 for repairs to Burlington Channel. The Minister of Public Works says it is intended to do the most urgent work this season, & next year he will

ask for a much larger sum for improvements, as the piers are rotten.

Superintendent Boyd, of the Sault Ste. Marie canal, gives us the following statistics of the business which passed through the canal last season. No. of lockages, 2,976; no. of craft, 4,386; total tonnage, 3,804,361; Canadian tonnage, 408,232; average time of locking 13 min., 58 seconds.

The Lake Temiscamingue Navigation Co., with a capital stock of \$25,000, has been incorporated, with headquarters at Ottawa, to carry on the business of navigation, including passenger & freight traffic, towing, etc. The incorporators are: John, Jas., & David Gillies, of Carleton Place; L. Laconture, of Montreal, & J. O. Blondin, of Baie des Peres.

In a recent discussion in Parliament on the estimate of \$30,000 for Collingwood Harbor, the Minister of Public Works said the present contract, which would cost \$144,000, would give a depth of 18 ft. in the outside harbor & 16 in the inner one. The Government had been asked to make the depth 20 ft., which would cost \$100,000, but he had not accepted the suggestion.

The Prescott & Lake Superior Navigation Co. has been incorporated, with a capital stock of \$100,000 & headquarters at Prescott, Ont; to acquire & operate steamships & other vessels for general transportation purposes. The applicants for incorporation were the following: J. D. Reid, of Cardinal; G. F. Benson, of Montreal; D. Gow, of Cardinal; Geo. Hall, of Ogdensburg; & J. K. Dowsley, of Prescott.

The Minister of Public Works recently announced in Parliament that an arrangement was made to expend \$25,000 in harbor improvements at Port Burwell, on condition that certain parties interested in the coal trade contributed \$50,000 for the same purpose. The parties agreed to do so, but backed out. Notwithstanding that, Mr. Tarte says he will go on and spend the \$25,000 in view of the importance of the harbor.

A paragraph has been going the rounds of the press stating that a Toronto shipbuilding firm had secured a contract from the St. Lawrence & Chicago Steam Navigation Co. to build a large grain carrier, the dimensions & other particulars being given. J. H. G. Hagarty, the Manager of the Navigation Co., emphatically denies that a contract has been entered into. He says his Co. asked for bids, but that nothing further has been done.

The steamer Eurydice, the property of Sylvester Bros., Toronto, has been sold to Campbell & Rosenecke, of Buffalo, for, it is said \$6,000. She has been the subject of considerable litigation recently. Last summer she was sold to parties at Port Stanley for \$10,000. The purchasers afterwards refused to receive her & took action against the owners. The new purchasers, it is said, will run her between Buffalo & Chippewa as an excursion steamer.

A steamer, the White Star, has recently been built in Montreal by W. C. White. She is constructed of steel, is 166 ft. long, 42 ft. beam, & has a tonnage of 228 net. Her engines, which are of about 180 nominal h.p., were built in Scotland, & her boilers are of the Scotch type. She will run as an excursion steamer between Grimsby Park, Lorne Park & Toronto, & will be permitted to carry 800 excursionists. Capt. Boyd, of Toronto, formerly on the Greyhound, has been appointed to her command.

The C.P.R. steamer Athabasca has been supplied with a direct connected lighting unit consisting of a 500-light incandescent dynamo, direct connected to a 50 h.p. high speed Ideal engine. This unit, which is very compact, occupies a floor space of less than 600 ft. The dynamo is of the latest steel frame multi-

polar type, with ventilated armature. A marble switchboard, on which are mounted a standard equipment of instruments, is part of the new equipment, which is said to be the most complete on any of the steamers now running on the upper lakes.

On May 31 there was a long discussion in the House of Commons of the scheme to construct a ship canal from the Ottawa River to Georgian Bay. The Premier said that there was evidence as to the correctness of the estimated cost of \$17,000,000 & as to the probability of it being a commercial success. If the Government was satisfied that the conditions could be fulfilled, the request for a Government guarantee of interest on \$17,000,000 at 2% was a moderate request.

The annual miles-ton report of the Canadian & U. S. canals at Sault Ste. Marie for 1897 shows an enormous increase in the amount & value of freight which passed to & from Lake Superior last year, over any previous season. In 1896 the value of all articles was given at \$159,575,129.43. In 1897 it amounted to the stupendous sum of \$218,235,927.77, an increase of \$58,660,798.34. With an increase of 2,743,694 net tons, or 11% in freight carried in comparison with the season of 1896, the rate per mile-ton was materially lowered, it being .83 mill in 1897, while it was .99 mill in 1896.

The Province of Quebec.

The Dominion Parliament has voted \$7,000 for the establishment of a marine biological station in the Gulf of St. Lawrence.

The Montreal Hotel & Navigation Co. has been incorporated with a capital stock of \$25,000 & headquarters at Montreal, to acquire & operate athletic grounds, hotels, refreshment-rooms & parks. The incorporators are: C. H. Catelli, W. L. Hogg, H. Laporte, & J. P. Mularkey, of Montreal; & W. D. Harris, of Ottawa.

The Dominion Parliament has passed a bill to incorporate the Lake Champlain & St. Lawrence Ship Canal Co. to build a canal from the St. Lawrence River, at Montreal, to Lake Champlain, over a route which has been indorsed by the Deep Waterways Commission. The Co. is to be capitalized at \$6,000,000, & the Government is given power to take over the work at any time on giving 30 days' notice.

A barge service has been commenced between Coteau & Montreal for the western grain, which is being brought over the Ottawa, Arnprior & Parry Sound & Canada Atlantic Rs. The grain, which has so far been taken for Montreal by these roads, has been carried from Coteau over the G.T.R. In future it will all be taken to the Canada Atlantic elevator at Coteau & there transferred to barges, in which it will be taken to Montreal & delivered at the ship's side.

Government Steamer for P.E.I.

The Dominion Government steamer Stanley, which has rendered satisfactory service for some years in maintaining winter communication between P.E.I. & Island & the mainland, has been found altogether too small to cope with the increasing trade between these points, & the Minister of Marine has, therefore, deemed it advisable to procure a larger and more powerful vessel.

Parliament, at its recent session, appropriated \$180,000 for the purpose of its construction, & Captain McElhinney, Nautical Adviser to the Department of Marine, is now in Glasgow, Scotland, preparing plans & specifications & is expected to return for the construction of such a steamer as is contemplated. The Stanley is being replaced according to the plans & under the direction of Captain McElhinney.

ELECTRIC RAILWAYS.

Mimico Sunday Car Case.

At Toronto, June 15, County Judge McDougall quashed the indictment against the Toronto & Mimico Electric Ry. Co. for running cars on Sundays. The decision is due to the finding that the indictment was faulty in two particulars. It was based on a section which is an amendment to the Lord's Day Act, & then asks for a penalty as provided under the criminal code, which, the Judge holds, cannot be consistent, as the breach of the statute should be punished in accordance with the provisions of the Lord's Day Act, but as there is a difficulty in bringing up a corporation under the latter act, according to the holding of Judge McDougall, the point will probably be carried to the Court of Appeal for adjustment. It was also found that the prosecution was delayed beyond the statutory limit.

This judgment is on a motion to quash an indictment preferred at the December Sessions, 1897, against the T. & M. E. Ry. Co. The alleged offence set out in the indictment read:—That the defendant, at the Township of Etobicoke, in the County of York, on June 27, 1897, being the Lord's Day, did unlawfully & without excuse disobey a statute or act of the Legislature of Ontario, 60 Victoria, cap. 14, section 95, by unlawfully running cars or trams, & unlawfully & wilfully carrying passengers thereon, the same not being necessary for the purpose of keeping the track clear of snow or ice or for other acts of necessity or charity, & that the T. & M. E. Ry. & L. Co. did thereby commit an indictable offence contrary to the Criminal Code, sec. 138.

Section 138 of the Code reads as follows:—"Every one is guilty of an indictable offence & liable to 1 year's imprisonment who, without lawful excuse, disobeys any act of the Parliament of Canada or of any Legislature in Canada by wilfully doing any act which it forbids, or omitting to do any act which it requires to be done, unless some penalty or other mode of punishment is expressly provided by law."

Section 95, cap. 14, of 60 Victoria, of Ontario, for the breach of which the defendants were indicted, reads as follows:—"No street car company or tramway company, or any electrical railway company, except where it shall be necessary for the purpose of keeping the tracks clear of snow or ice or for other acts of necessity or charity, shall run cars or trams upon the Lord's Day. The foregoing shall not apply to companies which have before April 1, 1897, regularly run cars on Sunday, nor shall it confer any rights so as to run cars on the Lord's Day not now possessed by them, nor shall it affect or apply to any company which has by its charter or any special act the right or authority to run cars on Sunday, nor shall it affect the right (if any) of the Toronto Ry. Co. to run cars upon the Lord's Day, if or when sanctioned by the vote of the electors under 55 Victoria, cap. 99, & 57 Victoria, cap. 93, but this proviso shall not confer upon the Toronto Ry. Co. any right to run cars upon the Lord's Day which it does not now possess (if any) if sanctioned by such vote, nor shall this section apply to or affect any of the provisions of the Electric Railway Act of 1895."

The defendant's counsel took 5 objections to the indictment, as follows:

1. The indictment does not show that the defendant did not prior to April 1, 1897, regularly run on Sunday.
2. The statute contains other exceptions, & the indictment does not show that the defendant does not come within the exceptions.
3. The statute is an amendment to an act of the Province, being Chap. 203 of the Revised Statutes of Ontario (1887), "An act to

prevent the profanation of the Lord's Day," & the act provides a penalty or mode of punishment for disobedience thereto. The act has now been repealed by the Revised Statutes of Ontario (1897), & no prosecution can be continued thereunder.

4. The indictment does not allege that no penalty or other mode of punishment for the disobedience of the statute was expressly provided by law.

5. The prosecution was not commenced within 1 month after the commission of the offence.

The Judge holds that the 3rd & 5th objections go to the root of the whole matter, & if they can be sustained it would be unnecessary to consider the others. He then set out his decision, that sec. 95 is undoubtedly an amendment, relating to the observance of the Lord's Day, having been added after it was shown in the Hamilton S. Ry. case that the general prohibition of the Lord's Day Act did not apply to a company incorporated for the purpose of operating street cars. He continues: "If sec. 95, cap. 14 of the statute of 1897, from the date of its being assented to, should be read into the Lord's Day Act as it stood upon that date, it is contended the present indictment will not lie, because the Lord's Day Act provides its own penalties & procedure for breaches of its provisions, & therefore, the case falls within the exception of the latter part of sec. 138 of the code."

The Judge quotes authorities, & argues that amendments passed to statutes are usually directed against defects which have since come into notice since the statutes were passed. He holds that sec. 95 is clearly an enactment in *pari materia* with the Lord's Day Act, & the two acts, together with section 136 of the Electric Railway Act, which deals with Sunday traffic upon railways coming within the act, form one homogeneous & consistent body of law, & each of them may explain every other part of the common system to which they belong. "It is, in my opinion," he continues, "only carrying out the clear intention of the Legislature to read all the amendments contained in that act into the proper statutes, even though such statute intended to be amended may not be expressly named in the amending clause."

Judge McDougall then quotes Lord Mansfield: "Where there are different statutes in *pari materia*, though made at different times, or even expired, & not referring to each other, they shall be taken and construed together as one system & as explanatory of each other."

"If, then," he continues, "sec. 95 of the Act of 1897 is to be read as forming part of the Lord's Day Act from April 13, 1897 (the date of its sanction), the prosecution for the alleged offence committed by the defendant is governed by the provisions of the Lord's Day Act. The remedy given is to proceed summarily before a justice of the peace, & the penalty is a fine not exceeding \$40, to be collected by distress, but if default is made in payment, & distress fails to realize the fine, imprisonment may be imposed."

The Judge holds that the 5th objection, that the prosecution was not commenced within 1 month after the offence was committed, holds good, as the date of the latter was June 27, & the indictment was not found until December.

The indictment is, therefore, quashed, but without costs, the defendant succeeding upon the 3rd and 5th objections.

The case was argued at the last general sessions by J. Bicknell for the defendant, & Crown Attorney Dewar for the Crown.

Judge McDougall, the day after the delivery of the above judgment, granted the County Crown Attorney's motion for a reserved case, which he did with much doubt as to his jurisdiction, expressing the opinion, however, that the points were important & that the

Court of Appeal could decide the question of jurisdiction.

It is a notable fact that all Canadian street railways have done an excellent business this year. In Montreal & Toronto the earnings have been running away ahead of a year ago, & the same is reported from Hamilton, London, St. John & Halifax. The returns all over certainly afford a very fair indication of prosperity.

Electric Railway Legislation.

The following Acts were passed at the recent Dominion session:—

Respecting the Montreal Island Belt Line Ry. Co.

Respecting the Intercolonial Radial Ry. Co. To incorporate the Dawson City Electric Lighting & Tramway Co.

To incorporate the Three Rivers & North Shore Electric Ry. Co.

To incorporate the Seven Miles Canyon & White Horse Tramway Co.

Respecting the Queenston Heights Bridge Co.

British Columbia Lines.

B. C. Electric Ry.—The half-yearly interest on the $\frac{1}{2}\%$ debentures & the 6% income bonds due May 15 has been paid at the offices of Spurling & Co., London, Eng.

The Vancouver City Railway & Light Committee has been discussing with the City Solicitor the proposed extension of the speed limit to be granted to the B. C. E. R. Co. for running its cars in the city. Finding that there was insufficient data on which to act, within the experience of the city itself, the Clerk was instructed to write all the leading cities of Eastern Canada & the U.S. to ascertain the rate of speed permitted by civic authorities compatible with the public safety.

On May 24 an electric car with 60 passengers was proceeding from Vancouver to New Westminster at a rapid rate, when the axle broke & the car completely overturned. The occupants were jumbled together as the car, still on its side, ploughed along the side of the track. Miraculous as it seems, nobody was killed, though several were more or less injured. Many were cut by broken glass.

The Maritime Provinces.

St. John Ry.—The annual meeting which was to have taken place June 8 has been adjourned till July 6. The annual statement & report will consequently not be issued till that date. It is understood the Co. has had a very satisfactory year. A dividend of 3% for the 6 months ending April 30 has been declared, payable June 15. This is an increase over the first half of the year of $\frac{1}{2}\%$.

Ontario Lines.

Amherstburg, Windsor & Harrow.—A company in Detroit has made a proposition to build an electric railway from Amherstburg to Windsor & Harrow, & wants a bonus of \$15,000. Several bridges would be required.

Berlin & Waterloo St. Ry.—A press report that the G.T.R. has obtained an option on this line & that it will be extended to Preston, lacks confirmation.

Brantford Electric St. Ry.—J. Easton, who was so badly injured in a street railway accident 2 years ago in West Brantford, has settled with the Co., getting \$4,000 in full of all claims, defendant to pay all costs. The sensational law suit to recover damages will be well remembered. The jury awarded Easton the immense verdict of \$12,000, which

was reduced to \$9,000 by the appeal court. After that the St. Ry. Co. assigned, & since then Easton has got nothing except \$1,500 paid without prejudice during the proceedings.

Bobcaygeon & Peterboro'.—At a recent meeting in Bobcaygeon the following were elected as officers of the Co. which proposes to build an electric line between Bobcaygeon & Peterboro': W. C. Moore, President; S. H. Thorne, Vice-Pres.; Rev. Mr. Innis & J. T. Robinson, Directors; W. J. Read, Sec.-Treas.

Galt & Preston Electric Ry.—A by-law for \$12,000 bonus was carried in Waterloo June 10. This is the town's share towards the \$40,000 asked from Waterloo & Berlin by the Ry. Co., which will give both towns C.P.R. connections. If Berlin carries its by-law for the balance, \$28,000, it is said the C.P.R. will be installed in the twin towns by September next.

The Hamilton Radial Electric Ry. directors went over the road recently in a special fast car, fitted up to make the trip from Burlington to Hamilton and vice versa in, at most, 25 minutes. Two of these cars have been fitted up, having new trucks with wheels considerably larger than the old ones & motors of 50 h.p. The Company expects to be off Sherman Avenue very soon & running over the new Birch Avenue subway line. The G.T.R. workmen have completed one subway, & have the other nearly finished. They will do away with the dangerous level crossing. Nearly all the property owners over the new line have been settled with, & those who will not settle have been served with expropriation notices. One man wants at the rate of \$20,000 an acre for a small piece of land.

Hamilton St. Ry.—In the consideration of the application of this Co. for better terms at a recent meeting of the City finance committee, the question of municipal control was brought prominently before the aldermen. Not a single member favored the granting of the Co.'s application, although Ald. Hobson believed that the city, now having a good bargain, should extend the franchise. Several members considered that the City should acquire the franchise. After a long discussion, the committee decided to recommend that steps be taken to acquire the franchise. The committee will employ an expert to value the system.

The H.S.R. Co. has given the City notice that it "protests against the agreement between the City & the Hamilton Radial E. Ry. Co., on the ground that it is illegal, & if the provisions thereof are attempted to be carried out will interfere with the rights & property of the St. Ry. Co." The Co. will resist any attempt to interfere with its rights.

Kingston Electric Ry. The Kingston branch of the Lord's Day Alliance, through the Secretary of the Provincial Lord's Day Alliance, recently applied to the Attorney-General for a fiat to take proceedings against the S. R. Co. for running cars on Sunday, May 22. The Attorney-General's reply was: "It appears the Co. have no intention or systematically running its cars on Sunday. Though the cars ran on the Sunday preceding the Queen's Birthday, this was in consequence of there being a large number of volunteers in Kingston, and many visitors who were desirous of seeing the camp. Under these circumstances it is thought a fiat should not be granted on the present application, but should the cars at any time be run regularly on Sundays a fiat will be granted."

The London Street Ry. Co.—The earnings for May were \$7,695.65, compared with \$7,312.38 in May, 1897, an increase of \$383.27.

Niagara Falls Park & River Ry. The Co. is making some improvements in the power house, by installing two 500 h.p. power generators for the purpose of selling power

for commerce, etc. Already 400 h. p. of this has been contracted for, & it is probable the whole of the 1,000 h. p. will be in use in a very short time. The Co. has facilities for another 1,000 h.p. should requirements demand them. (Official).

For some time past negotiations have been going on between Manager Phillips, of the N. F. P. & R. Ry. & Mr. Bostwick, of the Upper Suspension Bridge Co., with reference to the Ry. Co. obtaining the right of way over the bridge, so as to run its electric cars over to Niagara Falls, N.Y., where it will have a station in the park. Early in May a conference was held between E. B. Osler, President; W. Hendrie, Vice-President; H. C. Hammond, Manager, & W. Phillips, Manager, representing the N. F. P. & R. Ry., & the President & directors of the Bridge Co., at which an agreement was effected. The Ry. Co. expect to have its cars into Niagara Falls, N.Y., before the end of June. (Official).

The N. F. P. & R. Ry. has entered into traffic arrangements with the Gorge Road across the river for the season of 1898, by which round trip tickets are sold at reduced rates. The N. Y. Central Ry. is issuing round trip tickets for both sides of the river.

Peterboro' to Chemung & Lakefield.—In reference to what we said about this project in our May issue, page 80, it may be added that the town of Peterboro' offered a bonus of \$20,000 to the project, but hedged it round with so many provisos that the promoter of the scheme could not see his way clear to accept it. The matter at present is in statu quo, & will probably remain so until the money market gets easier. (Official).

St. Thomas Electric Ry.—A correspondent writes: "There is one thing I have been anxious to know ever since the road was begun, but have been afraid to mention it in this righteous city. It is this: Will the cars of the St. T. E. Ry. run on Sunday? I hope they will. But I don't expect they will. Public morals are so very immaculate in this saintly city that it would never do to endanger them by allowing electric cars to run on Sunday."

This road, which was commenced Mar. 24 & is 6 miles long, has been about completed. The first car ran June 15, & the formal opening will be on July 5.

Smith's Falls, Rideau & Southern Ry. The paragraph published in our May issue, pg. 81, on the authority of The Kingston News, saying that a contract had been let to a U. S. Company to build this line, was incorrect. We were unable to verify it before publication, but have now learned that the S. F. R. & S. Directors have been negotiating with a United States firm in regard to construction, but that since the declaration of war they have been unable to proceed with negotiations. The directors are anxious to arrange for construction in the town of Smith's Falls, & from there to the Rideau Lakes, which are fast becoming important summer resorts. There are a number of villages en route. (Official).

Strathroy & Western Counties Ry. In 1893 the Ontario Legislature incorporated the Strathroy & Western Counties Ry. Co. with power to construct & operate a steam or electric railway from St. Thomas via Strathroy & Arkona to Forest or some point in the township of Bosanquet. The provisional directors were C. Grist, J. Cox, C. Bixel, W. J. Dyas, D. M. Cameron, W. Geddes & R. Pincombe, of Strathroy; Dr. J. A. McLeay, of Watford, & G. M. Everest, of Arkona. Work was to be commenced in 3 years, & completed in six years, but the time has been extended, & will expire next year. It is said work will be commenced this year on a portion of the line from Strathroy to a point on the C.P.R., and there is a strong

desire to have the portion from Strathroy to some point in Bosanquet also constructed. C. Gustin, of Valley Grove, is taking an active interest in the matter, & would be pleased to consult any others who feel interested. The line would doubtless have a large summer traffic between London & the Lake.

Toronto Ry. Co.—The gross earnings for the first five months of 1897 & 1898 are as follows:

	1897	1898	1899
Jan'y....	\$74,545.55	\$86,562.36	\$12,016.81
Feb'y....	69,744.61	82,402.19	12,657.58
March....	78,891.45	92,818.12	13,426.67
April....	73,756.38	86,898.83	13,142.45
May.....	82,461.51	92,670.35	10,208.84

The City Treasurer of Toronto says in his recent annual report:—"The revenue from the St. Ry. under its contract with the City amounted last year to \$145,673, an increase of \$6,751 over 1896, \$85,673 of which was percentage of gross receipts, & \$60,000 mileage. This year the estimated revenue from St. Ry. services is \$154,000, an estimated increase of \$8,327 over last year. During last year the service was extended by the introduction of Sunday cars. While the Sunday service has been taken advantage of by the citizens generally, & has evidently been popular, it is too soon to form an estimate of the general effect on the revenue from this special source. It is due to the working staff of the road, the conductors & motormen, to acknowledge their exceptional courtesy to the public in the carrying out of their arduous and sometimes trying duties. A tabulated statement shows that the mileage & percentage have increased from \$55,134 & \$65,239 respectively in 1892 to \$64,000 & \$90,000 (estimated) in 1898.

The Court of Appeal has set aside the decision of the board of County Judges in the T. R. Co.'s appeal against the assessment of its rails, poles & wires at \$84,860 & \$79,254, in wards 1 & 2 respectively. Acting upon the authority of the court, the City Clerk has amended the assessment roll by restoring these amounts, & has also amended the collector's rolls accordingly. It has been decided by the T. Ry. Co. to appeal to the Imperial Privy Council, & Wm. Laidlaw, Q.C., is preparing to start for England in order to move for permission to enter an appeal. The Corporation Counsel has advised that the City Council authorize him to contest the application of Mr. Laidlaw, upon grounds which he believes to be unassailable.

The Mayor & City Engineer of Toronto recently received communications from Manager Keating of the T. Ry. Co., asking that bicyclists be kept off that portion of the public streets upon which the Co.'s rails are laid, & which are known as the track allowances. The letter to the City Engineer is as follows:—"I enclose copy of the resolution passed by the directors of the T. Ry. Co., at its last meeting with reference to this matter. While the Co. is willing to give fair & reasonable consideration to the privileges of all persons who ride bicycles on the streets, it complains that the provision embodied in the agreement with the city & in the act of incorporation, that cars shall have the right of way, & that their operation shall not be delayed or obstructed, has been constantly violated by some of the bicyclists, & it is thought the city authorities should discourage as much as possible the riding of bicycles on the street railway portion of the roadway, & should forbid bicycle riding on the strip between the tracks. I understand that in some American cities ordinances have been passed making it an offence to ride bicycles on the strip between the street railway tracks, & subjecting any person offending to arrest & fine. You will, I think, admit that it is unreasonable that the ordinary speed & operation of cars which accommodate 75,000 to 80,000 passengers daily should

be delayed or interfered with by persons who are constantly taking the risk of riding bicycles immediately in front of the cars as well as on the strip between the tracks. The matter seems to be of such importance that I would respectfully suggest the advisability of your consulting with the legal department of the City, & that the Council should devise some way to regulate the speed & system of bicycle riding on streets in order to reduce the great & increasing danger arising from the use of the track allowances for this purpose. I shall be pleased to meet any committee that may be appointed for dealing with the matter in order to discuss the whole question. I may mention that instructions have been given to change the jets on the trolley sprinklers so as to water the portion of the track allowance lying between the Street Railway Company tracks in accordance with the agreement between the Co. & the City. Will you please give this matter your most careful consideration, & I hope that some reasonable & proper means may be devised to check the fast & often reckless riding of bicycles on the track allowance & to prevent bicyclists from using the strip between the tracks.

The City Solicitor informed the Council that, without having looked up the law, he was of opinion that the Co. has no power under the charter to water the streets, & as the only right to do so is that under the agreement with the City, the Co. can only water such portions of the streets as the City directs. The Co. has been notified that the city will not allow it to carry out the policy indicated in Mr. Keating's letter.

Wm. Banks, a Toronto newspaper man, has been employed by the T. R. Co. to take charge of its excursion business during the summer. The Co. proposes to greatly extend its business in this direction, both in connection with the new pleasure ground at Munro Park & the other resorts adjacent to the city.

Conductor McMurray has been awarded a bronze medal for conspicuous bravery in saving the life of Motorman Cruise, by freeing him from a live wire in March last.

Quebec Lines.

La Patrie & Scotstown.—It is proposed to build an electric railway between La Patrie & Scotstown.

The Montreal & Southern Counties Ry. Co. has secured Dominion legislation empowering it to issue preference stock to construct an electric railway from La Prairie to Montreal.

Montreal Park & Island Ry.—As far as we can ascertain, the story that this line was about to be purchased by the Montreal Street Ry. Co. was made out of whole cloth. On June 7, at a meeting of the shareholders & creditors of the M. P. & I. Ry., President Holt explained that although the road was thoroughly equipped & the receipts increasing, certain old liabilities had to be met shortly, & this hampered the directorate. Further, large blocks of stock had been issued to the original promoters, & he, with his fellow directors, believed that in fairness to all concerned a reorganization of the Co. was absolutely necessary. A committee representing the different interests involved was appointed to draft a plan of the reorganization as follows:—H. S. Holt, for the directors; Mr. Beique, Q.C., for the bondholders & Montreal Construction Co.; Mr. Geoffrion, for the Banque du Peuple & the Seminary of Quebec, & W. Strachan, for the shareholders. In order to facilitate matters & make things run easy, the trustees of the bonds were appointed to act as receivers & will manage the road until the plan of reorganization is com-

plete. The trustees are, for the original bonds, E. Hanson & S. H. Ewing, & for the new issue A. A. Thibaudeau & D. Morrice.

C. A. E. Carr, Superintendent of the London, Ont., Street Ry. Co., has been appointed Superintendent of the M. P. & I. Ry., in succession to A. J. Corriveau, who recently resigned. Mr. Carr still retains his position with the London Co., & will manage both jointly. The new Manager of the M. P. & I. will be remembered as having been Secretary to H. A. Everett.

The constantly increasing traffic on the lines of the M. P. & I. Ry. warranted the Co. in commencing in the middle of May a quick & frequent service, so that the public can take advantage of the beautiful scenery through the country. Cars run on Sundays round the mountain, cemeteries & Lachine lines every 15 minutes, & on Back River & St. Laurent-Cartier Ville every 20 minutes. On week days cars run round the mountain, cemeteries & Lachine lines every 20 minutes, & Back River & St. Laurent-Cartier Ville every 40 minutes. These latter lines, as well as the Lachine line, are now operated with high speed cars.

The case of the M. P. & I. Ry. Co. & the Town of St. Louis came up in the Court of Appeal May 26 as an appeal from a judgment of the Superior Court condemning the Co. to carry out within a delay of 2 months its obligations towards the municipality of St. Louis, the obligations including the sale of tickets at a reduced rate, a 5-minute service on St. Lawrence-st., & the granting of transfer tickets to the cars of the M. S. Ry. Co. without extra charge. After hearing argument the Court took the case en deliberé.

Mrs. E. M. Aulton recently obtained \$6,000 damages against the M. P. & I. Ry.

Montreal St. Ry.—In 8 months Montrealers have spent over \$900,000 in street car fares, an increase of \$80,681.00 over the corresponding time last year. During May the earnings of the street railway reached \$123,508.09, against \$110,819.37 the month previous & \$116,337.03 for May, 1897. The average daily earnings of the railway during the 8 months were \$3,712.45, and the average daily increase, \$332.03. The monthly earnings in detail, with comparisons, are as follows:

	1897.	1896.	Increase.
Oct. . . .	\$116,292.09	\$109,110.38	\$ 7,182.71
Nov. . . .	110,929.60	100,818.57	10,111.03
Dec. . . .	113,128.91	103,116.02	10,012.89
Jan. . . .	110,140.83	89,620.55	10,520.28
Feb. . . .	102,625.49	89,951.68	12,673.81
Mar. . . .	114,677.91	99,441.87	15,236.04
Apl. . . .	110,819.37	103,045.93	7,773.44
May. . . .	123,508.09	116,337.03	7,171.06
	\$902,123.29	\$821,442.03	\$80,681.26

The M. S. Ry. will shortly inaugurate a couple of changes in its service in the city, which will considerably facilitate the means of inter-urban communication. Rails are being laid on Place d'Armes Hill, connecting Craig & St. James streets, & when completed the Bleury & St. Catherine cars will run over the new line. This will greatly shorten the present circuitous route taken by these cars, & will be a further advance in the direction of rapid transit. Another change will be made in the extension of the Bleury & Park avenue line from Craig street to the river front by way of Craig & McGill streets. The new service from the Exhibition grounds to the water front will be practically the first cross-town car line in Montreal.

A deputation from the municipality of Verdun recently asked the Provincial Government that the charter of the M. S. Ry. Co. be extended to allow it to run to that suburb of the city, & also that the village be empowered to borrow \$10,000 to assist in the work.

The Recorder of Montreal has given judgment against the M. S. Ry. Co. for the nominal sum of \$25 & costs for refusing to build & operate its line up Cote des Neiges Hill, as agreed in its contract with the City, within a certain space of time that expired on May 1, 1897. In his judgment the Recorder refers to the fact that although the Secretary & the President of the Company have signed the specifications upon which the by-law which contains the section providing for the building of the line was based, they now claim that the City could only call for such a line by means of a simple resolution, so that the by-law passed for that purpose must be illegal. The Recorder holds that though everything that may be decided upon by the passing of a by-law might not be legally decided upon by the passing of a simple resolution, there is no doubt that as long as a decision reached by a simple resolution is legal, a similar decision reached by a by-law must be legal. But all these objections on the part of the Co., states the Recorder, dwindle into insignificance before the one prominent one, namely, that such a line would be too dangerous. The Co. brought up all sorts of expert witnesses to support this view, but the City, on the other hand, brought its own experts to prove that the new street car line in Quebec is built with much shorter curves, much steeper hills, & much shorter declines & inclines than would mark the line in question in Montreal. In addition to this, Mr. McKenna, of Cote des Neiges, has sworn that in 1892 the Co. itself had made overtures to the municipality for the building of a line like the one which it now objects to, & that in May, 1893, the Co. accepted the terms offered by the municipality of Cote des Neiges for the building of the line, & never made any mention of the danger. In short, the Recorder says: The preponderance of testimony shows that it there is to be any danger attached to the line, that danger can only be caused by negligence, ignorance or imprudence on the part of the Co., its engineers, or other employees, & to this all institutions of a similar nature are liable. He regretted exceedingly to be compelled to find the Co. guilty, because, as a rule, it had fulfilled its duties towards the City well; but it had neglected its agreement with the City, in this instance, & without being able to prove that there was really anything to prevent its carrying out its obligations.

The proposed bridge over the canal will be 217 ft. in length & 44 in width, & will cost \$85,000. It will have 2 tracks for electric cars, a double road for vehicles, & space for foot passengers. Two electric motors of 50 h.p. will supply the power.

The North Shore Electric Ry. Co. has been incorporated to build from Three Rivers to Montreal. Among the incorporators are Hon. W. Owens, Westmount; Hon. V. W. Larue, Quebec; W. Strachan, R. Prefontaine, T. Gauthier & A. J. Corriveau, Montreal.

Quebec City & Suburbs—At a special general meeting of shareholders of the Quebec, Montmorency & Charlevoix Ry. May 26, it was decided to exercise the rights vested in the Co. & to acquire the Quebec District Ry. by July 1. The Co. will then control the Quebec City Electric Ry., & will commence operations to electrify the Q., M. & C. steam road to St. Anne de Beaupre, 21 miles from Quebec. It is expected that the steam road will be electrified as far as the Falls of Montmorency, 9 miles, this summer, & that the change to St. Anne de Beaupre will be completed for the summer of 1899. It is not likely that the city electric system will be extended this season. (Official.)

An extension of the Q., M. & C. line from St. Anne de Beaupre to Murray Bay is said to be contemplated in the near future. (See April issue, pg. 54.)

TELEGRAPHS & CABLES.

The Western Union's B.C. Cable.

The cables which will be used by the Western Union Telegraph Co. to establish connection between Seattle, Wash., & Victoria, B.C., have been completed. One section to be laid between Port Angeles, Wash., & Vancouver Island is 20 miles in length, the other, which will be laid across Puget Sound from Seattle, is 9 miles. The former required 6 cars of 60,000 lbs. capacity, & the latter 3 cars, to transport them to Seattle from Trenton, N.J., where they were made, with the exception of the core, consisting of 3 small insulated conductors, which was made in England. Each cable was loaded on the cars in the shape of the figure 8, layer upon layer, back & forth. Upright boards were placed along the sides of the cars to give greater capacity, & a temporary roof built over the cable. The entire cable weighs 421,080 lbs. It was made at the rate of about a mile a day.

During the entire process of manufacture the Western Union Co. had an electrical expert on the ground to see there was no flaw or defect in its construction. He was equipped with the most delicate appliances for detecting defects. The cable as it was made passed into a large tank of water, & from there to a small room, in which, all day long, sat the expert, notebook in hand, ready to jot down any indication of a flaw that might be shown by the delicately-adjusted galvanometer. An electrical current was constantly passing through the cable, & if at any time the slightest blemish had occurred, the current, assisted by the water, would have sought it out, & a telltale kick in the mirror of the galvanometer would have thrown a beam of light reflected by it upon a graduated scale. The expert had little to do, however, & his notebook was a blank so far as flaws were concerned, for so accurately was the work done that not a single blemish was found throughout the entire 29 miles of cable.

The very best gutta percha was used for insulating the 3 conductors of which the cable consists. Ordinarily one thinks of gutta percha & India rubber as identical, but as a fact they are widely different. Gutta percha is far superior for submarine cables, because of its electrical properties. It is carefully prepared & applied to the copper wire forming the conductor in such a way as to make a uniform coating to prevent the leakage of electricity. In this cable 3 conductors were covered & then twisted together, forming the cable proper. The conductors were a little more than $\frac{5}{16}$ of an inch in diameter, made of the finest copper wire. The gutta percha covering increased the size of each to $\frac{1}{4}$ of an inch. Around the conductors after they were twisted together were wrapped layers of Jute twine, forming what is technically known as the "jute bedding." The object of this was to protect the insulation from the outside wire known as the armoring, as the cable is to be laid along the bottom of the Sound, & may come in contact with jagged rocks, & possibly be suspended here & there between rough crags for several hundred feet. This armor is made by winding about the jute bedding 14 wires nearly as large as a lead pencil. This wire was previously treated with the double galvanizing process, to prevent the action of the sea water upon the steel. This latter covering was what gave the cable its silvery glistening serpentine appearance as it curled & twisted through the cupola of the building.

The nine miles of cable provided for Puget Sound is divided into 7 sections of various lengths, the 8th, a 20 miles section stretching from Port Angeles, Wash., to Albert Head, Vancouver Island, from which point there is a short land line into Victoria. The new route embraces Tacoma, Seattle, Port Townsend,

Port Blakeley, Port Ludlow & Port Angeles, in Washington, & is the first line the Western Union has opened to British Columbia. The course for the cable was surveyed last December, when the deepest sounding showed 80 fathoms. Owing to the comparatively shallow water, & the numerous currents & the general strain upon anything submerged in Puget Sound, this cable is exceptionally strong & heavy.

Heretofore, Victoria has had but one telegraph connection with the mainland of B.C., viz., the C.P.R. route via the E. & N. Ry. to Departure Bay, thence by the C.P.R. cable to Vancouver. That cable has recently been replaced by a new one, & by relaying the old one between Beachy Point & Port Crescent, Wash., the C.P.R. has secured an alternative route to the south.

The Western Union is also about to secure connection with Vancouver City, by building a line from Wooley, Wash., via Fairhaven, Blaine & New Westminster. The C.P.R. has connection in this direction by means of the Postal Telegraph between Vancouver & Tacoma. The Puget Sound Telegraph Co. has a line down the Sound shores of the Straits by way of Seattle & Port Townsend, extending to Cape Flattery.

We are not indebted to the Western Union Co. for the foregoing information, as, although we sent several letters to different officials of that Co., asking for particulars, no reply was received. The President of the Western Union & some of his subordinate officers do not seem to act on the principle that civil communications demand a reply.

C.P.R. Telegraphs in B.C.

Quickly following on the laying of the C.P.R. Co.'s new cables connecting Vancouver Island with the mainland comes the announcement of some important reductions in the tariffs from B.C. coast cities to various U.S. points. The Co. recently announced that the rates to the various States, which have been \$1.25 day & \$1 night, will now be \$1 both day & night for a message of 10 words. Thus, New York, Chicago, St. Louis, New Orleans, etc., may be reached for 25c. each less than the former tariff. The rate to Seattle & Tacoma, which has been 60c. day & 40c. night, has been brought down to 40c. & 30c. Port Townsend, which has been 85c. will now be 25c., while Dungeness & Port Angeles, which have been \$1.10, will also have a 25c. rate. The Co. is enabled to lower these rates owing to the new direct connection.

The Victoria Colonist gives a brief resume of the telegraphic history of that city since the C.P.R. took over the B.C. telegraph system from the Dominion Government in 1886. It says: "At that time the only outlet was from Victoria by road to Saanich Arm, which was crossed by a short cable, thence by wire along the road to Nanaimo, thence by wire & cable across channels & 2 islands, then a plunge under the Gulf of Georgia to Point Gray, 15 miles from Vancouver, where a trail through the woods brought it to a highway bound for New Westminster. This was the regulating point, & at the boundary the Canadian line was spliced to the Western Union wire, which took it through a heavily wooded country to Seattle, from which point telegrams were distributed over the country. At that time it cost 90c. to telegraph to Seattle, \$1.25 to San Francisco & \$1.50 to eastern points. In 1886, when the C.P.R. assumed control, local rates in B.C. were immediately reduced 50%. San Francisco was put down to \$1, & Seattle to 75c. In 1887 San Francisco was reduced to 75c., with 60c. night rate, Seattle 60c. day & 40c. night, New York & other eastern U.S. points to \$1.25 per day & \$1 night, Montreal & other eastern Canadian points \$1 day & 75c. night, which rates are

now further reduced as shown above. The California & Oregon rates have not yet been interfered with.

"The rates enjoyed by Canadians compare well with those prevailing on the U.S. side of the line. San Francisco is a large city & has 2 big telegraph companies operating out of it. The rate from there to New York (about 3,500 miles) is \$1 both day & night. Victoria is a small city, with a much less number of telegrams, & yet Victorians have for years been able to telegraph to Sydney, N.S., the farthest easterly point of the Dominion & some 4,500 miles distant by wire, at a rate of \$1 day & 75c. night for messages of 10 words. The C.P.R., therefore, with its monopoly has been giving the people a very much longer service for considerably less money than has been enjoyed by U.S. cities in much more thickly populated states. The C.P.R. has been gradually but steadily improving its wire service out of this city for years, until now it is claimed to be strictly first-class.

"It has been the aim of the C.P.R. people to make the burden as light as possible on their customers. It must be borne in mind that, up to a very recent date, Victoria & Vancouver were the only 2 cities which made any money for the Co.; outside those points it was all expense. Hundreds of miles of wire had to be maintained through an exceedingly rough & sparsely populated country to keep us in touch with the outside world. The Co. now feels itself in a position to grant one of its periodical concessions in a further reduction of certain rates, & no doubt, the public will heartily appreciate the fact."

The Pacific Cable.

In the House of Commons, May 26, Mr. Casey brought the subject of the proposed cable between Vancouver & Australia to the attention of the House, & urged the Government to co-operate in carrying out the project.

Sir Chas. Tupper endorsed the scheme, which he characterized as a very important one, & recalled Mr. Chamberlain's statement to the Australian & Canadian delegates, that, after a study of the matter, he was convinced it entailed practically no financial responsibility. In response to a demand for tenders, the India Rubber & Gutta Percha Cable Works, of England, had offered to carry out the work for a million dollars less than Sir Sandford Fleming had estimated the cable would cost. In view of that fact, he regretted Sir Wilfrid Laurier's refusal to pledge Canadian co-operation in the carrying out of the scheme, because of distrust of the promoters' estimates.

Sir Richard Cartwright took the ground that of the 3 principal parties concerned—Australia, Great Britain & Canada—this country was the least interested in the scheme. Canada should, therefore, only be called upon to contribute to the cost in proportion to the benefit which it derived from the cable. The Government, so far, had not found it possible to come to an understanding with the other parties to the scheme, but they had not abandoned the hope that, ultimately, it might be carried to a successful issue. Although the matter was in the air, it had not crystallized as yet, & the Government could not, therefore, make any announcement at the present time.

Mr. McNeill urged the Government not to be apathetic in the matter, otherwise the opponents of the scheme would be encouraged to place obstacles in its way.

The cable steamer Francois Arago recently came into St. John, N.B., having on board 200 miles of the French cable, which she took up on Grand Banks for the purpose of repairing. She left a few days later to relay it.

C. P. R. Telegraph Notes.

M. T. Quigley, of the C.P.R. Telegraph staff in Vancouver, has been appointed Local Manager of the Vancouver office, in place of T. W. Dowling, who has been given another position in the operating department.

Owing to the great increase in press matter created by the war now in progress, the different Montreal newspapers have deemed it necessary to have operators placed in their offices to receive the bulletins direct. Consequently the C.P.R. Telegraph Department is at present minus some of its expert machine men.

The old cable between Vancouver & Nanaimo, which was taken up by the C.P.R. recently, after the laying of the new one, has been relaid by the Co. between Beachy Bay, Vancouver Island, & Port Crescent, Wash., where it connects with the Postal Telegraph lines. At the other end a short land line connects it from Beachy Bay to Victoria.

An exclusive contract has been made between the C.P.R. & the Lake Manitoba Ry. & Canal Co., for the interchange of telegraph business, under which all business originating on the latter Co.'s line will be handed over to the C.P.R. at Portage la Prairie, Man., to which point the C.P.R. has built an additional wire from Winnipeg to handle this business.

Owing to the large increase in traffic on the Ontario & Quebec division of the C.P.R. the telegraph work of the operating department has increased to such an extent as to render additional facilities absolutely necessary. An additional wire is being strung from Montreal to Megantic & another one from Farnham via Montreal, Smith's Falls, Toronto & Schaw to Hamilton, Ont.

Very satisfactory progress is being made in stringing the C.P.R.'s copper wire between Montreal & Vancouver, about half of the total distance of 2,900 miles being already completed. The new wire is already in use between Ottawa & Sudbury & between Fort William & Winnipeg, & it is confidently expected that by the middle of June it will be working through from Montreal to Winnipeg. West of Winnipeg the pole line is being largely reconstructed, which is delaying the stringing of the wire. All but 6 car-loads of the wire, representing some 760 miles, have been shipped & the intention is to have the whole work completed through to Vancouver by about Aug 1. The rapidity with which this important work is being carried out reflects great credit on Electrician Camp & the several division superintendents through whose territory the line passes.

Telegraph Office Changes.

GREAT NORTH-WESTERN.

OPENED.—Little Metis Lighthouse, Que.; Chaudiere Basin, Que.; Ahmic Harbor, Ont.; Muskoka Wharf, Ont.; Tobermory, Ont.; Victoria, B.C.

CLOSED.—Ayonmore, Ont.; Stonehaven, N.B.; Waupoos, Ont.

CANADIAN PACIFIC.

OPENED.—Bull's Head, N.W.T.; Altamont, Man.; Okotoks, Alta.; International Pier, N.S.; Garden River, Ont.; Leonard, Ont.; Margach, Ont.; Niagara-on-the-Lake, Ont.; Queenston, Ont.; Papineauville Station, Ont.

CLOSED.—Oakville, Man.; West Lynne, Man.; Cutler, Ont.; Farran's Point, Ont.

The majority of people look upon it as a trivial offence to throw a stone at a telegraph wire, but under the new criminal code the penalty is 3 months, or \$50, & if you injure the wire or one of the glass insulators, the penalty is 2 years in a penitentiary.

EXPRESS.

The Dominion Company.

This Co. announces the opening of a route on the C.P.R. between Slocan City & Slocan Jet., B.C., also on the United Counties Ry. between Iberville & Henrieville, Que. Routes have been reopened for the season of navigation on the Toronto, Port Dalhousie & St. Catharines Steamboat Line, the Bay of Quinte Steamboat Line, the Georgian Bay Transit Co., & the North Shore Navigation Co.

R. E. Helme has been appointed Route Agent, with headquarters at London, Ont., & will have charge of the following territory: Credit Valley Section of C.P.R. between Galt, Ont., & Detroit, Mich., inclusive, including Ingersoll Branch; Lake Erie & Detroit River Ry., including London & Port Stanley Division; Erie & Huron Ry., & the following stage routes: from Galt to Hespeler, from Galt to Waterloo, from Ayr to Brantford, & from St. Thomas to Aylmer.

H. Henderson has been appointed Acting Route Agent for the territory of New Brunswick & Nova Scotia, with headquarters at St. John, N.B., vice R. J. Smith, resigned.

W. J. Kirby has been appointed Acting Route Agent, with headquarters at Winnipeg, & has charge of the following territory: all offices on main line of C.P.R. between Fort William & Moose Jaw, inclusive; Gretna & Emerson, Stonewall, West Selkirk, Pembina, South-Western, Pipestone, Estevan, Pasqua & North Portal, & Prince Albert Branches: Manitoba & North-Western Ry., Lake Dauphin Ry., & G.N.-W. Central Ry.

A. Devitt, with headquarters removed to Revelstoke, B.C., has charge of the following territory: all offices on main line of C.P.R. west of Moose Jaw to Revelstoke inclusive; Lethbridge, Edmonton & Macleod Branches, & all offices in Kootenay District.

E. J. Millard having been assigned to other duties, A. W. Lee has been appointed Route Agent, with headquarters at Seattle, Wash., & will have charge of all offices in B.C. west of Revelstoke, & all offices in State of Washington.

Shipments to Yukon.—Until such time as some regular line of transportation is established and which has complied with the requirements of the Department of Customs, shipments cannot be forwarded "In Bond" beyond the terminal point or office of this Co. on the Pacific Coast.

The Co. has inaugurated a free collection & delivery system at Rat Portage, Ont.

The Western Express Co. has re-opened a route on the Duluth, South Shore & Atlantic Bessemer Branch, between Bessemer Jct. & Bessemer, Mich.

The Ontario Express & Transportation Co., which made such a sensational attempt to open up business over the G.T.R. a few years ago, by equipping & opening up some hundreds of offices all over Ontario, but which at the last moment was refused permission by the management of the G.T.R. to do business over its lines, has declared a first & final dividend of 12% on the amount of capital stock paid up.

On June 5 the Pacific Express Co. which operates on all lines of the Wabash & Missouri Pacific Systems in the southwest & on the Union Pacific System in the northwest to Portland, Ore., & beyond, having some 3,000 offices, extended its service over the Southern Division of the G.T.R., & is now handling business on Wabash trains running through Canada. Local agencies have been established at all points between Windsor & Niagara Falls, Ont., & Route Agent C. E. Johnson has been going over the route instructing the agents.

TELEPHONES.

Peelee Island Telephone Cable.

The Government is about to relay the Peelee Island telephone cable. This time it will be placed east of Point Peelee bar out to the dummy light, where an instrument will be placed, thence south of the "middle ground" to Peelee Island light. Whether it will be landed at Brown's dock, on the east side of Peelee Island, & thence by land to the light-house, is not yet quite decided. This change in the cable will remove it from the anchorage off Point Peelee in Pigeon Bay, where it has often been broken & greatly strained by vessels dragging their anchors over it. It will give a much needed station at the dummy light, & lying south of the "middle ground" will be sheltered during winter from the drifting ice floes, which, driven by the westerly gales, grind over the reefs, wearing & twisting the cable on the rocky bottom.

Nova Scotia Telephone Co.

This Co. is completing a branch line of about 25 miles to establish communication between Halifax & the pilot stations at Chebucto Head Light & Sambro, with connections at Ferguson's Cove, Herring Cove, Portuguese Cove & Ketch Harbor. This line will prove of very great service to the shipping community in the vicinity of Halifax. The Co. is also planning extensions & improvements to its system in Pictou County. A metallic switch board is being constructed in Montreal for its New Glasgow exchange. A new switchboard is also to be placed in the Westville office, which will give the patrons a much better service than they now enjoy. A lot of new business has been secured in Pictou & important extensions of the lines are to be made in that town.

The Bell Telephone Co. has opened an office in Brownsville, Ont.

The Fort Wrangel & Glenora Telephone, Telegraph & Electric Lighting Co. has been incorporated, with headquarters in Wrangel.

The Metis Telephone Co., Metis, Que., has been incorporated with a capital of \$2,500, to build & operate a telephone line in the counties of Matane & Rimouski.

The Little Salmon River Telephone Co., Sussex, N.B., has been given supplementary letters patent to enable it to extend its lines into adjoining municipalities.

England is said to have only about 75,000 telephones in use, while Canada has about 40,000. Government control is said to hamper the use of the telephone in England. France has but 35,000, while Germany has 140,000, & the United States 900,000. Sweden has 50,000, & Switzerland 30,000. Little Denmark has 15,000.

The Pan Handle Ry. is putting in telephones at points where improvements are in progress & in this way furnishing a means for facilitating the movement of trains without the expense of telegraph operators, which has been the custom heretofore. This is only one of many cases in which the telephone is crowding out the telegraph.

The People's Telephone Co., of Windsor, Ont., has been incorporated, with power to operate a telephone system in Windsor, Walkerville & Sandwich, the provisional directors being R. H. Evans & L. S. Larrabee, of Detroit, Mich.; W. A. Fraser, of the Lansing, Mich., Telephone Co.; A. H. Clarke, W. J. Pulling & W. J. McKee, M.L.A., Windsor.

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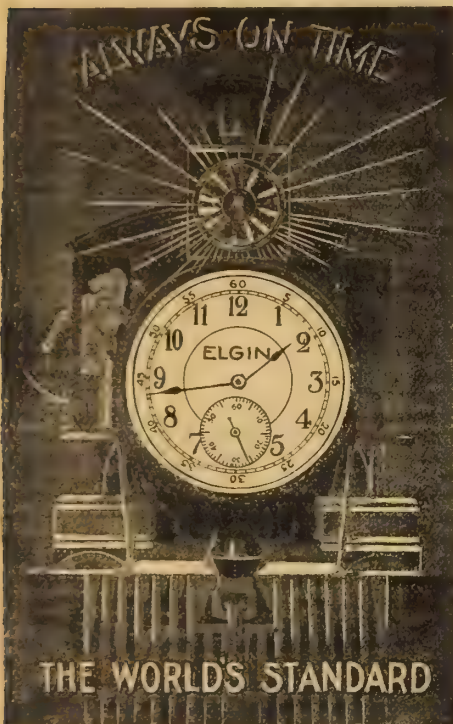


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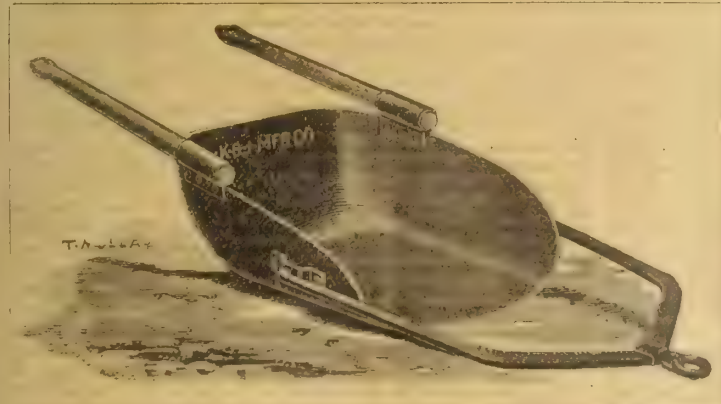
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VOL. I., NO. 5.

TORONTO, CANADA, JULY, 1898.

\$1 A YEAR.

The Deputy Minister of Railways.

Collingwood Schrieber, C.E., C.M.G., was born in England, Dec. 14, 1831, his father being the late Rev. Thos. Schrieber, of Bradwell Lodge, Essex, & his mother a daughter of Admiral Bingham. Having been educated in England he came to Canada in 1852, & obtained a position on the engineering staff of the Hamilton & Toronto Ry. until its completion in 1856. He was in private practice in Toronto with Sandford Fleming & Thos. Ridout, in the firm of Fleming, Ridout & Schrieber, until 1860, when he entered the service of the Northern Ry. as Superintending Engineer of Construction under Sandford Fleming. On the completion of this work in 1863 he became Division Engineer for the Nova Scotia Government on the Pictou Ry. & remained in charge of the works up to their completion in 1867. In 1868 he entered the service of the Dominion Government as a district engineer in connection with the survey & construction of the Intercolonial Ry. In 1869 he took charge of the Eastern Extension Ry. as Superintending Engineer, & was afterwards Superintending Engineer & Commissioner's Agent for the whole road. Subsequently he associated himself with E. R. Burpee as a contractor for the construction of the Prince Edward Island Ry., the Springhill Branch & the Springhill & Parrsboro Ry. In 1873 he was appointed Chief Engineer of the Dominion Government Railways in operation & in 1880 he succeeded Sandford Fleming as Chief Engineer of the survey for the C.P.R., the duties of both which positions he discharged for a considerable period. He was admitted a member of the Canadian Society of Civil Engineers in 1887; was a member of the Royal Commission on Railways in 1886, & was appointed Deputy Minister & Chief Engineer of the Department of Railways & Canals Nov. 30, 1892, which position he still holds. He was created a Companion of the Order of St. Michael & St. George, June 3, 1893. In religion he is an Anglican. He married a daughter of the late Lieut.-Col. A. H. Maclean, of H.M. 41st Foot. She died in 1892. His residence is Elmsleigh, Argyle Avenue, Ottawa.

Sir Wm. Van Horne, who returned from England at the end of June, paid a visit to Minneapolis & St. Paul in the middle of July.

An Era of Railway Building.

At the recent annual meeting of the Bank of Commerce shareholders in Toronto, the President, Senator Cox, in the course of his address, said:—It is evident that we have entered upon an era of railway building & of great increase in our ocean carrying trade. After the building of the Intercolonial & Canadian Pacific railways it was but natural that a young country like Canada should pause,



COLLINGWOOD SCHRIEBER, C.E., C.M.G.

a little exhausted by its effort; & there were those who, therefore, thought that we had ended our day of railway building on a large scale, whereas we have but commenced. Many things have happened lately which should cause us to take stock of our country afresh, & estimate from a wider point of view its future possibilities & its immediate wants. In Manitoba the branch roads & local systems feeding the main lines are prospering, & new communities of settlers are being created, the people are awakening to the great value of new districts which were not discussed a few

years ago, & the feeling that the railway must be the pioneer—must go in advance of settlement—is greatly strengthened by the success of some recent efforts in railway building of that kind. Gradually we are making it possible for pioneers in farming to get into that more northerly country in the Northwest, which so attracted the early travellers that they called it the "fertile belt" at a time when the prairie country west of the Red River Valley was accounted worthless. Further west along the foothills it is clear that railways must be built northward, & when built we shall wonder at the possibilities of cattle ranching thus opened to the world. In British Columbia the need of railways is even more evident to the most careless observer. In the southern part where mining is being developed much has been done & much remains to do. But looking northward everything is yet to do. We have all been discussing freely the needs of the Yukon district, partly because it has become a political question, & partly because it has been so suddenly thrust upon our attention. But the Cassiar & the Cariboo districts require aid also, & there can be little doubt that before long a railway system will serve all these, touching at some Canadian port on the Pacific, & eventually reaching down to the main line of the C.P.R. On the Pacific a great ocean traffic is being created, & while much of it is merely coastwise & carried on mainly by U.S. vessels, when the first rush of the mining excitement is over I feel sure that of the steady trade that remains we shall have a considerable share. In the traffic with Asia there is a great increase, of which we get a fair share. On the Atlantic our traffic is rapidly increasing, & whether the proposed fast line service is carried out by the present projectors or not, the need of it is more evident than ever before.

On retiring from the C.P.R. service recently, after being Receiver-General of the Owen Sound branch for 30 years, John Gordon was presented by the sectionmen with an easy chair, a bookcase & some other very handsome books, a gold-mounted stick & an address.

J. M. Herbert, recently appointed to the General Superintendency of the Eastern Division of the G.T.R., came from the Wabash under the new management. He first went to Island Pond, N.Y., as engineer, & in June was removed to Belleville, whence he has gone to Montreal.

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THE OFFICIAL ORGAN.

At a Meeting of the Canadian Freight Association, held at Montreal, July 7, 1898, it was unanimously resolved:

"That THE RAILWAY & SHIPPING WORLD, the only publication in Canada exclusively devoted to the interests of Transportation, will be recognized as the Organ of this Association."

MODERN SIGNALLING AND INTERLOCKING.

By P. F. Hodgson, Signal Engineer, G.T.R.

In taking up the subject of signalling, I will try to point out the most important phases in the growth & development of this science. Some idea of the perfection to which signalling has been brought may be gathered from the following figures. Out of the 957,000,000 passengers carried during one year, over the 20,000 miles of railway in the United Kingdom, only 1 person in 53,000,000 was killed, & 1 in 1,930,935 injured.

In looking back over the history of signalling during the last 60 years, some of the earlier methods of working trains appear as very crude & primitive. The earliest signal of which we have record took the form of a rushlight placed during the night in the station window whenever it was necessary to stop a train. This was followed in 1834 by a system of signals & a corps of signallers. In the day-time the signalman—usually a policeman—acted as a human semaphore, & by means of extension of the arms, or by the waving of flags of different colors, telegraphed: allright, go on, caution, danger, or stop, to an advancing train. This same style of signalling is still in use for shunting operations. For night, warning hand lamps with bullseyes of different colors were used for signalling allright or danger, as the white or red glass was turned towards the coming train. In the absence of a red light, any light waved violently was regarded as a signal of danger. As late as 1841 the only station signals used on the Liverpool & Manchester line were flags which ran up & down a mast by means of a rope through a pulley.

The first mechanical semaphore was introduced by Sir Charles Gregory in the same year, & consisted of a vertical post with a movable board or arm pivoted near the top, capable of being moved to a right angle by means of a lever fixed at the bottom of the post. A lamp was also provided somewhere about the same position on the post as the arm, the light being made to revolve so as to exhibit different colors to an approaching engineer. At first 2 handles were supplied to these posts, one to move the arm up & down, & the other to make the lamp revolve. This arrangement was subsequently modified, & one handle only was used for working the arm & simultaneously revolving the lamp. This was done by means of bevel wheels connected with the rod between the lever & the arm. This semaphore worked to 3 positions, indicating to engineers allright, caution, &

danger. In process of time the caution signal was dispensed with in England, although it is still retained in this country; & the allright signal, instead of hanging vertically, was indicated by the arm being placed at an angle of 45 or 60°, the latter being preferable, as it ensured a more decided signal, being displayed under all circumstances, notwithstanding variations in length of connections.

On some railways the semaphore arms are pivoted in the centre of their length on special brackets attached to the post; the allright signal in this case consists in the arm being turned to a vertical position, but unlike the old semaphore arm it is not concealed by the post, but appears to the approaching engineer to be held out from the post at a distance of about 3 ft. Instead of the old arrangement of lamp turning round, we now have in the new semaphore a fixed lamp, in front of which spectacles work up & down, so that when the semaphore arm is horizontal, viz., danger, a red glass is in front of the lense, & when the arm is lowered to 60° the allright position, a green glass takes the place of the red.

A great deal has been said in the United States about the use of a white light for allright, & it would take too long to go into all the arguments pro & con. My experience is, that a distinct light is necessary, such as green, owing to the fact that there are so many white lights about a railway which are liable to be mistaken for semaphore lights, should the proper semaphore lamp be out. Again, should the red glass of the semaphore be broken a white light would be exhibited, whereas green is not liable to be mistaken for anything other than what it is.

A very good lamp was invented by Mr. Saxby in 1858, in which the interior revolved, leaving the exterior stationary. This is used exclusively by the London, Brighton & South-coast Ry. to this day.

The most recent type of mechanical semaphore is that now used by the G.T.R., & adopted by it as its standard. The arm is weighted both by the means of the spectacle which carries the colored glass, & by a balance lever attached to the post, thus ensuring the arm flying to danger under all circumstances should breakage occur in any part of the connection working the same, also preventing possibility of the arm being lowered by an accumulation of snow upon its face.

At junctions it is often necessary to have several semaphore arms on the one post, either fixed one above the other, or side by side. Thus we often have one post with several arms on each side of it, but these are distinguished by the direction in which they point. The American rule is that all arms controlling the approaching trains shall point to the right, while on the G.T.R., & in England it is exactly the opposite, the arms pointing to the left. This is owing to the fact that in the U.S., on double track, they run on the right hand track, while here we run on the left.

In cases where semaphore arms are fixed one above the other, the top arm as a rule governs the main line, the lower arms the sidings. A great improvement on this arrangement of placing one arm above the other, & one which will, I think, come more into use as it is better known, is to have the arms side by side, & to fix the mainline arm higher than the others. To do this several short posts are fixed on a cross-tree, supported by one main stem, & each of the short posts carries a semaphore arm & lamp. This is what is called a bracket signal. Engineers can readily understand in which direction they are about to be turned. For instance, supposing an engineer is approaching a junction, & the track upon which he is travelling diverges into 3 tracks, on either of which he might be switched, a bracket signal with 3 arms would be placed at the point of junction, each of

the 3 posts on the bracket signal would carry 1 semaphore arm. If, therefore, the left hand arm is lowered the engineer will know that he is being switched to the left hand track. If the middle arm is lowered he would know he is switched to the middle track, & so on.

Semaphores in Canada are divided into 3 classes, distant, home & station. The distant signal arm is notched, or fish-tailed, & is fixed 1,200 ft. from the home signal, & is used to denote the position of the home signal at the junction or crossing. In yards which are interlocked it is very important that the switch targets or pot signals should be as low as possible to avoid the possibility of their being mistaken for the allright signals. This is more particularly necessary at night, when the lights are apt to be confused one with another. In many cases the pot signal is attached to and works with the switch, so as to move whenever the switch is moved, but the best arrangement is for them to be worked by separate levers & interlocked with the other signals in the yard, so that the switches can be moved without disturbing the signal, which can afterwards be worked as required.

A very important point in signalling is to ensure getting the best possible location for the signal, taking great care that there shall be no dark background or anything to intercept the view of the approaching engineer. For this reason signals should be made various heights to suit the location, for it must be remembered that these signals are the means by which instructions are given to the engineer to regulate his progress through a crowded yard or junction. It is, therefore, of the utmost importance that these signals be unmistakable, & that they shall always indicate such instructions as ought to be observed & obeyed, so as to ensure the safety of the trains. For some time it was contended that it was quite unnecessary to inform the engineman in which direction the signalman was about to send him, but this has long been recognized as a mistaken notion, & it is now a generally conceded fact that it is necessary for a driver to clearly understand the direction in which he is about to be turned, as in the event of the signalman making an error through mistaking him for another train, & turning him into a wrong direction, he will have an opportunity of discovering it & pulling up his train in time.

In the early days semaphore arms were usually worked by means of levers fixed at the bottoms of the posts, but as distant signals came more generally into use they were worked by means of pullover levers or drums fixed in some convenient position near the stations, these levers being connected to the signals by means of wires. The next progressive movement in signalling was rendered necessary by the increased traffic & complication of tracks, to facilitate the working of which the switch & signal levers were brought together at one central point, so that they might be handier to the operator & save him running about from switch to switch. Although being more convenient for working, this was found to be very unsafe, owing to the signalman being able to pull over the wrong lever. It was to obviate this danger that Mr. Saxby in 1856 devised and patented his first system of interlocking points & signals. Since this date various modes of interlocking levers have been invented. The fundamental principle established by Mr. Saxby remains the same, viz., that it shall be impossible for a signalman to give any conflicting signals either accidentally or otherwise, or to work signals contradictory to the position of the switches. The switch & signal levers being concentrated & brought together in a signal cabin, were readily worked by the signalman, & by means of a mechanical connection between the switch & signal levers made it impossible to move them in a contradictory manner.

In 1860 the system of locking, which consisted of slide bars with hooks or locks, was moved to & fro by the action of the levers themselves. It was then found that when the parts became worn a lever which was supposed to be locked could be moved part way. To overcome this difficulty, the spring catch handles which were used to keep the lever in its vertical or back position, similar to that attached to the reversing lever of a locomotive, were utilized in order to set in motion the locking gear, so that before a lever could be moved the spring catch must be lifted, thus locking other levers, &, when fully moved over & the spring catch lowered into notch, releasing other levers. This improvement was made in 1867. It also had the advantage of making the locking much less cumbersome, an arrangement which was found to be of increasing advantage as the number of levers multiplied.

At the present time as many as 280 levers have been placed in one cabin at the London Bridge terminus on the London, Brighton & South Coast Ry. We have in Toronto yard one cabin containing 66 levers, which will give some idea of the growth of the interlocking system.

I will now pass on to the switches & their connections. Switches are worked by means of rods, bellcranks, &c., connected to the levers fixed in the signal cabins. In 1870 it was found that in many cases where switches were worked from the signal cabins accidents were liable to happen, owing to the signalman moving the switches whilst trains were passing over them, thus causing what is commonly known as the splitting of trains. It then became evident that the switches must be held perfectly closed & firm until the whole train had passed over them. This led to the invention of what is commonly called "the facing point lock." This apparatus not only effectually prevents the possibility of the points being moved while the train is passing over them, but also, by means of the bolt lock connected to & worked with the detector bar, ensures the switch being completely closed before the signal to pass over it could be given. The detector bar is made about 3 ft. longer than the longest wheel base of a car in use on the particular railway. On the G.T.R., for instance, the length of the bar is 45 ft. This bar has to be lifted to the top of the rail, so that it is absolutely impossible for the signalman to move his lever without lifting the train, & he must move this lever before he can alter the position of the switch.

As the speed of the modern express trains increased it became at once seen of what vital importance it was that the switches over which the trains ran should be perfectly closed & securely locked in position before the signal could be lowered, & also to notify the signalman in the event of any of the rodding or other gear connected with the switches becoming broken or out of order. For instance, suppose the switches are set for the main line & the signalman wishes to reverse them so as to set them for a branch line. To do this he would pull over the lever connected to the switch. Should the rods to the switch be broken, the switch would remain set for the main line. The signalman, thinking he has set the switch for the branch line, proceeds to lower the branch signal, thereby endangering the safety of the train. To overcome this difficulty a contrivance was invented called a signal detector. The form of detector most generally adopted is as follows: A rod connected to the switch tongue passes through a cast-iron box placed in line with the signal wires. In this rod a notch is cut, & in the signal wire a slide is inserted which will pass through the notch in the rod if the switch point is perfectly close. If on the other hand the switch tongue is the least way open the notch in the rod will not be opposite the slide in the signal wire & the signal cannot possibly be

lowered. This was called the detector because it detects whether or not the switch is properly set.

To reduce the cost of the interlocking plants a device was invented by which the switch & detector bar were worked by one & the same lever. This is known as the economical facing point lock, & is greatly in favor in the U.S., although in England a separate lever-facing point lock is preferred.

Another contrivance for reducing the expense of an interlocker is an invention called the selector, by means of which 2 conflicting signals are worked by 1 lever. The action of the setting of the switches selecting which signal shall be lowered, of course only 1 signal can be lowered at a time. This effects a saving, not only of a lever in the cabin, but also one line of connection from the cabin to the signal. The action of the switch moving to either position sets the mechanism in the selector, so that the slide working the signal for that route is free to be pulled, while the slide working the conflicting signal is locked.

Owing to the switches being at considerable distance from the signal cabins, the levers were found very hard to work. To reduce as far as possible the friction on the rods working these switches, anti-friction rollers were brought into use. These not only revolve on their own axis, but are also suspended in curved links. These are specially adapted for the working of the rods on curved lines.

In order to facilitate the working of these long distance switches so as to retain the control of the yard in the hands of 1 man instead of having 2 or 3 cabins, Geo. Westinghouse, Jr., invented his pneumatic, interlocking machine, thus giving the signalman much greater power. To this, later on, he added the electric attachment, & we now have the electro-pneumatic system, very fine installations of which are in operation at the Boston & Maine depot in Boston, & at St. Louis Union Terminal Station.

In addition to the working of switches & signals, gates or barriers are often worked from the signal tower, & interlocked with the signals, so as to ensure the gates being against street traffic before the signal can be lowered for a train to pass.

Another system for working long distance switches is the hydraulic system which is largely in use in Europe, but has not as yet been introduced in this country. The principal hindrance to the working of the hydraulic system in this country is the liability of the freezing up of the liquid. This has been overcome by the mixture of glycerine with the water, which has been found to withstand the extreme cold of Russia.

I now come to the block systems, of which there are two kinds, the manual block & automatic block. The manual block differs from the automatic in that the former depends entirely upon the vigilance of the operator, & is worked in the following manner. The line is divided into sections of various lengths, one train not being allowed to enter the section until the preceding one is reported by telegraph as having reached the block station ahead. In order to check the vigilance of the operator a scheme was devised by means of which the train on entering the section passed over a treadle which put the signal to danger behind it, locking it in that position until the train was clear of the other end of the section, when it passed over another treadle, which released the signal behind it so that the operator was permitted to lower it to admit another train into that section. This was found to work all right so long as the trains were not badly broken up, but on a heavy line of traffic it was found that the breaking loose & the front portion getting clear of the section & passing over the releasing treadle while the rear part of the train was still left in the section, in which case the operator could lower the signal for a follow-

ing train owing to the fact of the first part of the train having released his instrument.

The automatic block, which has been successfully operated in the U.S., is worked by means of an insulated rail or track circuit. The train on entering the circuit puts the signal to danger behind it & locks it in that position until every wheel of that train is clear of the circuit, when the signal returns to the all-right position. In the same way in the event of an open switch or a broken rail the signal goes to danger & remains in that position until the line is again secure.

I will now pass on to the various means of communication between the different signal towers. The simplest system is by means of telephones, which are very handy, but are not altogether reliable. The system which I now describe to you is for recording the departure & arrival of trains at the various cabins. For example, we will call the right-hand instrument A, & the left hand B. A wishes to send a train to B, & to notify B of this fact he places the little peg or pin in the hole opposite the section on which is recorded a description of the train he wishes to send. The dials on B's instrument are similar to those of A's. Having placed the peg in the required hole A pulls out the knob which sets the machinery of the instrument in motion, when the same indication is repeated on B's instrument by means of electricity. B then acknowledges receipt of the message by placing the pin of his instrument in the hole opposite the section on which the corresponding description is written. When both pegs are removed from the instruments they return to their normal position & are ready for another message to be sent. Another means of communication is by the ordinary telegraph instrument.

Before leaving this subject I would say that electricity is of great use in controlling the action of the signalmen by means of electric locks operated by the trains themselves.

Grand Trunk History.

The most important feature of the 4th of July festivities at Portland, Me., was the celebration of the semi-centennial of the G.T.R., the original Atlantic & St. Lawrence Ry. from Portland to Yarmouth, Me., having been opened for traffic just 50 years ago. The G.T.R. was represented by General Traffic Manager G. B. Reeve, who, in the course of his speech, said:

The Grand Trunk was the pioneer in the railway field in Canada, & the line between Portland & Montreal was opened in 1853, having taken about 6 years in building, the openings of the several portions taking place as follows:—Longueuil to St. Hyacinthe, in the spring of 1847; Longueuil to Richmond, in the fall of 1851; Longueuil to St. John's, in Aug. of 1852; Longueuil to Island Pond, in July, 1853.

From the Portland end of the line the following sections were inaugurated as follows:—Portland to Yarmouth, Jan. 1858; Portland to Danville Junction, Dec., 1849; Portland to Mechanic Falls, Feb., 1849; Portland to South Paris, Jan., 1850; Portland to Bethel, Mar., 1851; Portland to Gorham, July, 1851; Bethel to Newry (now Greenville), July, 1852; Portland to Island Pond, Feb., 1853; thus connecting the two portions of the line. The Grand Trunk had no railway facilities. Longueuil was then the western terminus of the system. Owing to this fact, there was a great deal of business transacted at Longueuil, & it was found that the Grand Trunk had to be transferred by boat in summer & by horse-drawn sleds in winter. The Grand Trunk had to be transferred by boat in summer & by horse-drawn sleds in winter. The Grand Trunk had to be transferred by boat in summer & by horse-drawn sleds in winter.

construction of the Victoria tubular bridge, which was built at the enormous expense of \$7,000,000, & which, at the time of its opening, 1860, was considered a marvel of engineering achievement, & among the wonders of the world.

The construction of the present piers of the Victoria Bridge was an undertaking that was beset with many serious difficulties. The contractors had to contend with a roaring rapids 2 miles wide, intense "shoves" of ice, sometimes several feet thick, with a pressure of millions of tons, & without any of the modern means now used in sinking piers. The total weight of the piers is given as about 10,000 tons of blue limestone, & reaching a height of 60 ft. above the water line.

On Aug. 25, 1860, the laying of the last stone & the driving of the last spike by the Prince of Wales was accomplished & the celebration was an event long remembered. Since then, in addition to its large & ever-increasing Canadian business, its through traffic between the Atlantic seaboard & Western points has developed to such an extent as to necessitate the re-construction of this bridge, & in its place a magnificent open work steel bridge is being erected, with double tracks, & on each side of the immense structure will be carriage ways & walks for foot passengers.

From the time when the line between Portland & Montreal was completed, the Co. has extended its rails to vast proportions, from a mileage of 292 miles in 1853, to a total of 4,186 miles at the present day, tapping all the principal centres of the States of Maine, New Hampshire & Vermont, & the provinces of Quebec & Ontario, & the States of Michigan, Indiana & Illinois & rightly claiming for itself the "Commercial Highway" from the Atlantic Ocean to the West. In the early days of the road's history the Co. had almost insurmountable difficulties to beset them, especially during winter, & at a time when the modern ideas of railway management were unknown. Rail communication with Montreal was, however, made during the first winter of the completion of the road, & after the close of navigation in 1853, screw steamers ran between Liverpool & Portland with passengers & goods, thus opening up for the first time an entire winter route for Canada; & notwithstanding the deficiency of engine power & the defective state of the new line, the traffic of these vessels was conveyed with a dispatch that gave general satisfaction.

The traffic receipts of the early days compared with 1897 are interesting, & illustrate the growth of the Grand Trunk:—1854, traf-

fic receipts, \$835,577, mileage, 388; 1897, traffic receipts, \$23,624,191, mileage, 4,186. The rolling stock & equipment has increased in like proportion, as the following figures demonstrate:

	1854.	1897.
Locomotives.....	64	1,019
Passenger Cars.....	66	885
Freight Cars.....	935	22,075
Snow Plows.....	14	72
	1,079	24,701

During 1856 the total number of passengers transported amounted to 686,924, while for 1897 the figures roll up to over 8,000,000. Likewise the increase in freight tonnage has been something enormous, comparing the figures of 1854, which amounted to 619,990 tons, with those of 1897, which totalled 11,769,657 tons.

The branch line from Richmond to Quebec was completed in 1854, the main line from Montreal to Toronto in 1856, & the Sarnia Division in 1858. In the extension of the G.T. System to the westward, the importance of through international connections was considered, & with this end in view, the Co. in 1875 acquired the Chicago & Lake Huron Ry., thus gaining a direct connection with Chicago. The large through business between Chicago & Portland & the Atlantic seaboard controlled by the G.T.R. has amply justified the wisdom of the extension. The Co. later added to its mileage & business by acquiring numerous other lines; & on Aug. 12, 1882, the original G.T.R. was consolidated with the Great Western Ry., & with the company thus formed was united on Jan. 24, 1888, the Northern Ry. Co. of Canada, & its leased line, the Hamilton & North Western Ry., the amalgamated system taking the present style of the G.T. Ry. Co. of Canada. Several other railways having been acquired, the G.T. division, embracing 2,174 miles, with the Great Western division (including the Hamilton & North Western), embracing 1,338 miles, brought the mileage of this system up to 3,512 miles, exclusive of the Chicago & Grand Trunk, the Detroit, Grand Haven & Milwaukee, & the Toledo, Saginaw, & Muskegan railways controlled by the Co., & the Cincinnati, Saginaw & Mackinaw Railroad operated by it, all of these lines now being operated under the title of the G.T.R. System, with an aggregate, as stated, of 4,186 miles. The G.T.R. System is laid, throughout its entire length, with heavy steel rails, while with its steel bridges, solid masonry & most improved modern structures; it is in no particular behind the great trunk lines of the United States.

RAILWAY APPOINTMENTS, &c.

Canadian Government Rys.—The position of General Traffic Manager at Montreal held by A. H. Harris having been abolished, the offices in the Board of Trade Building were closed on July 19, when the services of the following were dispensed with by General-Manager. Pottinger: T. H. Underwood, Chief Clerk; T. R. O'Dell, Secretary; T. E. Dodd, clerk; J. A. Ryan, Messenger.

The staff which remains in Montreal is as follows: J. Hardwell, Divisional Freight Agent; F. H. Thompson, Chief Clerk; R. E. Perry, clerk; A. McKinnon, Jr., S. A. McQuestin, City Canvasser; J. B. Lambkin, Divisional Passenger Agent; T. H. Blair, City Ticket Agent; P. DesLauriers, clerk, N. McAlpine, office boy.

T. H. Blair, the present Ticket Agent, will be transferred elsewhere in the service, & H. J. Scriver, formerly Agent of the G.T.R. at Hemmingford, Que., & son of J. Scriver, M.P. for Huntingdon, will take his position.

The published rumors of changes in the divisional superintendents & promotion of other officials are said to be without warrant. The only changes in the Train Despatcher's office are the transfer of J. E. Rhind from the New Glasgow office to Truro; of A. Dunn, from Truro to Moncton, & of B. Ward from Moncton to be Chief Train Despatcher at New Glasgow.

Canadian Pacific.—The C.P.R. lines west of Toronto on the Ontario & Quebec Divisions, which since the removal of W. K. Thompson to the Atlantic Division have been under one Superintendent, T. Williams, with headquarters at Toronto, have again been divided. Mr. Williams will again have his office in London, & will have under his jurisdiction all the lines west of Toronto except the Owen Sound, Orangeville & Teeswater branches, which will be in charge of A. Price, at present Chief Despatcher & Car Distributor at Toronto, who has been promoted to a superintendency. J. G. Willson, Chief Clerk in General Superintendent Leonard's office, will probably succeed Mr. Price as Car Distributor.

Grand Trunk.—A. B. Atwater, Superintendent of the Western Division, having resigned to become Assistant General Superintendent of the Michigan Central, the following changes & appointments took effect July 12:

W. Cotter, Superintendent of Eastern Division, at Montreal, to be Superintendent of the

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Duluth, Superior & Western. This line, which is controlled by the Duluth & Winnipeg Ry., which is controlled by the Great Northern Co., for, it is said, \$378,400. The line, which is 124 miles in length, will, it is said, be built from Duluth to Superior, and from Superior to the Red River valley to the head of Lake Superior.

paper. Heretofore it has been under the management of W. F. Fitch, who is also General Manager of the Duluth, South Shore & Atlantic, one of the subsidiary lines of the C.P.R. The following extract from the last annual C.P.R. report is of interest in connection with this transaction: "Arrangements, permanently assuring the traffic interests of the Duluth, South Shore & Atlantic Ry., west of Duluth, having been made, the amount advanced to that Co. for the acquisition of the Duluth & Winnipeg Ry. has been returned to your treasury."

Erie & Huron.—A rumor that this line is to be leased to the Lake Erie & Detroit River Co. cannot be confirmed. There is no doubt the L. E. & D. R. people have been looking into E. & H. matters, but it would appear that nothing definite has been decided on.

Great Northern.—Quebec City Council has decided to take \$200,000 of the capital stock of this Co. provided the Co. establishes its workshops in Quebec city & completes the line so that through trains can be run between that city & Parry Sound, Ont.

London & Southeastern.—At the annual meeting of this Co. at London, June 28, the following directors were elected: President, W. J. Reid; Vice-President, T. H. Smallman; Sec.-Treas., J. W. Little; M. Masuret, J. Campbell, C. S. Hyman. The L. & S.E. R. is leased to the Michigan Central & the annual meetings are simply held formally for the purpose of keeping the Co. in existence.

New Westminster Southern.—The annual meeting called for New Westminster, B.C., for July 5, was adjourned for a month.

New York & Ottawa.—The State Board of Railway Commissioners at Albany, N. Y., has been requested to grant authority to the New York & Ottawa Ry. Co. to increase its capital stock from \$1,480,000 to \$3,000,000, in order to enable it to acquire the stock of the Ottawa & New York Ry. Co. of Canada & of the Cornwall Bridge Co. When these corporations are absorbed, it will form a line through to Ottawa shorter by about 57 miles than the present route from New York. When completed the line is to extend from

Ottawa, via Cornwall, to Tupper Lake, N.Y., where connection is made for New York City with the Adirondack Ry. of the Delaware & Hudson Canal. S. D. Trask & Co., New York City, are among the financial backers of the road.

Nickel Steel Co. of Canada.—The Act incorporating this Co., passed at the last session of the Dominion Parliament, provides that it may, with the consent of the Governor-in-Council, lease or purchase the Bay of Quinte, Central Ontario, & Irondale, Rancroft & Ottawa Rys.

Ontario, Belmont & Northern.—The annual meeting of this Co. was called for June 11 at 103 Bay St., Toronto. The President, J. T. Sills, promised to supply us with a report of the proceedings, but changed his mind, absolutely refusing any information. This Co. was incorporated by an Ontario Act in 1891. In 1896 Dominion aid was granted it for the construction of a line from the Belmont iron mines to Marmora, & from Marmora to the Ont. Central Ry. This was paid in the following year to the extent of \$30,720 for 9.60 miles. The directors of the Co. recently made a call of 10% on the unpaid shares, payable July 25.

There is no truth in the report that the O. B. & N. Ry. is to be taken over by the Central Ontario Ry., which is operating the O. B. & N. under lease. (Official).

Pontiac & Pacific Jet.—The fact that the P. & P. J. Ry. & Gatineau Valley Ry. employes are some 9 months behind in their pay was recently brought to the attention of the Minister of Railways, who said he would get the Deputy Minister to look into it & see what could be done. P. Heney, of these companies, states that no employe of the roads can truthfully say his pay is 9 months in arrears. It is true, he says, that some employes are not fully paid, but they all receive pay every month, either in cash or orders, which are invariably honored. In reference to the financial condition of the roads & the extent of their present business, he says both are improving, & that their condition to-day is 25% better than a year ago.

The Quebec Government has issued execution against the Pontiac & Pacific Jct. & Gatineau Valley roads, in connection with a judgment secured in the Superior Court in 1884. The Co., it is alleged, owes commercial taxes to the Government.

Pullman Palace Car Co.—On July 1, the directors declared a quarterly dividend of \$2 & a special dividend of \$20 a share; & recommended that the stockholders at the regular annual meeting, on Oct. 13, declare a stock dividend of 50%, in other words, to issue \$18,000,000 new stock, to represent that much of the surplus assets of the company. The capital stock now amounts to \$36,000,000, & this will increase it to \$54,000,000. The directors recommend that hereafter the dividend be regularly 6% per annum. The stock has been selling at about 211, & it is estimated that after the payment of the three dividends it will be worth 127. The surplus at the beginning of the current fiscal year was \$27,505,959.

Qu'Appelle, Long Lake & Saskatchewan.—The net loss in operating for May was \$1,487.35, as against net earnings of \$1,698.21 in May, 1897.

Quebec Central.—At the annual meeting in London, Eng., in June, the old directors were re-elected. The gross earnings for 1897 amounted to \$457,643, an increase of \$60,537 over those of 1896. The working expenses amounted to \$309,555, an increase of \$40,761. The net earnings were \$148,088, an increase of \$19,776, to which was added interest on balances, etc., \$2,830, & there had been written off some items amounting to \$2,954, making the available net revenue \$147,964. After paying interest on the prior lien bonds, \$85,166, there remained a balance of \$62,798, out of which a dividend of 1½% had been declared, & paid on the income bonds, leaving \$13,450 to be carried forward.

The receipts for the 5 months to end of May were \$44,462 as against \$57,225 for corresponding period.

St Catharines & Niagara Central.—Pursuant to judgment in the case of Rolls vs. this Co. the railway, about 12½ miles, from



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St. Catharines to Clifton, where it connects with the Michigan Central, was offered for sale in June, subject to vendor's liens. The road has been in the Receiver's hands for some time, & latterly, according to statements made by parties interested, it has only paid the expense of running the cars, leaving nothing for the repairs necessary. The road is bonded for \$240,000, which, with accrued interest, makes up a debt of \$350,000, the chief creditor being the City of St. Catharines, which holds two-thirds of the bonds, amounting to \$160,000, & has an additional claim of \$50,000. It is said the whole value of the road, that is, structure, rails, bridges, & right of way, is not more than \$25,000. It is stated that in view of the bad shape the road is in it would cost \$100,000 to put it in proper running order. Before the Master in Ordinary at Toronto, June 28, there were 4 offers made for the purchase of the railway, as follows: F. W. Wilson, \$20,000; R. Cameron, \$22,000; G. M. Neelon, \$25,990; J. A. MacMahon, \$31,800. These were not regarded by the Master as high enough, & it was decided to adjourn the matter. Shortly afterwards, however, MacMahon raised his offer to \$34,000, which was accepted. Neelon protested against the sale, contending that the matter had been adjourned. It came up again July 4, when MacMahon's counsel objected to a re-opening on the ground that his client,

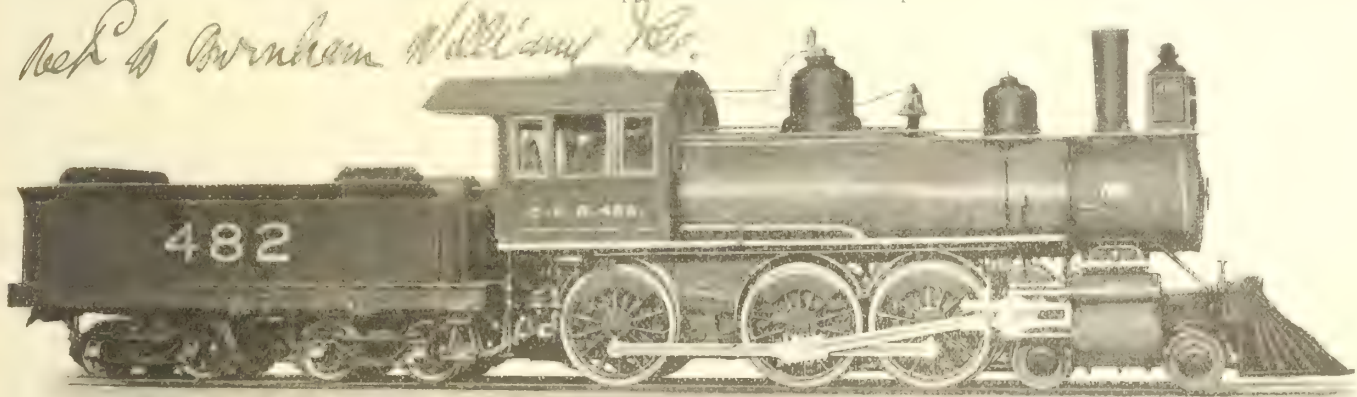
& on the Canadian side, as the Red Mountain, 11 miles, a total of 17 miles. It was persistently asserted that both the C.P.R. & the Northern Pacific were after the system, & then it was stated that the Northern Pacific had secured it. It turns out that it has been bought by the Great Northern (U.S.), & that it will be operated as part of that system. The road has, ever since the mining development of the Kootenay district began, done a large passenger & freight business, & should be on a paying basis. It has, however, probably seen its best days, as the C.P.R. Crows' Nest Pass line will cut into the whole of its territory north of the Boundary Line. It is more than likely that Mr. Corbin's failure, during the last Dominion Session, to secure power to extend to the Boundary Creek district, had much to do with his decision to sell out. The system has a bonded indebtedness of some \$3,500,000.

Toronto Belt Line Ry.—A writ has been issued by the Scottish, Ontario & Manitoba Loan Co. against the G.T.R. Co., W. S. Lee & Sir Casimir Gzowski, in connection with the Toronto Belt Line Ry. The original company acquired about 4½ acres of land in Rosedale from the plaintiffs, & it is claimed the financial obligation was not liquidated. Messrs. Lee & Gzowski are included in the writ because they are trustees for the bondholders. An application is made for the ap-

EQUIPMENT.

A Nova Scotia Industry.

During a recent visit to the Maritime Provinces the Editor of THE RAILWAY & SHIPPING WORLD had an opportunity of looking over the works of Rhodes, Curry & Co., at Amherst, N.S. This establishment, which is certainly one of the largest & most enterprising of all the Maritime Province industries, covers 7 acres of ground. The wood-working shop is 60 x 160 ft., 2 stories high, the lower story being used for preparing wood-work for freight cars, the upper story for passenger & street cars. The general foundry is 70 x 100 ft., with a capacity of 20 tons of castings a day. The wheel foundry is 70 x 90 ft., with a capacity of 44 car wheels, or 13 tons in weight per day. The machine shop, 70 x 80 ft., is equipped with all necessary plant for car building & general machine work. The blacksmith shop, 70 x 80 ft., is equipped with 12 forges, 3 furnaces, forging & bolt heading machine, steam hammer, shears, etc. The erecting shop is 80 x 360 ft. with four tracks. Power is supplied by 2 boilers 250 h.p., & 3 stationary engines, aggregating 250 h.p. In addition to the above there are connected with the car shops the usual store-houses, dry kilns, pattern shops, etc.



A C.P.R. COMPOUND TEN-WHEELED TYPE LOCOMOTIVE.

believing he had purchased the line, had made contracts to the extent of several thousand dollars for which he would be held liable. The Master decided to reopen the sale, announced a tender of \$35,000 from Neelon, & again adjourned till July 12 to let MacMahon raise the bid if he so desired. On July 12 the Neelon tender of \$35,000 was accepted, subject to the question of any claim of the Riordan Co. An agreement was produced between the Railway Co. & the Riordan Co., made in 1894, by which a siding was put into the latter's paper mills, subject to being removed on 3 months' notice. The Riordan Co. gave notice to the Receiver last year, & was taking steps to remove the siding. It is said the business of the Riordan Co. amounts to 25 % of the Railway Co.'s receipts, & that in future it will be given to the G.T.R.

Spokane Falls & Northern. Rumor has been busy for some time past with the Corbin System, consisting of the Spokane Falls & Northern, running from Spokane, Wash., to the International Boundary, 140 miles, & thence, under the name of the Nelson & Fort Sheppard Ry., to Nelson, B.C., 60 miles, a total of 200 miles. From Northport, on the Columbia River, 18 miles south of the Boundary, a branch runs to Roysland, B.C., under the name, on the U.S. side, of the line, of the Columbia & Red Mountain, 6 miles in length,

pointment of a receiver & an injunction commanding the G.T.R. to take up the rails.

Vanderbilt Lines.—The following dividends were declared in June:—Semi-annual in Lake Shore of 3%; Michigan Central, 2%; & Canada Southern 1%. The rate on New York Central was 1% quarterly.

A. H. Harris, ex-General Traffic Manager of the Government Railways, is spending the summer at Murray Bay, Que. He was connected with the G.T.R. from 1874 to Nov., 1897, during which time he held the positions of Secretary to Traffic Manager, Assistant General Freight Agent through traffic at Buffalo, N.Y., General Freight Agent through traffic at Detroit, Mich., District General Freight Agent Southern Division, & District General Freight Agent in charge of all lines east of Belleville, Ont., having been appointed to the last-named position in May, 1892. He was appointed to the Government lines in Nov. 1897.

A. C. LYTLE, Superintendent Orford Mountain Railway, Eastman, Que., in remitting his subscription to THE RAILWAY & SHIPPING WORLD, says: "Your paper fills a much needed want as a supply of information that should be in the hands of every railway man in the Dominion."

Rhodes, Curry & Co. are now engaged turning out 50 box cars for the Intercolonial Ry.; 20 box cars for the Quebec & Lake St. John Ry.; 150 coal cars for the Dominion Coal Co.; 10 coal cars for the General Mining Association; also electric cars for Halifax & Sherbrooke, Que.

In addition to the above-mentioned plant the firm has a large factory for the manufacture of building materials, & also owns & operates saw-mills.

Canadian Government System.

An appropriation of \$600,000 for Intercolonial rolling stock was made at the last Dominion Session. It is probable that some 15 or 20 freight locomotives, 12 passenger coaches & 400 box cars will be procured, tenders for which will shortly be invited.

A passenger coach is being added to the equipment of the Prince Edward Island Ry. this year, following the practice of building one at Charlottetown each season. Seven stock cars are also being built. The locomotives are being generally overhauled, & new fire-boxes are being put in.

The Wagner cars, 6 sleepers & 3 diners, mentioned in our June issue, pg. 102, as having been placed on the Intercolonial Ry., have not been purchased by the Government,

have been closed for a limited period. It is probable that a similar number of sleepers & coaches will be built for the line, to be owned by the Government, & run on the through express lines between Montreal & Halifax.

The combined dining & restaurant cars placed on the Intercolonial, as described & illustrated in our June issue, pg. 91, have not proved a success, their operation having shown that there was no general demand for first-class meals to be served on board, as it was anticipated there would be when the dining stations on the line were closed. Two of the combined cars have been altered by extending the dining-room accommodation, & the other is being kept as a spare car to be used in case of emergencies.

Towards the end of June a press despatch from Montreal stated that A. M. Peterson, of Colborne, Ont., had concluded arrangements with the Minister of Railways for the use on the Government Railway System of the Cleveland cylinder for locomotives, a Canadian invention which, it is claimed, will develop a high rate of speed. Mr. Peterson has since written us stating that he has made such an arrangement. A subsequent enquiry from this office to the Mechanical Superintendent of the Government System at Moncton elicited the information that he had not been advised of any such action. On taking the position recently he found that an engine fitted with a Cleveland cylinder had been running between Moncton & St. John for some months, & it was claimed it had given satisfaction, but no tests had been undertaken & it was very likely these would be made in an exhaustive manner before such a change would be generally adopted.

Speaking to a press representative recently Mr. Peterson stated that the main features of the device are a double piston, large central exhaust & the application of the suction or inductive principle to the nozzle. Each cylinder has 2 piston heads on 1 rod, & consequently the cylinder is longer than that ordinarily in use on a locomotive. Near the centre of the cylinder a groove is cut in its wall, of sufficient area to afford an ample exhaust under any conditions. As the piston passes over this point the exhaust assumes the characteristic of an explosion rather than anything else, opening as it does into the chamber between the 2 pistons, which are in constant communication with the smoke stacks. As the piston passes back on the return of the stroke & covers the main exhaust port, the valve or supplementary exhaust passes out through the nozzle in such a way that the main exhaust operates to create a vacuum in the cylinder. The valve & valve motion of the ordinary engine can be used in the device.

Grand Trunk Passenger Cars.

The 20 passenger coaches recently built at the Pullman shops, Chicago, have all been delivered at Chicago, & are ready for service. The cars are 62 ft. long, fitted with wide Pullman vestibules, 6 wheeled trucks, 33 in. steel tyred solid disc wheels, Westinghouse quick action triple brake & air signals. Sixteen cars, numbered 807 to 822, are fitted with patent drawbars & buffers, & 4 cars, numbering 823 to 826, are fitted with the interchangeable drawbar, to work in harmony with the M.C.B. or Miller drawbar by changing the knuckle, & are intended for the Portland Division. Each car is fitted with wrecking tools. The cars have high-back walkover pattern seats, with seating capacity for 64 passengers in the body of car & 8 in smoking-room, 72 in all. The cars are fitted up in mahogany, lighted by 7 Acme, no. 121, two-burner lamps, heated by steam, & have roller blinds. There is a strip of carpet in the centre aisle. Ladies' dressing-room at one end of car, with flush closet & washbasin. Wash-

basin at the smoking end of car & flush water-closet for men. They are painted & ornamented G.T. standard color outside. Average weight of car 89,550 lbs.

The 6 cars recently built at the Co.'s shops, Montreal, numbered 801 to 806, are the same length & style generally, no vestibules, ordinary platforms, patent drawbars & buffers, brass hand railing, lighted by gas, 7 four-burner lamps, roller blinds. Three of these have gone into service & balance will be out almost immediately.

Canadian Pacific Items.

A considerable force is engaged in the C.P.R.'s Winnipeg shops placing Westinghouse air brakes on the freight cars. About 2,000 cars have already been fitted with these brakes there.

The compound 10-wheeled type locomotive illustrated on page 121 one of 13 received by the C.P.R. in the latter part of last season from the Baldwin Locomotive Works. The general dimensions were given in our April issue, pg. 34.

The first of the 10 magnificent sleeping cars which are being built at the C.P.R. shops at Hochelaga is ready for service. These cars are exceptional in design & finish, & will be the handsomest & costliest cars on the Co.'s tracks. Each car will be finished in Louis XV. style, with Watteau decorations, richly upholstered, & most comfortably furnished. The natural woods used in the wood-work are especially fine. There will be no oil lamps, electric lighting taking their place. Two electric lights will be suspended from each berth rod bracket. In each seat, or compartment, a reading light will be attached to the side of the car, to be turned on or off at the wish of the occupant. The smoking compartments have been made 2½ ft. larger than the ordinary sleeping car smoking room. It has been the object of the management to build 10 little palaces on wheels that shall be unexcelled by anything on the continent in workmanship, & it has succeeded.

The extent of the Westinghouse Mfg. Co.'s business is well illustrated by the change in their advertisement in our current issue. When we first published their advertisement in March last the number of freight cars on which the Westinghouse air brake was in successful operation was 520,000; to-day it is in operation on 650,000 freight cars. At a recent stockholders' meeting of the Westinghouse Co. it was decided to increase the capital stock to \$11,000,000.

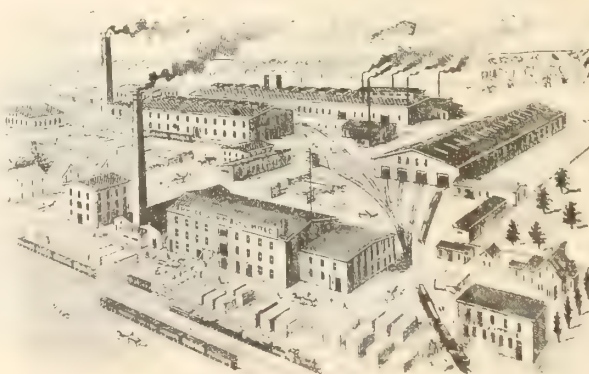
A London, Eng., cable says: "The North-Eastern Ry. has just completed a locomotive which, it is hoped, will soon gain the world's record. It is triple expansion, weighs 80 tons, & will drag a heavier load than any locomotive now on the rails in any country. At all events, that is what the builders claim. With an ordinary passenger train no doubt is felt that it will maintain a speed of 80 miles an hour for hours at a stretch. But this engineering marvel has not yet been seen outside the North-Eastern Ry.'s works at Gateshead.

OPERATING.

G.T.R. Air Brake System.

The employees of the G.T.R. are not only being instructed in the new code of signals, but the brakemen are getting special instructions on the air brake system. A special car is fitted out with a complete outfit, with an instructor in charge, who gives lectures several times each day & in the evening. In the car there is represented an air brake train of 20 cars. In explaining the manner in which the brake is operated from the engine & the coach, the instructor points out the meaning of various colors representing different pressure. The method of turning on the air in case of an emergency & otherwise is demonstrated in a clear & intelligible manner. In the engine department are located 2 pumps & 2 large main reservoirs, with a capacity of 4,000 cubic inches. The new system is known as the automatic, which will replace the old straight air brake. Formerly when a train broke in two the air brake was useless, but the new brake remedies that fault, as it applies immediately to the train with rapidity & force. The first pump compresses the air & is stored in the reservoir located on the engine in a convenient place. The air passes from there into the train pipe through the engineer's brake valve located in the cab of the engine, then from the train pipe through a triple valve into the auxiliary reservoir.

The train is then charged for a journey. The brakes are applied by a reduction of train line pressure. Then the triple piston & slide valves go to the applied position & allow the pressure to pass from the auxiliary reservoir to the brake cylinder, which applies the brake. To release the brakes an increase of train line pressure is applied. In the main reservoir on the engine there is more pressure than that carried in the train line. The pressure, which is called excess pressure, is derived by an automatic feature of the brake valve. When the brakes are released the engineer throws that excess pressure into his trainline,



**Rhodes,
Curry & Co.,**

Ltd.

**Railway and
Street Cars**

of all descriptions.

Special Cars for Coal, Ore,
Lumber, &c., with Ball-
Bearing Wheels.

**Car Wheels, Castings, Forgings, &c.
AMHERST, NOVA SCOTIA.**

which forces the piston & slide valves to release their position, lets the air out of the brakes, & releases them. The signal line, which is used for the conveyance of signals from the train to the engineer, is operated by compressed air. This system replaces the old bell cord.

C.P.R., Ontario & Quebec Division.

In connection with the changes in the superintendencies, &c., west of Toronto, referred to on page 116, General-Superintendent Leonard has issued the following circulars, taking effect August 1. T. Williams, Superintendent, will have charge of the London & Windsor sections, & the Ingersoll & Guelph branches, with office at London; & A. Price, Superintendent, will have charge of the Owen Sound & Hamilton sections, also Orangeville, Elora, Teeswater & Wingham branches, & Toronto Terminals, with office at Toronto, & time checks will be issued by them accordingly under the usual regulations. J. G. Wilson is appointed Car Distributor west of Smith's Falls Junction; office at Toronto.

G. S. MacKinnon, Master Mechanic Ontario & Quebec Division, Toronto, has issued the following circular to engineers & firemen: "The position of travelling engineer is abolished, & the following are appointed road foremen of locomotives: John Scott West & North of Toronto; D. Linahen, between Toronto & Montreal; F. O'Dell, lines East of Montreal. Road foremen of locomotives shall supervise, under the Master Mechanic, the working of locomotives on line, taking cognizance of & reporting on their condition in every respect when turned out for & in service. They have authority to instruct in all such matters, & will report neglect of any description on the part of engineers or firemen. In serious cases they have authority to request locomotive foremen to suspend any engineer or fireman guilty of conduct warranting such action, in such a case advising the Master Mechanic by wire & sending full report by first train. Engineers being responsible for the conduct of their firemen will govern themselves accordingly. Road foremen of locomotives are especially charged to watch & direct the consumption of fuel & stores, the record of which, on their respective sections, will show the manner in which the same are handled. They are expected to be on the line night or day, when & whenever their services may be most needed, sending to the Master Mechanic report of every locomotive they ride on, or examine, on Form 1630. They will also carry out any special instructions given them by the Master Mechanic."

Operating Notes.

An acetylene gas plant has been installed on the government car Cumberland.

F. G. Hunter, who had charge of the brass finishing, tool & Westinghouse air brake work at Moncton shops, has been appointed Acting Locomotive Foreman, in place of G. Hall.

A new code of whistling signals has gone into effect on the Intercolonial. Formerly on approaching road crossings & stations 1 long continuous whistle was sounded; now 2 pretty long & 2 short ones are given.

The C.P.R. Operating Department, Western Division, has taken over from the Construction Department the portion of the Crow's Nest line between Lethbridge & Macleod, 39 miles. It now appears in the time bills as part of the Lethbridge section, which is 146 miles long from Dunmore Junction to Macleod, Alberta.

Early in July the section men on the Canada Atlantic struck. They were getting \$1, & had been trying to get \$1.10, but the management

refused to treat with them as a body. On striking they demanded \$1.25. A committee of drivers & conductors acted as intermediaries, & after being out a few days the men went back to work, on being advanced to \$1.10.

Two C.P.R. trains, an express & a freight, were brought to a standstill between Ottawa & Carleton Place, Ont., recently by caterpillars which covered the track, & being crushed, rendered the rails so slippery that locomotion was impossible. The caterpillars were of the tent variety & formed a column two miles long. Every vestige of foliage along their route was eaten up. The rails had to be swept & sanded before the trains could proceed.

F. W. Jones, Assistant to the Manager C.P.R. Western Lines, has issued the following circular to passenger trainmen: "Complaints have reached me of the distressing noise produced by the slamming of doors in passenger cars. There is a good deal of truth in this, as I have noticed that many trainmen seem to be always testing the strength of doors & seeing how hard they can slam them. A little care in the closing of doors will remove all cause for complaint."

The Montreal & Ottawa Ry., Vaudreuil to Ottawa, was transferred to the Operating Department of the Eastern Division July 20 & placed under the jurisdiction of Superintendent H. B. Spencer, at Ottawa. It is expected to commence through train service between Montreal & Ottawa on Aug. 1, & to make the trip of 111½ miles in 3 hours, with only 3 stops on the way, Vaudreuil, Vankleek Hill & Caledonia. There will likely be one fast train each way daily, & a local each way for general business.

The Train Dispatchers' Association of America convention was held in Montreal in June, the report showing a membership of 437. The G.T.R. gave the members a trip to Vaudreuil & Beloeil, & to inspect the Victoria Jubilee Bridge, & the C.P.R. took them on a special to Quebec. The following officers were elected:—President, H. B. Ware, B. & M.R. Ry., re-elected; Vice-President, F. N. Shultz, G.R. & I. Ry., re-elected; Secretary-Treasurer and Editor, J. F. Mackie, C.R.I. & P. Ry., re-elected. The next convention will be held at Milwaukee, Wis., June 3, 1899. E. Kettle, of the G.T.R., Detroit, Mich., was elected a member of the executive committee. None of the present officers or members of committees reside in Canada.

At Niagara Falls June 22, owing to a misunderstanding of the signals, G.T.R. train no. 12 collided with an engine of the Erie Railway & driver Geo. Jack, of the latter, was pinned between the locomotive & tender & killed. Jack is supposed to have taken the signals given by the G.T. signalman to stop, for those of his Co., which are American standard, to come ahead, & the sun being low, shone brightly in his eyes, preventing him from seeing the approaching train until too late. The jolt threw the throttle wide open, & the Erie engine dashed across the bridge at a high rate of speed, & tore through the city yards, until reaching the Tunnel District Jct., where the telegraph operator, having been advised of its coming, ditched it. This accident shows the emphatic necessity for uniform rules.

T. Tait, Manager C.P.R. Eastern Lines, has issued this circular:—"The following instructions must be carried out in releasing the Lindstrom brake on the wide vestibule cars in order to prevent brake lever striking & damaging wood work, & injuring the hands of party releasing brake. The lever should be held firmly with both hands, while small ratchet on floor is set free by steady pressure from foot. (This ratchet should never under any circumstances be kicked off.) The lever should then be pulled forward to release the dog, & then be allowed to go back slowly under

control until the ratchet strikes the cam & releases the brake. If lever is not held firmly & controlled, it will, as soon as ratchet is set free, & dog on lever released, fly back against wood work of vestibule with great force."

The time record on the Intercolonial was broken recently by special trains between Newcastle & Moncton & Moncton & St. John. F. C. Ayer, of Bangor, Me., a passenger on the Maritime express, desired to make connections with the Boston express, which leaves St. John at 16 30, & in order to do this he chartered a special from the Intercolonial. The special took Mr. Ayer in charge at Newcastle. The Maritime express reached there at 12 55, & the special, made up of engine 156 & 1st class car, left Newcastle at 12 58, & reached Moncton at 14 22, a distance of 78 miles. The special was detained 5 minutes at Chatham Jct. & 5 minutes at Rogersville. On arrival at Moncton Mr. Ayer was transferred to another special, engine no. 59, & left for St. John at 14 25. One stop was made at Sussex for water, & the special arrived at St. John at 16 12, the distance covered being 89 miles. Mr. Ayer, who paid in the vicinity of \$135 for the train, probably never had a faster ride for the same distance in his life.

Telephone Items.

The following were crowded out of pg. 140, where other matter relating to telephones will be found.

Letters patent of incorporation have been granted to the People's Telephone Co., of St. Thomas, to operate the general business of a Telephone Co., the incorporators being, A. E. Wallace, E. A. Smith, F. M. Griffin, S. Chant, W. H. Murch, D. McLarty, T. W. Duncombe, J. Campbell & A. McCrimmon, of St. Thomas, & H. C. Walters, & R. H. Evans, of Detroit, Mich. The capital stock is \$60,000.

The appeal of the Bell Telephone Co. v. the City of Hamilton has been allowed. The city wanted to tax the poles, wires & other equipments of the Co. at \$27,000, on the basis of its prospective value as a going concern. The Court of Appeal held that the poles, etc., could only be taxed for their abstract value as raw material, \$3,488.40. The Board of County Judges, to whom the Co. first appealed, settled the assessment in the Second Ward, where the Co.'s property chiefly is, at \$13,940, but the Court of Appeal has done \$10,000 better for the Co.

A very interesting telephone case has recently been decided in Sweden. A business man in Stockholm had entered into a commercial arrangement with a banker, the affair having been arranged through the telephone. As the business did not pay the profit expected, the dealer absolutely refused to come to settlement, & was sued by the banker. When the case appeared in court the dealer insisted that the bank had no written security from him, & no witnesses to prove the transaction. It was, however, shown that the telephone at the bank was provided with two receivers, & everything transpiring through the telephone could therefore be heard & legally proven. The dealer lost his case.

More than a year ago the Bell Telephone Co. applied to the Dominion Government for power to increase its rates. The application was heard by Mr. Blair, Sir Henri Joly, & some other members of the Cabinet. Nothing came of the matter & the interested parties have been waiting ever since for a decision. Recently, Sir Louis Davies & Messrs. Fielding, Fisher & Patterson were appointed a committee to consider the application, & they held a meeting in Ottawa, discussing the question at length, but it is said no decision has yet been arrived at.

CONSTRUCTION & BETTERMENT.

News of Various Lines.

Atlantic & Lake Superior.—This Co. is building an extension from its eastern terminus at New Carlisle, Que., to Paspebiac, 3 miles, for the purpose of reaching a deep water port, said to be open all the year round. It is said wharves, &c., will be built at Paspebiac. (Unofficial.)

Canadian Yukon. It was announced in our June issue, pg. 98, that Mackenzie & Mann had stopped work on this line & withdrawn their outfit, & it seemed to be generally recognized in British Columbia that the project had been abandoned, partly as a result of the threatened competition of the White Pass & Yukon Ry. via Skagway, & partly as the result of the failure to obtain in addition to the promised subsidy of \$1,600,000 from B.C. a large land grant from the Dominion Government.

However, Premier Turner, addressing his constituents shortly before the recent general election in B.C., said: "The Teslin Lake Railway project has not been abandoned. On the contrary, the contract has been signed for the construction of the road from Telegraph Creek to Teslin Lake, & the plant & materials partially removed from the North are being shipped back from Vancouver, so that active construction may begin at once. Ten or 20 miles will be completed this fall, & I may say that as a guarantee the Co. has made a deposit to build through to the Lake, taking its chance of securing the subsidy from the Dominion at some later day. In the meanwhile the wagon road is going through to relieve the congestion & provide work for the men on their way to the river, & we have accurate reports of the navigability of both Teslin Lake & the Hootalinqua. The Dominion engineer confirms Mr. Hamlin's verdict that one can get on boat or steamer at the lower end of Teslin Lake & go through without interruption to Dawson or anywhere below."

On the other hand, D. D. Mann, during his recent visit east, said there was no intention of going on with the railway at present.

A dispatch from Telegraph Creek, dated July 12, to the Globe, said: "Mackenzie & Mann's agent at Telegraph Creek received orders on June 27 to proceed at once with the work of making the Teslin trail road, & to widen the road bed to 4 ft. & put at least 150 men at work if necessary. The first 45 miles have already been completed, & the road is in excellent condition for that distance. It is wide enough for narrow-built vehicles, & all the miners are loud in their praises of this action, which is believed to be among the arrangements made with the contractors by the Provincial Government. Miners & others are now enabled to pass over the ground easily & take in their supplies on handcars. One hundred men are now at work. The extra ones will be put at work in the Murkey County, beginning 40 miles east of Teslin Lake, & they expect to finish the trail in 6 weeks at the furthest. The Mackenzie &

Mann men understand their business & are now pushing on the work in good shape. The weather is favorable for the prosecution of the work, & a much better feeling prevails now than was the case a few weeks ago. Having gone up the trail a considerable distance & personally examined it, I believe all that Mr. Robinson, Manager for Mackenzie & Mann, has stated concerning the whole undertaking."

East Richelieu Valley.—This line is being built from Iberville to St. Thomas, Mississquoi County, Que., 24 miles. It is said track-laying is going on & that connection will be made with the Canada Atlantic Ry. shortly. (Unofficial.)

Lake Manitoba Ry. & Canal Co. Work on the extension of this line from Sifton Jct., Man., towards the Saskatchewan has been somewhat delayed by unusually wet weather, but steady progress is being made.

Midland of Nova Scotia.—Work is in progress on this line, which is to run from Truro to Windsor. Z. J. Fowler is Chief Engineer. W. G. Reid, of Montreal, has the contract for the whole line & has sub-let it to Fitzpatrick, Bros., of New Glasgow. M. J. O'Brien, of Renfrew, has the 1st 20 miles of grading from Windsor to Riverside Corner or vicinity. R. L. & D. R. McDonald, of Pugwash, have the contract for the masonry of the St. Croix River bridge. Truro has voted \$30,000 bonus towards the line on condition that it be built via Clifton. The Co. has decided to issue mortgage bonds. (Unofficial.)

Montford Colonization.—This line, which runs from Montford Jct. on the St. Jerome branch of the C.P.R. to Arundel, Que., 33 miles, is being changed from 3 ft. to standard gauge. (Unofficial.)

Nelson & Bedlington.—This line & connections, which will be built by the Great Northern (U.S.) will run from the G.N.R. at Bonner's Ferry, Idaho, through the valley of Kootenay River to Kuskanook, the point at which the C.P.R. Crow's Nest Pass line strikes Kootenay Lake. Tenders have been invited & it is expected construction will be commenced at an early date. There will be tributary to the line a mining district nearly all the way. The Kootenay Valley lands are well adapted to fruit raising, which has been commenced to quite an extent. N. D. Miller is Chief Engineer.

Newfoundland Northern & Western.—This line having been completed, the 1st through train left St. John's, the eastern terminus, June 29, arriving at the western terminus, Port Aux Basques, 548 miles, in 24 hours. At Port Aux Basques the ferry steamer Bruce, with a speed of 17 knots, takes passengers aboard for Sydney, C.B., landing there in 6 hours & connecting with the railway systems of Canada. This service gives Newfoundland a tri-weekly connection with Canada. Track has been laid for 25 miles on the extensions from Brigus, Nfld., to Tilton, & from Harbor Grace to Carbonær. The Co. is making

further extensions from Sandy River to Coalville, from St John's to Dunville, & to Burnt Bay.

Northern Pacific.—Work on the branch from Belmont to Hartney, Man., is being pushed as rapidly as possible, though it has been somewhat delayed by wet weather. The western terminus has not yet been definitely decided on. (See June issue, pg. 99.)

Ottawa & New York.—The following statement of the progress of work was furnished us July 4.—The road between Cornwall & Ottawa is ballasted to within 4 miles of the Canada Atlantic Jct. Grading between C. A. Jct. & the connection with the C.P.R.'s Montreal & Ottawa branch at Rideau River will be completed this week. Grading is complete between Cornwall & Moira, N.Y., except the crossing of the O. & L. C. at Moira, & the erection of the 2 steel bridges at St. Regis & Raquet River. Track laying will begin at Helena this week. On the St. Lawrence Bridge the masonry in the south channel is all completed, & one span erected. On the north channel, the metal work of the north viaduct & the draw span is completed, & the south viaduct is now going up. The foundations for the 2 last piers in this channel are above water, & there is nothing now to delay the erection of metal to a finish. (Official.)

Pembroke Southern.—This line, now under construction from Pembroke, Ont., southwesterly to Golden Lake on the Ottawa, Arnprior & Parry Sound Ry., is 21 miles in length. The grading has been about completed & track is being laid. The contractors are Russell, Poulin & Co., of Pembroke, who practically control the road, which the town of Pembroke has bonused with a view of getting more direct connection with Toronto. The completion of a link between Golden Lake & the eastern terminus of the Irondale, Bancroft & Ottawa line would give almost direct communication between Pembroke & Toronto. The Pembroke Southern will open up a very fine agricultural country. (Official.)

Restigouche & Western.—This Co. was incorporated by the New Brunswick Legislature in 1897 to construct a line from Campbellton on the I.C.R. to the St. John River, at or near Grand Falls. Construction of the first 20 miles has been commenced by Malcolm & Ross, contractors, who will own the line. It will be about 100 miles long, 70 miles of which will be through heavily timbered country. The projectors consider they have good prospects in making connections with at least 5 different roads, the I.C.R., C.P.R., Atlantic & Lake Superior, Temiscouta & Bangor, & Aroostook C. L. B. Miles is Chief Engineer. (Official.)

Vancouver, Victoria & Eastern.—In addition to what we stated in our June issue, pg. 100, it may be said that, on June 17, the B.C. Government passed an Order-in-Council granting a subsidy of \$4,000 a mile to this Co., the leading spirits in which are Mackenzie & Mann. The subsidy covers the line from Vancouver by way of New Westminster to the south side of the Fraser River, where a

The **Mail Job**
Printing Co.
THE RECOGNIZED LEADING LIMITED
RAILROAD AND STEAMSHIP PRINTING
HOUSE OF CANADA
FOR ESTIMATES AND SAMPLES, ADDRESS
RICHARD SOUTHAM, MANAGER, TORONTO

Engine Packing
Magnesia Pipe Covering
Oils and Grease
WILLIAM C. WILSON & CO., 24 Front Street East,
TORONTO.

junction will be formed with the line running westerly to English Bluff, or thereabouts, & thence easterly through Surrey, Langley, Matsqui, Chilliwack, & across the Coast Mountain range, through the Similkameen country, to Penticton, at the foot of Okanagan Lake, from which point a start is to be made at once on the line eastward to the Boundary Creek district to meet the line being built west from Robson by the C.P.R. Engineers are to be placed at once upon the route from Abbotsford to Chilliwack, & the line will be permanently located, & this done, work on construction will be begun. From Penticton westward, engineers have been in the field making a preliminary survey of the route, & it is believed there will be no insurmountable difficulties encountered excepting the Coast Mountain Range, which extends from Chilliwack to Hope. The building of the line will be undertaken in sections; the first will be known as the eastern section, & will extend from Penticton to Boundary, the distance being in the vicinity of 100 miles; the next, that from Abbotsford to Chilliwack, will possibly be known at present as the central, the distance being about 35 miles. This will be followed by the laying out of a road from Vancouver & the coast to Penticton, & which of course will include the Chilliwack division. (Unofficial.)

White Pass & Yukon.—Work is said to be progressing very favorably on this line, some 1,000 men being employed. It is intended to have the 1st 20 miles of the road, which will take it from Skaguay to the summit, completed by September. The statement referred to in our June issue, pg. 98, that the charter of the British Yukon Ry. Co. had been secured by the Pacific & Arctic Ry. & Navigation Co., of West Virginia, is incorrect. The latter Co. was merely formed for the construction of the portion of the line which is in territory now in the possession of the U. S. It is merely an auxiliary company formed for the purpose of assisting in the construction of the railway. The construction of the portion of the line to be built in Canada will be undertaken by a company formed in England, & the whole line will be built by British capital. Close Bros. & Co., of London, Eng., & Chicago, are the financial agents of the Co., & S. H. Graves, of that firm, is the principal representative of the Co. on this side of the Atlantic. The engineer in charge is Mr. Hawkins. (Official.)

Winnipeg & Southeastern.—It was intended to build 80 miles southeasterly from Winnipeg to Whitemouth Lake this season, but it is now said only 40 or 45 miles will be completed, there having been considerable delays owing to wet weather. Arrangements have been made with the C.P.R. for temporary terminals in St. Boniface, where construction material, &c., will be received. Engineer Bruce is now making a survey around the southern end of Lake of the Woods to Rainy River. Another line will be run across the Narrows of the Lake of the Woods entirely through Canadian territory & on the result of these surveys the Manitoba Government will decide which route to adopt. See June issue, pg. 100. (Unofficial.)

Canadian Government System.

A large amount of ballasting has been done on all parts of the Intercolonial Division this season. About 3,000 tons of 67 lbs. rails have been laid, replacing 57 lbs., between Truro & Stellarton. All the main line from Quebec to Halifax & St. John is now laid with 67 lbs. steel. Some 6 bridges between Moncton & Truro are to be replaced this season & tenders have been asked for the steel structures.

The construction of the deep water terminus at North Sidney, referred to in our June issue, pg. 99, is well under way & is expected to be completed in September.

The station at Moncton, described in our June issue, pg. 99, has been completed.

At Halifax a wharf 600x150 ft., with a 150 ft. dock on each side, is to be constructed. A large freight shed will be built on the wharf with 2 tracks inside & 2 out. The wharf will be built of creosoted piles & Georgia pine timber. Money has also been voted for elevators at Halifax & St. John, but contracts have not yet been let.

On the Prince Edward Island Division a mile of track is being built between Colville & North Wiltshire, which will save $\frac{1}{2}$ of a mile in distance, reduce the curvature from $9\frac{1}{2}^{\circ}$ to 4° & save about 2 miles of snow fencing. Part of the work is across a ravine, necessitating some 100,000 yards of earth work. The cost altogether will be between \$20,000 & \$25,000. Several other bad curves will also be taken out this season & the North Wiltshire station-yard will be improved.

The steel rails for the Intercolonial & P.E.I. Divisions, advertisement inviting tenders for which appeared in our June issue, are to be delivered in June, 1899, instead of April, 1899, as originally intended. For the Intercolonial there will be 5,000 tons of 2,240 lbs. of 80 lbs. rails with 300 pairs of angle fish plates, & 5,000 bolts & nuts to be delivered at St. John, N.B. For the P.E.I. Division there will be 1,000 tons of 2,240 lbs. of 50 lbs. rails without fastenings, to be delivered at Summerside. (Official.)

Grand Trunk Work.

A daily press telegram from Montreal July 20 stated that the management announced that extensive terminal facilities were to be provided at Sarnia & Port Huron, & with that object in view architects were figuring on the cost of round-house & machine shops for these places, the estimated value of which would be \$70,000 each. In reply to an enquiry from Mayor Johnston, of Sarnia, General-Manager Hays wired that the statement was incorrect.

The Co. will build a brick round-house 331 ft. diameter, with flat gravelled roof, at Sarnia Tunnel. (Official.)

Work on the Victoria Jubilee Bridge at Montreal is progressing very satisfactorily, the erection of 24 spans being almost finished, & it is expected that the new structure will be brought into service in the autumn. (Official.)

The Co. is putting in full interlocking & derailling apparatus at the crossing of its lines by the C.P.R. at St. John's & St. Constant, Que. (Official.)

It is said that the bridge near London, Ont., is to be enlarged & double-tracked. (Unofficial.)

The laying of the 80 lbs. rails on the southern division between Windsor & Niagara Falls is being gone on with.

There is a hitch between the Co. & the Montreal City Council in reference to the site for general offices. The City Finance Committee provided in the agreement that none but local labor should be employed in the construction of the buildings, that if the Co. should ever remove from the site it should revert to the city, & that if the Legislature would not permit the city to convey the land with a clear title to the Co. the latter should make good to the city any loss from rental or otherwise thus occasioned. The Co. will not accept these conditions, & the matter is still unsettled.

W. J. Singleton has returned to Montreal from his leave of absence & has resumed his duties as Superintendent of C.P.R. terminals there.

The underground railway in London, Eng. was the most expensive to construct in the world. Some parts of it cost as much as 1,000 guineas per yard or £30 for every inch.

Canadian Pacific Work.

Montreal Terminals.—The freight yard facilities at the Montreal terminals—Hochelaga, Quebec Gate, Mile End, & Outremont are being largely extended & improved. The Hochelaga yard is being remodelled & its capacity increased by about 4 miles of additional tracks. At Mile End a new yard is being built, & about a mile of track is being laid. At Quebec Gate the freight accommodation is being increased to the extent of about a mile of track. At Outremont an extension of the yard is being graded, & about 2 miles of track are being laid. (Official.)

Tracks are being laid into the Place Viger passenger station, Montreal. The combined station & hotel are nearing completion & are expected to be opened early in August. (Official.)

A double track is being laid between Outremont & Montreal Jct., 7 miles, & will be completed this month, forming a complete double track between Windsor Street & Place Viger station, $15\frac{1}{2}$ miles, & making almost a belt line round the city of Montreal. (Official.)

A passenger station is being built at Outremont. (Official.)

The Montreal & Ottawa Ry., which was fully described in our May issue, pg. 64, is about completed, & is expected to be opened for traffic Aug. 1. (Official.)

Eastern Division.—The reballasting & improving of the main line between Carleton Jct. & Chalk River is well advanced, $\frac{3}{4}$ of the distance being done. The ballasting, etc., west of Chalk River to Fort William & Sault Ste. Marie is well under way. On the main line 80 miles are being laid with 73 lbs. steel, replacing 60 lbs. Of this 50 miles is on the Lake Superior section, the balance east. A number of wooden structures are being replaced by permanent work & open culverts are being replaced by permanent culverts & filling. Some 50 will be completed this season. (Official.)

Winnipeg Station. Plans have been prepared for an extension at the east end of the building to accommodate the express office, so that the space now occupied by the Dominion Express Co. could be utilized for a private ladies' waiting room. It is not likely the work will be gone on with this season. (Official.)

Stonewall Branch.—This line is to be extended this season from Stonewall to Foxton, Man., some 15 miles. (Official.)

Branch from Hartney.—It was stated in our June issue, pg. 97, that the Co. would likely build a branch of about 20 miles from Hartney east, which would for that distance parallel the Belmont-Hartney branch now building by the Northern Pacific. Surveys have been made, but nothing definite can be learned as to construction. (Unofficial.)

Pipestone Branch.—This line, which runs from Monteith Jct., on the Souris section, to Weston, 31 miles, is to be extended west this year. (Official.) It is said this year's extension will be 30 miles, & that 50 miles more, extending to the Moose Mountain country, will be built next year. (Unofficial.)

Crow's Nest Line.—Up to July 29, track had been laid 82 miles west from Lethbridge to the crossing of the Kootenay River. For the balance of the distance 80% of the work has been completed, & the balance will be done by the middle of September. For the present connection between Kuskanook & Nelson will be carried on by means of a steam car ferry. (Official.)

There is said to be no foundation for the report that the Co. does not intend to complete the portion of the line between the southern end of Kootenay Lake & Nelson. (Unofficial.)

R. C. Clute, barrister, of St. Catharines,

One, who has been appointed a Commissioner by the Dominion Government, is investigating the death of the two Nova Scotians, Fraser & Macdonald, who died of diphtheria in a Crow's Nest construction camp last winter.

Whitewater Extension.—A party in charge of H. B. Walkem, C.E., is making a final location of this line in the Slocan district. It is said construction will commence as soon as the survey is completed. (Unofficial.)

Western Lines Steel Bridges.—No less than 14 steel bridges are being built on the lines west of Fort William this season, all but one of them being on the Pacific Division. They are as follows, the figures before each giving the mileage from Vancouver:

119. White's Creek, 2 steel spans, 100 ft. each, deck, replacing trestle.
167. A 130 ft. steel truss deck, replacing 150 ft. wooden truss.
179. Nicola River, 150 ft. steel truss thro' replacing 2 wooden spans 80 ft. each.
335. Sicamoose Narrows, steel swing replacing wooden swing.
407. 11th crossing Illecillewaet, 100 ft steel truss deck replacing 100 ft. wooden span.
410. 8th crossing Illecillewaet, 100 ft. steel truss deck, replacing 100 ft. wooden span.
410. 7th crossing Illecillewaet, 100 ft. steel truss thro', replacing 100 ft. wooden span.
414. 5th crossing Illecillewaet, 100 ft. steel truss deck, replacing 100 ft. wooden span.
419. 2nd crossing Illecillewaet, 80 ft. steel truss deck, replacing 70 ft. wooden span.
429. Cascade Creek, 2 steel trusses 60 ft., 1 thro' & 1 deck, replacing trestle.
438. Mountain Creek, 1 steel truss, 125 ft., on steel towers, replacing wooden span 150 ft.
457. 1st crossing Columbia, 2 steel trusses, 125 ft. each, replacing 2 wooden spans of 150 ft. each.
400. Moose Creek, 1 steel truss, 60 ft. thro', replacing trestle.

On the Western Division, at the 3rd crossing of Devil's Head Creek 1 steel truss 60 ft. thro' is replacing a trestle.

At mileage 163 from Vancouver, an 80 ft. stone arch is replacing a 125 ft. wooden truss. (Official.)

Columbia & Western.—On July 15 a contract was let to Winters, Parsons & Boomer, for standardizing the gauge of the 15 miles of this line between Trail & Leroi, 2 miles beyond Rossland. This firm built the standard gauge section of the line between Trail & Robson, when it was under Mr. Heinze's control, & have lately had a heavy contract on the Crow's Nest line. Their outfit has been brought in from Montana, & it is expected the work will be completed by Oct. 20. The steel will be laid by the C.P.R. Co., but W. P. & B. will furnish the ties. It is said the whole work will cost about \$120,000. F. P. Gutelius, Superintendent of the line under the Heinze regime, is in charge of the work for the C.P.R. Much of the line will be entirely reconstructed, to get a better location. The proposal to do away with the Tiger switchback by the construction of bridges & loops has been abandoned, although the grade will be made much easier. (Unofficial.)

In our June no., pg. 97, we announced the letting of a contract for the construction of 100 miles of line by the C.P.R. under the Columbia & Western charter, from the south end of Lower Arrow Lake to Midway, in the Boundary Creek country. The firm of contractors is known as Mann, Foley Bros. & Larsen. W. Mackenzie's name does not appear, but it is believed he is interested in it with D. D. Mann. W. F. Tye is Chief Engineer of Construction & is in control of the whole work. The new line starts from Robson, the present northerly terminus of the C. & W. R., but the construction headquarters are a few miles west, at Brooklyn. From

Robson the 1st section of the line will run along Dog Creek, through the McRae Pass to Christina Lake & on to Cascade City, a distance of 38 miles. The tote road to Cascade City is well under way. (Unofficial.)

Canadian Freight Association.

At the regular meeting at Montreal, July 7, there were present: G. M. Bosworth, J. N. Sutherland, E. Tiffin, W. B. Bulling, Jr., W. A. Kiltermaster, C.P.R. J. W. Loud, J. J. Cunningham, F. J. Watson, S. Hopkins, J. Pullen, J. H. Hanna, M. C. Sturtevant, J. E. Dalrymple, G.T.R. J. J. Wallace, J. Hardwell, Intercolonial. C. J. Smith, W. P. Hinton, Canada Atlantic. W. Macmillan, Michigan Central. W. Woollett, Lake Erie & Detroit River. F. H. Brown, Central Vermont. A. Lalond, Boston & Maine. H. Upton, United Counties. W. C. McCullough, Delaware & Hudson. A. C. Lytle, Orford Mountain. F. Conway, Kingston & Pembroke. G. Collins, Central Ontario. F. F. Backus, Toronto, Hamilton & Buffalo. G. W. Hardisty, Northern Pacific. D. DeCooper, Lehigh Valley. J. D. Seeley, Seeley Packet Line. J. Earls, Sec.-Treas.

President C. J. Smith presided. The following were elected active members: T. Jenkins, Toronto, of Tilsonburg, Lake Erie & Pacific Ry.; C. Cameron, Collingwood, of Great Northern Transit Co.; M. Burton, Collingwood, of North Shore Navigation Co.; C. W. Graves, Toronto, of Great Northern Ry. (vice H. McMicken).

The Classification Committee reported a number of additions & amendments, which were approved on the understanding that those which could be promulgated as "Rulings of the Committee" would be printed & distributed as soon as possible. The other items, together with all amendments & additions to date, to be embodied in a new book & issued as effective on Jan. 1, 1899, if previously approved by the Governor-General-in-Council.

It was decided that the minimum weight of articles carried under 5th & 6th class carload rates in the Canadian Joint Freight Classification be established at 24,000 lbs., & the Classification Committee was instructed to adopt this arrangement at the earliest possible time. The Committee was also instructed to make an exception in respect to articles which it may be considered should not be established on the basis of 24,000 lbs., & to note such exceptions in the classification.

The Weighing & Inspection Bureau report for March, April & May showed these gains, as per inspector's correction in weight: 1,517,649 lbs., revenue gained, \$3,595.60; in classification revenue gained \$4,579.32; live stock in lbs. 5, 779,200, revenue gained, \$11,048.26; total gain, \$19,223.18. The live stock weighed at Montreal was: G.T.R. 1,314 cars, average weight 22,882 lbs; C.P.R. 455; cars, average weight 22,687 lbs. In accordance with previous authority J. Brayley has been appointed inspec-

tor at St. John, N.B., & the Committee recommended that in view of the favorable results already apparent he be continued for the present, subject to a month's notice, & that in future he alternate between Halifax & St. John.

The cash account showed \$201.47 to the credit of the Association.

The car service report for quarter ended May 31 was as follows:—cars reported inwards & outwards, 41,539; cars on which car service accrued 868; collections, 2,499.

The report of cars released & time occupied after arrival for the same period was, loaded cars reported inward, 35,972. Released after arrival, 3 days, 18,422; 4 days, 6,919, 5 days, 4,436; 6 days, 2,341; 7 days & over, 3,854. The committee reported that the Manager's reports & these statistics, also reports from Inspector Perry, indicate an improvement in the handling of cars since this department was organized. The cars held under load 7 days & over appears largely to be in consequence of want of sufficient track delivery room at large places, where frequently the volume of business is greater than some of the railways can promptly provide for. The question of the railways concerned increasing their accommodation at such points is earnestly recommended to the favorable consideration of the general managers & traffic officers of the roads affected, so that the serious delays to cars from this cause may be largely avoided or entirely removed. J. B. Morford, per W. MacMillan, M. C. Sturtevant, G. S. Cantlin, W. P. Hinton, A. White, per J. E. Dalrymple, committee. John Earls, Chairman.

The report on car service claims for the same quarter showed that 172 were presented, involving \$1,763.25, of which \$992.50 was refunded, \$770.75 being retained.

After consideration of a letter from the National Board of Fire Underwriters, New York, it was resolved that, in the opinion of this Association, all packages of Carbide of Calcium should bear a conspicuous label in large type, reading, "Carbide of Calcium. Dangerous if not kept dry," & that the Secretary communicate with shippers of this article requesting them to take immediate action to comply with this resolution.

It was resolved that at any station at which the railway companies undertake to perform a cartage service the additional charge for cartage will be, on 1st, 2nd, 3rd & 4th class freight 1 1/4 c. per 100 lbs., & on 5th class freight 1 c. per 100 lbs., but on no single consignment shall the charge for cartage be less than 10c. This to be effective on & after Aug. 1, 1898.

Attention having been called to THE RAILWAY & SHIPPING WORLD, published in Toronto, it was resolved that THE RAILWAY & SHIPPING WORLD, the only publication in Canada exclusively devoted to the interests of transportation, will be recognized as the organ of this Association.

The question of the advisability of having all forms of contracts with shippers made uniform, printed in the classification & approved by the

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Governor-in-Council, was discussed, & left over for further consideration. In the meantime the Secretary was requested to communicate with the Canadian roads, to obtain copies of the forms now in use.

The question of the adoption of a joint notice of reminder to consignees when cars were not unloaded promptly was considered, & it was the sense of the meeting that such notices, if used, should be issued by each road concerned, if thought advisable, & not issued as joint notices by two or more roads.

Liability to a Free Passenger.

In the High Court of Justice of Ontario, Trial Court, at Toronto, July 23, Justice Rose gave judgment in *Bicknell vs. G.T.R.*, an action tried with a jury at Napanee, brought by R. F. Bicknell, a cattle dealer, to recover \$30,000 damages for injuries received by him while travelling on a freight train from Napanee to Montreal by reason of a collision. The defendant admitted that the plaintiff was rightfully where he was at the time of the accident, & that the injury to him was caused by negligence of its servants, but alleged that the plaintiff was being carried in pursuance of the terms of his contract with the Bay of Quinte Ry. & Navigation Co., & that the defendant was entitled to the benefit of such terms & was exonerated from liability. The contract between the plaintiff & the Bay of Quinte Co. was for the carriage of 23 cattle from Ernsville station on the Bay of Quinte line to Montreal, the greater part of the transit being by defendant's line. The plaintiff accompanied the cattle for the purpose of superintending their loading & unloading & conveyance. By the 17th clause of the agreement between the plaintiff and the Bay of Quinte Co. it was provided that "when free passes are given to persons in charge of animals it is only on the express condition that the Railway Co. is not responsible for any negligence, default or misconduct of any kind on the part of the Co. or its servants or of any other person or persons whomsoever causing or tending to cause the death, injury or detention of any person or persons travelling upon any such free passes, & whether such free passes are used in travelling on any regular passenger train or any other train whatsoever, the person using any such pass takes all risks of every kind, no matter how caused." Held, that this clause was by its terms expressly confined to the agreement between the plaintiff & the Co. *Grand Trunk R.W. Co. v. McMillan*, 16 S.C.R., 143, followed. *Hall v. Northeastern R. W. Co.*, L.R. 10, Q. B. 437, distinguished. Nor upon the evidence did the plaintiff authorize the Bay of Quinte Co. to make any arrangement with defendant which would free it from liability. It was not necessary for the plaintiff to prove a contract; the onus was on the defendant to prove exoneration. Judgment for the plaintiff for \$5,000, the amount found by the jury, with costs of action. Entry of judgment stayed for 30 days. Aylesworth, Q.C., for plaintiff. Osler, Q.C., for defendant.

Advance in Transcontinental Rates.

Transcontinental rates went up about 10% on June 25, as the result of a decision arrived at between the interested lines, including the G.T.R. & C.P.R. These rates have been in an unsatisfactory condition for some time & the decision to advance them was reached by mutual consent. The tariff is a bulky affair & of the usual intricate nature. It supersedes tariff no. 1b, of Dec. 15, 1897, & states that through rates will be arrived at by the addition of arbitraries as authorized by tariff F.T. 49 to the rates from Chicago to Seattle.

In order to give an idea of the character of the increase of rates it may be stated that all

are based on the Chicago rate to the Pacific, the difference between here & that point being added. As an instance of the increase it may be stated that the freight on nails will hereafter be 75c. per 100 lbs., instead of 66. Bar iron will be the same. That rate refers to commodities. The class rate is somewhat different. In the Canadian Joint Classification the numbers run from 1 to 10, & in the Western Classification it runs from 1 to 5 & then from A to E, or 6 to 10; In class 1 the increase is from \$2.40 to \$3.00 per 100 lbs.; class 2, from \$2.15 to \$2.60; class 3, from \$2.00 to \$2.20; class 4, from \$1.70 to \$1.90; & class 7 from \$1.10 to \$1.25.

These new rates do not apply to any intermediate points, being only applicable to points on the Pacific Coast.

Freight Notes.

Cold storage cars have been provided on the Prince Edward Island Ry. to accommodate the export produce trade.

Both the G.T.R. & C.P.R. have made special arrangements for refrigerator car service from points in Ontario & Quebec to Montreal to carry dairy products for export to Great Britain.

The Dominion Government is paying the Alaska Transportation Co. \$300 a ton for carrying the Yukon military expedition freight from Seattle, Wash., & Victoria, B.C., to Fort Selkirk, Yukon.

Manager Whyte, of the C.P.R. western lines, has issued the following circular:—"Commencing with this year's crop the C.P.R. Co. will furnish cars to producers of grain to be loaded direct from waggon or teams, provided there be no unreasonable delay about loading the cars."

The Southern Pacific recently announced that it would put into effect a tariff of 50c. per 100 lbs., car load lots, for canned salmon from San Francisco to New York, Boston & other Atlantic ports, the previous rate being 75c. At a meeting of the northern transcontinental lines, including the C.P.R., Great Northern & Oregon Ry. & Navigation Co., at Portland, Ore., a lake & rail rate of 65c. was agreed on.

Circulars giving the new joint east-bound & freight tariffs on lumber, ashes, bran & mill feed, etc., have been issued. The tariff affects traffic for the Eastern States only. The rate sheet shows a special rate made on lumber, other than pine or hemlock, of 23¼c. per 100 lbs., this rate being made in competition with the lake & rail route via Buffalo. The rate does not apply to intermediate stations.

The boats on the lakes do not appear to be making much money, judging from the low rates at which they are carrying wheat. This grain is being taken from Fort William to Prescott for 2½c. a bushel, the lowest rate ever known. Sales of Manitoba wheat are reported at Prescott at 96c. The Fort William price is 95c. From Prescott to Montreal the water rate is 2c., making 4½c. from Fort William to Montreal.

The freight traffic departments of the G.T. & C.P. Rys. have received word of a cutting in grain rates which had been going on among the roads, & in which, of course, the Canadian lines have to participate at the end, & that through the efforts of the Joint Traffic Association a new basis of rates has been made. The new tariff reduces the rates from Chicago to New York, a haul always used in the creation of standard rates, from 20 to 18 cents per 100 lbs. The rate from Chicago to Montreal, the latter being an export point, is also affected, being made 16c., or 2c. lower than the rate to New York.

Under the Act granting a subsidy to the C.P.R. for the Crow's Nest Line, provision was made for the reduction of certain freight

rates in the West. Some of these went into effect at the beginning of the year, & it was provided that there should be a reduction in the rates on grain & flour from all points on the Co.'s lines or connections west of Fort William to Fort William & Port Arthur & all points east, of 3c. per 100 lbs., 1 1-2c. on or before Sept. 1, 1898, & 1 1-2c. on or before Sept. 1, 1899. The Co. recently decided to put the 1st reduction in effect on Aug. 1, a month earlier than it was required to.

The C.P.R.'s transportation facilities have become so complete in the Kootenay district of B.C., that there was recently witnessed the arrival of Smelter hill of through cars from Toronto. The freight goes to Arrowhead, is placed on a barge, & is taken to Robson, where it is run on to the C. & W. Ry. In view of this convenience the C.P.R. has made the C. & W. a part of its system with a general reduction of freight rates to Rossland & common points. The idea in this reduction is to place the C. & W. on the same basis as the other portions of the C.P.R. in the district. Heretofore it has been operated as a separate & distinct system.

A correspondent of the New York Sun gives this doleful account of Canadian railway competition: "Canadian railways earned for the year ended June 30, 1898, not less than \$20,000,000 in carrying State-to-State traffic. Our own roads are hauling east and west empty cars constantly, & therefore could carry this traffic with very little additional cost. In other words, the traffic earnings which are now diverted from U.S. lines by Canadian roads would be nearly all profit to U.S. roads. Within 25 years Canadian railways, if the bonding regulations continue in force as at present, will divert \$50,000,000 of traffic earnings from our own roads annually. This represents interest at 4% on \$1,250,000,000. Why should the U.S. contribute this enormous sum to sustain railways under an alien flag?" The answer is easy. It would cost the forwarders of freight probably ten millions a year more to ship around by U.S. railways. The Canadian routes to the sea are the shortest & cheapest.—Globe.

Interstate Commerce Complaint.

The Michigan & Ohio Car Ferry Co. has filed a complaint before the Interstate Commerce Commission against the Michigan Central Ry., in which it alleges that it is a common carrier engaged in the transportation of railway cars & their contents between Sandusky, O., & Detroit, Mich.; that at Sandusky it connects with the Baltimore & Ohio Ry., & under contract with that Co., forms part of a through line between Detroit & all points in Ohio, Pennsylvania, Indiana & other States reached by the Baltimore & Ohio Ry. & its connections; that it receives from the Baltimore & Ohio at Sandusky inter-State traffic for transportation to Detroit, there to be delivered to consignees or to the Grand Trunk Ry. System or other railways for further carriage to destination points beyond Detroit; that freight traffic from Baltimore & Ohio points to Detroit, part of which is now transported by the complaining Ferry Co., is also forwarded via Toledo over the Lake Shore & Michigan Southern Ry. & other lines, including the Michigan Central Ry. from Toledo; that the established switching charge made by the Michigan Central for delivery to industries & private sidings on its line in & around Detroit is \$2 a car, with free return of the empty car to the connecting company from which the loaded car had been received, & that this would be the switching charge exacted by the Michigan Central on a carload of freight originating at a point on the Baltimore & Ohio Ry., & consigned to an industry on the defendant carrier's line in Detroit, pro-

vided such carload was forwarded all rail; that defendant also performs such switching service for local industries or manufacturers in the city of Detroit at the same charge of \$2 a car; that the defendant carrier has refused to accept from the complainant the established switching charge of \$2 a car for switching cars containing inter-State traffic transported by the complainant & turned over to it for delivery to industries on its line, & has demanded & exacted from complainant \$5 a car for this service; that in making such discrimination the defendant, the Michigan Central Ry., directly violates the provisions of sections 1, 2 & 3 of the Act to Regulate Commerce.

NEWS OF THE LINES.

Atlantic & Lake Superior.—Negotiations are pending for the purchase by this Co. of the Montreal & Sorel, or South Shore Ry., which runs from St. Lambert on the G.T.R., 6½ miles from Montreal, to Sorel, 45 miles. It is said the Government refused to subsidize the A. & L. S.'s projected independent line between Montreal & Sorel, & that without the Montreal & Sorel line could be acquired the project of a continuous system between Gaspe & Montreal would have to be abandoned. On the other hand, an official of the A. & L. S. states that unless the M. & S. line is purchased, the A. & L. S. will build from Longueuil to Levis, without going round by Sorel. Of course it would be an advantage to the A. & L. S. to get 45 miles of completed line which could be utilized immediately, although it would make a longer route. It is stated on excellent authority that the question as to price is the only remaining one to be settled. The A. & L. S. is said to have made an offer of \$350,000, while the M. & S. people ask \$400,000. It is also said that if the present deal can be consummated, the capital to push the whole of the Atlantic & Lake Superior scheme to conclusion can be obtained in England, & one of the immediate results will be the beginning of work on the long projected Longueuil Bridge across the St. Lawrence between Longueuil & Montreal. (Unofficial.)

Canada Eastern.—A report was recently sent out from Montreal to the effect that the visit of the Minister of Railways, Mr. Blair, to England was in connection with the Canada Eastern Ry., & his desire to acquire it as part of the Canadian Government system, it being added that the line is largely in the hands of Farnworth & Jardine, of Liverpool, & that the Minister wanted to get an option on the road at \$1,500,000.

This line runs from the C.P.R. at Fredericton to Loggieville, N.B., 125 miles, crossing the Intercolonial at Chatham Jct., 17 miles from Loggieville. At the last Dominion session an Act was passed authorizing the Co. to convey its railway to the Alex. Gibson Ry. & Mfg. Co. The share capital is \$1,000,000 fully paid up, & the bonded debt \$1,854,754.60. It received the following aid: Dominion Government, \$366,839.04; New Brunswick Government, \$400,000; municipal aid, \$20,000; & capital from other sources, \$320,525.21. Its total capital subscribed is \$3,961,539.65 & paid-up \$2,087,365.05; floating debt \$13,534.19, total cost of railway & rolling stock \$2,087,365.05. These figures are taken from the returns made June 30, 1897. Its gross earnings for the year ended June 30, 1897, were \$127,735.48, net earnings \$44,541.14.

Cobourg, Northumberland & Peterboro'—Referring to the information given in our June issue, pg. 100, respecting this line. The contractor is F. A. Bowen, of Cobourg, not C. H. Bower, as there stated. We are informed that the issue of 1st mortgage debentures, of which we gave particulars, has been successful. (Official.)

Manitoba and Northwestern.—Last winter it was announced that a majority of the bonds of this line, which were held in Great Britain, had been sold through brokers to persons whose names were withheld. It is now said that the sale was made to a syndicate, of which E. B. Osler, M.P., of Toronto, a director of the C.P.R., is the principal member, & that this syndicate has since secured the interest of the Allan family, of Montreal, in the line, thus getting complete control of the property. It is impossible at present to get any information as to the intentions of the purchasers, but it is surmised they will either sell or lease the line to the C.P.R., & that it will be operated as a branch of that system. For several years past it has been in the hands of receivers, & has been the cause of a large amount of litigation. The coupons on the bonds due June, 1893, & since, have not been met. Of the total of £540,000 of the bonds, about £490,000 was deposited with a committee, who, early in 1898, as above mentioned, negotiated a sale of the certificates issued against bonds, & practically all the certificates have come in under this agreement. The certificate holders have received 50% of the nominal amount of their holdings, & are to receive 35% on October 1 next, with land certificates for their interest in the lands to which the bonds were entitled. Bonds that were not deposited with the committee retain their original position.

The line runs from Portage la Prairie, 55 miles west of Winnipeg, northwesterly to Yorkton, Assa., 223 miles, with a branch of 11 miles from Binscarth, to Russell, Man. The Co. also operates a leased line, the Saskatchewan & Western, from Minnedosa to Rapid City, Man., 15 miles. The late Sir Hugh Allan was at one time President of the Co., & a large amount of money was invested in the line by the Allan family. The present President of the Co. is Andrew Allan, of Montreal; H. M. Allan being Vice-President. The General Manager is W. R. Baker, who resigned the Local Treasurership of the C.P.R. at Winnipeg some 15 years ago to take the position of General Superintendent of the M. & N. W.

Following are particulars of the Co's capital as at June 30, 1897, the last statement published: Ordinary share capital, authorized \$12,000,000; subscribed & paid up, \$5,837,500. Bonded debt, authorized \$4,700,000; issued & sold \$3,824,100; rate of interest 5 & 6. Provincial government aid paid \$649,934.27; municipal aid paid \$215,600. Total capital subscribed & paid up \$10,527,134.27. Floating debt \$1,374,919.76. Total cost of railway & rolling stock, including Saskatchewan &

Western Ry. \$3,712,467.43. The Co. also received a large Dominion land grant. The gross earnings for the year ended June 30, 1897, were \$314,298.06, working expenses \$241,169.29, net earnings \$73,128.77. The line traverses a magnificent agricultural district, & has for years been a valuable feeder to the C.P.R. (Unofficial.)

Ontario & Rainy River.—In Toronto recently Justices Rose & McMahon gave judgment in the case of Allen vs. the O. & R. R. Ry. Co., on appeal by the defendants, Gorham & Mitchell, from the judgment of Chancellor Boyd, who tried the action without a jury at Port Arthur & Toronto, in favor of the plaintiff for the recovery of \$600 for work done & services performed by the plaintiff in the promotion of the railway of the defendant company by means of an advocacy in Port Arthur at one time conducted by the plaintiff. The judgment is against the defendant company with a direction for the payment out of a fund belonging to the appellants & others of the defendants. The appellants contend there was nothing in the evidence to fix the liability upon the company. The appeal was dismissed with costs.

Some reference to this line appears on page 129 of this issue. Since it was written we have been placed in a position to state that 20 or 25 miles of the eastern end of the line will be built this season, starting from some point on the P. A. D. & W. (Official.)

PASSENGER MATTERS.

The Rate Cutting Continues.

During the past month there has been practically no change in the rate cutting, which has gone on as before, though its effects have been plainly discernible in the decreased traffic receipts of both the leading Canadian lines. The novelty of low rates has worn off, & travel has got back nearly to a normal condition.

A new feature, however, is the decision of the Interstate Commerce Commission to meet in Chicago Aug. 1. The notice calling the meeting states that it has come to the knowledge of the Commission that there exists a contest in passenger rates between the C.P.R., on the one hand, & certain U.S. lines & their connections, including the Grand Trunk, on the other hand; that it is charged by the U.S. lines that the C.P.R. has been, & is, in open violation of the act to regulate commerce, making unreasonably low rates between various points in the U.S., not as a measure of legitimate competition, but as a means of exacting certain unreasonable de-

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mands upon its part, & that such illegal action on the part of the C.P.R. will result, if persisted in, in the utter demoralization of passenger rates over a large portion of the U.S., & incalculable damage to the interests of the U.S. lines, all of which is either denied or justified by the C.P.R. The document further states that it seems advisable that the Commission should be fully informed of the whole situation in respect to passenger rates, as affected by the C.P.R., with a view to determining what relief, if any, should be applied.

A report that the C.P.R. had decided to abandon its claims to differentials on trans-continental business was recently emphatically denied by Vice-President Shaughnessy.

Sir Wm. Van Horne visited St. Paul, Minn., about the middle of July, & the daily press at once assumed that he had been in conference with President Hill, of the Great Northern, respecting the rate cutting. On returning to Montreal Sir Wm. said to a reporter: "It was not the so-called rate war, but other business, that took me west. I know nothing of any settlement. We are quite content as matters stand. The enemy pays."

On the same subject President Hill said: "The rate war is no nearer a settlement now than it has been for 6 months. The report that President Van Horne & myself have reached a settlement of the differences between the roads is absolutely without foundation."

C.P.R. Mountain Guides.

That the exceptional beauty of the scenery is attracting even more & more attention in the older parts of the world is demonstrated by the continuously increasing number of U.S. & European tourists who invade the Dominion, summer by summer. The latest & most significant evidence of this fact is a move just made by the management of the C.P.R. It is announced that the Co. has sent an official to Switzerland to engage a number of Alpine guides, who will be brought over to Canada to act as guides for tourists in the Rocky Mountains. In a short while, accordingly, it will not be surprising to learn that mountaineering is one of the national sports of Western Canada. There are no mountains in the world offering more inducements & opportunities for mountain-climbing than do those magnificent, snowcapped, perilous heights that constitute the Canadian Rockies. They are destined, in time, to become the Alps of America, & that beautiful mountain country that stretches on all sides about Banff will some day become a second Switzerland.

The C.P.R. differs, in one respect, from all U.S. western lines, in the manner in which it goes through the Rockies. The most famous of the U.S. roads, for instance, the Denver & Rio Grande, is built at an elevation of 10,000 ft., going practically over, & not through, the range. The highest elevation reached by the Canadian Pacific is a little less than 5,300 ft., so that the higher peaks still tower 5,000 ft. above the railway line itself. This gives excellent opportunities for the adventurous mountaineer, & does not detract from the sublimity of the scenery. Even when this fascinating sport of mountaineering does become popular in Canada, it is estimated that at least 100 years will pass by before all the many heights of the yet unknown Rockies are climbed & explored. In a few years it will be as commonplace & natural for the Montreal & Chicago man to go mountain-climbing in the Rockies as it now is for the Londoner & the Parisian to go to the Alps to spend their summer.

The Michigan Central & Toronto, Hamilton, & Buffalo have met the cut of the G.T.R. & C.P.R., & made a reduction of rates to competitive points between Hamilton & Windsor, Ont. There is no cut in rates on through business.

Contract to Carry Passengers.

The Divisional Court of Ontario has given judgment in the case of Clarry v. G.T.R., where the plaintiff was a passenger on defendant's railway under a contract by which he was to be carried from Harrisburg to Stratford via Galt & Berlin. There was a break in the line at Galt, the distance being $\frac{3}{4}$ of a mile. An omnibus was provided, as advertised by defendants, but a fare of 10c. was demanded. Plaintiff refused to pay this fare, was not permitted to be transported free, failed to make his connection & brought action. He held that he was entitled to be transferred free but should have paid the 10c. and made his connection. The damages were restricted to that sum, but full costs allowed as it was to test a right.

Passenger Notes.

The G.T.R. did a tremendous 12th of July business in Ontario; on the Northern Division over 12,000 Orangemen were carried.

The G.T.R. has this year, for the 1st time, competed with the C.P.R. in its harvest home excursions. The same rates as the C.P.R. were quoted into Winnipeg, Brandon & Portage la Prairie. The G.T.R. quoted the same rates as the C.P.R. to North Dakota points also.

The C.P.R. authorities are enforcing at Winnipeg the rule that baggage left unclaimed in the baggage room for a longer period than 24 hours will be charged 25c. a piece for the 1st day & 10 cents for every day thereafter. This rule has not been strictly enforced heretofore. Baggage awaiting shipment on local trains leaving only 2 or 3 times a week will be exempt; also settlers' effects under certain conditions.

Travel to Muskoka, Ont., this year shows a considerable increase again, it being estimated by the railway officials that fully a third more people have gone into the district this year than up to the same time last year. The placing of a customs officer at Muskoka wharf has been a great convenience to tourists from the U.S., as it enables them to have their baggage checked right through, & thus do away with the delay in having it examined at Toronto.

Japanese newspapers are eulogistically noticing an artistically-prepared map issued in that country by the C.P.R. Co., showing the various routes across the Pacific & Canada & the Atlantic to England. The map has a beautifully-lithographed picture of the 7 gods of good fortune, 6 of whom are gazing down from cloudland on one of the magnificent white Empress steamships, & the other is depicting in Japanese on the mountain side the information that the C.P.R. is the only road by which passengers from Yokohama can reach New York in 17 days & London in 24. It is a well-conceived idea, & is capably & cleverly worked out.

The G.T.R. through trains to the sea are being largely patronized, the hot weather having whetted the desire to escape the discomforts of the hot city streets. These trains are models of comfort, having buffets & parlor & dining cars, which are fitted up in the most modern style. In fact, they are palaces on wheels, & are designed chiefly for those who can pay for luxuries. The cars are of the vestibule pattern, with cosy nooks & corners for groups of friends who desire to be together; the cuisine is tempting to the gourmand, while the attention which has been given to the smallest detail appertaining to comfort has immediate appeal for every class of patron. These specials are a feature of the G.T.R.'s summer service, which has been increasingly appreciated of late years.

J. E. Quick, General Baggage Agent G. T. R., has again been elected Secretary & Treas-

urer of the American Association of General Baggage Agents, whose convention was recently held at Detroit. While at the convention Mr. Quick read the legal opinions of expert railway lawyers in regard to the handling of excess baggage, & the best methods of collecting the charges on it. There is considerable difference of opinion among baggage agents in regard to this matter. Some agents hold that when checks are issued to travellers the railway can have no further claim for excess. They consider that the passenger should be given notice beforehand of the possibility of being assessed for overweight. The legal opinions read to the convention were not made public. A. D. MacTier, General Baggage Agent of the C.P.R., was at the convention & was appointed a member of the Committee of Arrangements.

The Apprentice Boy.

As an appendix to the report of the Master Mechanics' Association on The Apprentice Boy, G. R. Joughins, Mechanical Superintendent of the Canadian Government Railway System, wrote a special letter on scientific education, from which the following are extracts:—

It is my conviction that the question of a scientific education is the most important part of our work. I will confine myself to that aspect of the subject. I am particularly interested in it, because I have taught the apprentice boy in science schools for many years, & my experience of the benefits resulting therefrom have been most satisfactory, both to the pupil & the railway company.

My experience has altogether been in favor of educating our boys, not expecting that they will all attain responsible positions, but because even those who are dull will become better workmen, & the few who possess real ability will be separated from the ordinary mechanic & given an opportunity to rise above their surroundings & do better work in the world. If only for the sake of these few & for the good work which they will do in our profession & for our country, we ought to put forth every effort to make it easier to obtain a scientific education, & by largely increasing the number of schools make it more universal than at present. The importance of educating our apprentices cannot be overrated. It is of national importance, the prosperity of our nation largely depends upon it, because educated workmen are the backbone of a manufacturing country, such as ours.

I do not agree with those members of the Association who suggest that each apprentice should pay the full cost of instruction, & that he should depend on his own efforts for an education. That principle is not applied to the education of any one else, no matter what school, college or university he may attend, or what profession he may adopt. I believe it to be absolutely necessary to assist apprentices, & to assist them very substantially, both in school fees & in books. Various ways can be taken to raise money to help them, without making it a serious burden upon the railway companies; it is done at the present time in some places, & could be done in all.

Having persuaded our members & the roads they represent to raise the funds necessary, the Association ought to map out a plan of education. Then at the end of the session examinations should be held at the different schools, using the same examination papers. In this way a system of certificates of acquirements could be issued on a uniform standard, & which would prove of incalculable value both to the employer & employee.

Intimately related to the school question is the establishment of a technical library, which, no matter how small the beginning, could be gradually built up.

The Association should also find out what scholarships for mechanics, mathematics, &c., are given in each province, state or college for which our apprentices might compete, & publish them, special stress being laid upon the existing Master Mechanics' Scholarship at Stevens Institute.

The proposed science schools would not, of course, be confined exclusively to locomotive railroad apprentices. Apprentices from other shops who wished to join should be heartily welcomed on an equitable financial basis. Other organizations might wish to join in the plan of education, & should be encouraged to do so, but in the meantime the Master Mechanics' Association should go forward in the good work, & we, as its committee, should find out what ought to be done, what the railway companies are willing to do, & make the best recommendations within our power to further the highest interests of the apprentice, which no doubt lie in the direction of a scientific education side by side with careful training in the workshop.

Telephone vs. Railway.

The use of the long-distance telephone has diminished passenger travel on the railways. The extent of the loss suffered by the railways is not very well known & the importance of it is not admitted by all; but the newspapers have now & then given certain definite statements from well-informed men, & there can be no question that the value of the telephone is increasingly appreciated. Another bit of significant evidence, reported to us on good authority, is the statement of a railway officer that the business of one of the limited trains between New York & Chicago has been practically ruined by the telephone. This comes from the chief executive officer of "one of the lines interested," & as there are only 4 or 5 roads interested in these trains the reader can perhaps guess where the statement comes from.

This result is not very surprising. One of the definite objects had in view in putting on 25-hour trains between New York & Chicago was the accommodation of brokers & business men of Chicago & the Northwest, who demanded quick time. Their trips to New York were taken on occasions of utmost importance, when a little time meant thousands of dollars. By means of the "Limited" the broker or business man was taken to New York in the quickest possible way. He talked as fast as he rode & made an equally quick return to Chicago. The business man was willing to pay the price assessed for this development in rapid transit.

The patronage of people whose time was less valuable to them was not expected to contribute much to the income of these trains, so that their whole dependence was expected to be, & was, on two classes; the business men aforesaid & pleasure travellers to whom a few dollars extra was not a noticeable item. Then came the introduction of the long-distance telephone. People at first were slow in realizing its benefits. Slowly but surely they have, however, come to appreciate its significance. A broker or grain dealer in Chicago has in mind a "big deal;" he telegraphs to New York asking for certain information & adds: "Call me up by long-distance telephone & give me your answer." The result is that for 15 or 20 dollars a talk is held with the New York man. Having received the telegram he has had an opportunity to concentrate his expressions to the shortest possible statements; he has even jotted them down & at the proper time calls up his man & transacts his business. So it is done every day.

The railway president quoted said that in the past he had found it necessary to spend about 20 days of each month on the road, leaving but 10 days of his time at his office.

But now, by aid of the long-distance telephone, he has reversed matters; but 10 days are required on the road, giving him 20 days in the office. Half-a-dozen grain men who had been in the habit of making frequent trips between Chicago & New York said that for 3 or 4 dollars they could now transact business which formerly required a three-day trip.—*Railroad Gazette.*

Chapleau as a Railway Man.

Sir Adolphe Chapleau, who died last month, always had a great penchant for railways, & his name will for ever remain closely linked with the history of railways in Quebec. He was instrumental in building the North Shore & its branches, & after administering it for a time made it a part of the C.P.R. Mr. Dandereau, who was intimately connected with him in most of his railway enterprises, says:

"He has been the champion of railways in this country, & his eloquent word it was which revived in the Provincial Legislature the old subsidy to the North Shore Ry. & obtained one for the Northern Colonization Road, thus taking the original steps toward a national railway policy. He had his share in contributing to the success of these, financially, perilous enterprises; & he can boast of having directly brought about the building of 5 lines of railways, the Laurentides, the Pontiac, & the continuation of the St. Jerome, by his active & persistent co-operation, & the St. Eustache & Joliette roads, by his official & personal protection."

"In 1884, when the Ottawa Government seemed determined to refuse the Province of Quebec its just demands, regarding the debt contracted for the building of the North Shore Ry. as part of the C.P.R., almost all the Quebec contingent to the Federal Parliament begged him to take their lead in forcing the Government's hand. He had only a word to say (at least the probabilities authorize the statement) to hold the destiny of the Cabinet in his own hands; but he remained thoroughly loyal to Sir John Macdonald knowing that justice would be done in the end without violence."

Chapleau was very severely criticized for the manner in which he sold the North Shore Railway in two sections to the C.P.R. & to the Senecal Syndicate, refusing a much better offer made at the time by the Allan syndicate. It has been charged that this most valuable asset of the province was sacrificed, but his biographer in defending his act in this respect, says: "He it was who realized for the Province of Quebec \$8,000,000 by selling the North Shore Ry. This act, which has procured for him so many insults, will perhaps be his greatest title to glory, for it is a matter of public notoriety to-day that the C.P.R., which made the purchase, would be disposed to lose some millions upon the original price, could a purchaser be found. It is sufficient to read the reports which he published then as Minister of Railways to see how clearly he foresaw the construction of the Canada Atlantic & the Smith's Falls line of the C.P.R., two rival roads which reduced to a relative insignificance the old Q.M.O. & O. Ry."

Railways & Prairie Fires.

The most prolific cause of prairie fires, says the *Western Prairie*, published at Cypress River, Man., is the traction engines used for threshing. The burning of large piles of straw is another prolific source, for fire will remain for many days amongst the charred cinders ready to fly before a high wind, when the greatest danger is to be apprehended. The railway locomotives sometimes cause fires, but not very often, considering the number of trains that run at all hours on the various railways, even during the most windy

weather. Hunters, smokers & tramps start fires. There are fires kindled on purpose, fires by accident, & fires by carelessness. Some years ago the C.P.R. Co., knowing the dangerous & inflammable character of the natural covering of the prairie, attempted to have blue grass introduced all along their lines in Manitoba, & large quantities of seed were given free to those whose farms were near the roads. The season chanced to be dry, & the seed did not grow in a satisfactory manner, so the attempt failed. But the Co. was taking the only course that can ever be successfully adopted for the prevention of prairie fires; for until houses, barns, stacks, towns & railways are protected by fields of green grass that will not burn, danger will not be lessened or removed.

The Empire Route to China.

Sir George Baden-Powell writes: "Across the Atlantic & across Canada we have the straight & short route to China. Mr. Goschen, when Chancellor of the Exchequer, had the patriotic foresight to assist in establishing across the North Pacific an embryo line of British mail steamers connecting China & Japan with Canada. What is necessary now, & in view of the greater opening up of China, is that this service shall be improved into a regular weekly service. By this route already passengers, mails, & light goods pass between England & the far east all the way in British ships & through British territory. The route followed does not, like the Suez route, pass by the arsenals of a long series of possibly hostile Powers. Moreover, the route is a direct 'great circle' all the way in temperate latitudes, & has not to follow the sinuosities of the Mediterranean & Red Sea, or travel as far south as the equator at Singapore. It is calculated that with a 20-knot steamer service on the Atlantic & Pacific, & no more than the present speed on the great Canadian Pacific Ry., that the time of transit between Liverpool & Shanghai need not exceed 20 days. Thus the establishment of a first-class weekly service along this empire route would be of the most crucial value to our securing our fair share of the new development of China."

Liability to Pack Frogs.

The appeal of the defendants in the case of *Washington v. the G.T.R.* has been dismissed by the Imperial Privy Council. The case was brought by G. Washington, of Hamilton, Ont., who was employed in the Stuart St. freight yard, against the G.T.R. for damages for injuries received while shunting cars. He had his right arm so badly crushed that it had to be amputated. The case was tried before Justice Street & a jury in 1896, & a verdict was given for plaintiff for \$2,500 & costs. It was decided that the defendant had been guilty of negligence in not having the frog, where the plaintiff caught his foot, properly blocked or properly protected. The Court of Appeal reversed the verdict & dismissed the action with costs. Then the case was carried to the Supreme Court, when the decision of the Court of Appeal was set aside, & the verdict of \$2,500 restored. The G.T.R. carried the case to the Privy Council, desiring to have the ruling of the highest court on the liability of railway companies to pack frogs, the same point having been raised in the Curran case, in which the plaintiff got a big verdict.

A. H. Harris, ex-General Traffic Manager of the Canadian Government Ry. System, has been appointed Canadian Traffic Agent for the Fitchburg R.R., "The Hoosac Tunnel Route." This Co. operates 457 miles, its longest line being between Troy, N.Y., & Boston. The Fitchburg terminals at Boston are used by the Dominion Line steamships.

APPLICATIONS FOR INCORPORATION.

Alaska & Northwestern.—Gemmill & May, Solicitors, Ottawa, give notice of application to the Dominion Parliament for the incorporation of the Alaska & Northwestern R. R. Co., to build a line from near Pyramid Harbor, on Lynn Canal, or from a point on or near the International Boundary between Canada & the U.S., in the vicinity of Lynn Canal, thence by way of Dalton Trail to at or near Fort Selkirk, Yukon, with various other powers.

Algoma Central.—H. C. Hamilton, Solicitor, Sault Ste. Marie, Ont., gives notice of application to the Ontario Legislature for the incorporation of the Algoma Central Ry. Co., to build a line from at or near Sault Ste. Marie, Ont., to at or near the Michipicoten River, thence northerly to the main line of the C.P.R., & southerly to Michipicoten Harbor, Lake Superior. Very extensive general powers are asked, including carrying on mining operations, &c.

Haliburton, Whitney & Mattawa.—Gordon & Sampson, Solicitors, Toronto, give notice that application will be made to the Ontario Legislature for an act to incorporate The Haliburton, Whitney & Mattawa Ry., with power to build a railway from at or near the terminus of the G.T.R. at Haliburton, to a point on the Ottawa, Arnprior & Parry Sound Ry., at or near Whitney, thence northerly to at or near Mattawa; & with power to equip & operate the same by steam or electricity; & if the latter, with power to sell the surplus electricity for light, heat & power purposes, & to supply miners, lumbermen & others doing business in the district through which the railway will run, with electricity for their works & operations.

Ontario Lands & Oil Co.—A. E. Shaunessy, Sarnia, gives notice of application to the Ontario Legislature for powers to be given this Co., which is incorporated under the Imperial Company's Acts, 1862 to 1890, to carry on various businesses, including the building of tramways, railways, wharves & ships.

Pyramid Harbor to Fort Cudahy.—G. W. Kyle, St. Peters, N.S., gives notice of application to the Dominion Parliament for the incorporation of a company to build & operate a railway from Pyramid Harbor, near the head of Lynn Canal, or from the International Boundary Line to Dalton's Post, on the Dalton Trail, thence to Fort Selkirk, thence northerly to the 141st meridian near Fort Cudahy, with various other powers.

RAILWAY PROJECTS.

Amherst & Eastern.—It is said the surveying of a route for the proposed railroad from Amherst, N.S., to the North Shore, via Truemanville & Chapman Settlement, has been decided upon by the A. & E. Ry. Co.

Brandon & Southwestern. This Co. was incorporated by the Dominion Parliament in 1890 with power to build a line commencing within township 1, ranges 23 or 24 west of the principal meridian in Manitoba, at a point at least $\frac{1}{4}$ of a mile north of the International Boundary, thence running north-easterly to the main line of the C.P.R., near Brandon. The incorporators were D. Hyslop, G. R. Crowe, G. H. Campbell, H. G. Crawford & C. H. Campbell, of Winnipeg, & W. A. Macdonald of Brandon. The Co. was given power to sell or lease to the C.P.R. The same year Parliament voted the Co. a land subsidy of 6,400 acres a mile for 17 miles, from the place of starting, as above mentioned, to Deloraine. The time for construction was extended in 1894 & again in 1896, & it is now required that construction be commenced by Nov. 1, 1898, & completed by Nov. 1, 1901.

In response to an enquiry, Robt. Weddell, Trenton, Ont., writes us:—"I have the con-

tract for building the Brandon & Southwestern Ry. from Turtle Mountain coal fields to Deloraine & Waskada, thence to Brandon. The distance is 90 miles. Engineers are locating now. Work may be started next fall. Arrangements are in progress for ties, telegraph poles, fence posts, lumber, rails & rolling stock for active operation in 1899. The railway is to be completed by Nov. 1, 1901."

C.P.R., Toronto Sudbury Branch.—The surveys for this line have been about completed under H. Lumsden, C.E., but nothing has been announced in regard to the prospects of construction.

Central Ontario.—In our June issue, pg. 98, we stated that the proposed extension from Coe Hill to Bancroft, 18½ miles, might possibly be gone on with next season. It is now stated that the road will not be built unless liberal donations are received from the people whose territory it will benefit. (Official.)

Dominion Eastern.—This Co. was incorporated by the Nova Scotia Legislature in 1897 to build a line from the terminus of the Nova Scotia Steel Co's. Ry. at Sunny Brae to Country Harbor, with a branch from Upper Country Harbor to Guysboro', about 65 miles in all. The Nova Scotia Legislature has granted a bonus to the extent of \$3,200 a mile & the Dominion Parliament has made a similar grant, to be increased should the average cost of the line be more than \$15,000 a mile. An instrumental survey of the whole line has been made & 10 miles have been located. We have been unable to ascertain anything in regard to when construction is likely to be proceeded with. Jamieson & Baker, contractors, Quakertown, Pa., are said to be interested in the charter, together with some prominent members of the N. S. Steel Co., whose line of 12¾ miles, which runs from Ferrona Jct., on the I.C.R., 6 miles from New Glasgow, the Co's. headquarters, to Sunny Brae, is under option to Jamieson & Baker, the option having some months yet to run. It is the intention, should the Dominion Eastern go on, to amalgamate the Steel Co's. line with it. (Partly Official.)

Edmonton District.—The charter for this line granted by the Dominion Parliament in 1896 empowers the building of a line from Edmonton to South Edmonton to connect with the Calgary & Edmonton line; from Edmonton via St. Albert to the Athabasca River near Fort Assiniboine, with a branch to Stony Plains; & from Edmonton to Fort Saskatchewan, with a branch to Sturgeon River. The incorporators were Dr. Willson & others of Edmonton, Alberta, & W. T., Jennings, C.E., of Toronto. The charter has been sold to people in St. John, N.B., among whom are W. Pugsley, Q.C., G. McAvity, & A. G. Blair, Jr. The two last named recently visited Edmonton & on their return stated that as soon as the railway & traffic bridge over the North Saskatchewan, now being built by the Government, is completed, work will be started on the Edmonton District line, first to connect Edmonton with the C. & E. line at South Edmonton, & then to go on towards the Athabasca River, making the first section of a line to the Upper Yukon Territory.

The Grand Trunk & Sault Ste. Marie. Superintendent Tiffin, of the G.T. Co's Northern Division & Division Freight Agent White, of Toronto, visited Sault Ste. Marie recently. The Express of that place credits Mr. White with saying that General Manager Hays was taking a very active interest in the Co's property there, & was having a survey made from Burk's Falls & Powassan to the Sault. The Express says:—"Mr. White continued as follows: "Mr. Tiffin & myself have just had a discussion with F. H. Clergue, who we freely admit represents the very largest commercial industries in Canada, & after a con-

sultation with Judge O'Connor & other gentlemen as to the business outlook in this part of Ontario, we feel that Mr. Hays will, in connection with Mr. Hill, of the Great Northern Ry., afford to Sault Ste. Marie a G.T.R. & Great Northern connection which will assure the town of competition in the event of any attempt on the part of one road to embarrass the vast trade now established & yet to be established at this point. The Portland export route, which Mr. Hays has put in force, will be 7 steamers a week. That means that the manufacturers of your city will have full & reasonable access to every market in the world."

Enquiry at the G.T.R. head offices has failed to elicit any information on the question.

Grand Trunk, Ottawa Branch.—The daily press has been teeming with items lately stating that the G.T.R. was contemplating the construction of a branch line to Ottawa, & that a survey was in progress. There was no foundation in fact for these statements, there being no intention whatever on the Co's part to construct such a line. (Official.)

The Kootenay Construction Co. has been registered in London, Eng., with a capital of £100,000, to construct railways & tramways in the Kootenay district of British Columbia.

Lake Erie & Detroit River.—It has been decided by the management that the proposed extension from Ridgetown to St. Thomas, Ont., will not be gone on with this year. It is hoped, however, that definite arrangements will be arrived at for the building of the link next year. (Official.)

McKenzie & Mann's Projects.—A Winnipeg despatch says:—"It is stated, on what purports to be good authority, that the railway schemes of Mackenzie & Mann contemplate, besides a line to Hudson's Bay, a line to Prince Albert, striking westward from Dauphin, across Gilbert plains into the Saskatchewan valley, & ultimately reaching the Pacific coast, via the Yellow Head or Peace River pass."

Musquodoboit.—This Co. was incorporated at the last session of the Nova Scotia Legislature to build a line from Windsor Jct. easterly by Musquodoboit Valley, 40 miles, to Parker's Corner, or from Dartmouth easterly to Musquodoboit Harbor, thence up Musquodoboit Valley to Parker's Corner, with power to extend the line to Halifax or Dartmouth. The provisional directors are: A. Stephen & W. Chisholm, Halifax; A. C. Johnson, Dartmouth; D. W. B. Reid, Middle Musquodoboit; & B. C. Wilson, Waverley. Early this season the Co. applied to the N.S. Government to have a preliminary survey of the route made, the Government agreeing to do the engineering portion of the work, the Co. finding common labor. W. Yorston, C.E., is now making the survey under direction of Provincial Engineer Murphy. (Official.)

Nipissing & James Bay.—The Mayor of Toronto recently stated that the promoters of this line were desirous of proceeding with construction from North Bay into the James Bay country at once, but wanted assistance from the city. As the opening of this country was the main object which induced the city to apply for a charter, the Mayor thinks they should be aided.

Ottawa & Gatineau Valley.—It is rumored that this Co. contemplates the extension of its line from Gracefield to the Desert River, some 35 miles. At present the line runs from Ottawa to Gracefield, Que., 60 miles. (Unofficial.)

Ontario & Rainy Riv. r.—T. H. White, recently Chief Engineer of the Canadian Yukon Ry., has been given a similar position on this line by Mackenzie & Mann, & is now in the Mattawan district making a preliminary survey. Some 60 miles from the point of departure on the Port Arthur, Duluth & Western was surveyed by Mr. Turnbull, & the present

survey will likely continue from the end of his work towards Rainy River. Under the terms of the charter, work must be commenced Aug. 1. It is said Wm. Mackenzie has been successful in securing the co-operation of British capitalists, & that 40 or 50 miles are likely to be built this year. (Unofficial.)

Port Arthur, Duluth & Western.—The proposed branch from near Stanley to Kakabeka Falls will not be gone on with this year. (Official.)

Prince Edward Island, Belfast Branch.—This branch of the Government line is projected from Charlottetown to Murray Harbor, on the sea coast. It would necessitate the bridging of the Hillsboro' River at Charlottetown, at an estimated cost of \$800,000, which would provide a combined railway & traffic bridge, in the building of which the Provincial Government is expected to aid. The length of the branch would be about 50 miles, its estimated cost, narrow gauge as is the rest of the line, being from \$7,500 to \$8,000 a mile. The branch would pass through one of the best & most prosperous districts of the Province, & the Hillsboro' River bridge would be a great convenience to people living east of the river, who now have difficulty in reaching Charlottetown when the ferry traffic is interrupted by ice. A preliminary survey of the proposed line was made for the Department of Railways some 5 or 6 years ago, & a more complete one was made last year by H. J. Mackenzie, C.E. Of course nothing further can be done till next session of the Dominion Parliament, & it is by no means certain that it will be taken up then. (Unofficial.)

Toronto & Hudson's Bay.—W. T. Jennings, C.E., left Toronto July 7 on behalf of the Toronto & Hudson Bay Ry. Co., to examine the country to the north of the C.P.R. & west to the Temiscaming & possibly to the Abitibi & Moose Factory, thence, as far as circumstances & time will permit, over rivers & inlets at the foot of James Bay, returning by Moose River & a route heretofore unexplored southward to Wahnapiatae Lake. The examination of Wahnapiatae & Temogami districts will then be taken up. The object of the examination is that an intelligent idea may be formed of the commercial value of the districts between the C.P.R. & James Bay, with the view of the immediate opening up & advancement of those districts as far as found practicable. Mr. Jennings took with him City Surveyor Sankey, of Toronto, & a sufficient number of canoe men & packers, who know the country, & will, therefore, be able to carry the expedition over as rapidly as possible. (Official.)

Woodstock & Brantford.—D. A. Middleton, C.E., of Ottawa, is making a survey for a line between Woodstock & Brantford, some 26 miles. It has been persistently stated that the proposed line is to be built by or in the interest of the C.P.R., but prominent officials of that Co. deny any knowledge of the matter.

There are now nearly 200,000 miles of railway in the U.S. They are capitalized at about \$10,000,000,000. They earn \$1,125,000,000 annually & disburse for material & wages \$793,000,000, & have a system of rates for the carriage of freight which is $\frac{1}{3}$ less than that of the railways of Europe. There are directly in the service of the railways of the U.S. about 800,000 men, & about 2,000,000 members in the families of these employees.

The world's railway mileage at the present time is equivalent to more than 17 times the length of the equator. In more exact figures, the world's railway mileage, according to the latest verified returns, aggregates 433,953 miles, or 38,810 miles more than in 1891. This enormous mileage is distributed among the various subdivisions of the globe in the following manner: America, 299,722 miles; Europe, 115,284 miles; Asia, 26,890 miles; Africa, 8,169 miles, & Australia, 13,889 miles.

SHIPPING.

The C.P.R. Stikine Steamers.

The steamer Ogilvie, an illustration of which is given on page 131, is one of the fleet of 12 steamers built by the C.P.R. last winter & spring for the Stikine River, an extended description of which appeared in our April issue pg. 50. She made the round trip from Wrangel to Glenora & back in 44 hours, but was beaten by her sister steamer, the McConnell, which did it in 43½.

The C. P. R. Co's. stern-wheel steamer Schwatka, recently built at Port Blakeley, Wash., for the Stikine River, has been taken to New Westminster, there being nothing for her to do in the northern trade.

Owing to the slump in the Stikine River trade, 2 out of the 3 steel-hull steamers built in Toronto for the C.P.R. & sent to Vancouver in sections will be put on the inland waters of B.C. One is being put together at Nakusp for service on the Arrow Lakes, & the other at Nelson for Kootenay Lake. All the other Stikine River steamers owned by the Co. have been taken off. Some of them may be utilized on the inland waters of B.C., or they may be laid up in the expectation that the business will revive.

In previous issues we have given pretty full descriptions of the C.P.R. Stikine River steamers, but it may be of interest to give the following extracts from the specifications of those built in Toronto with steel hulls, by the Polson Iron Works, as they were a decided departure in river steamer construction:

The dimensions are: length over all 161 ft. 6 ins., length from stern to transom 140 ft., breadth moulded 30 ft., depth moulded keel plate to beam at side 5 ft., ditto at centre 5 ft. 7 1-2 ins.

The hull is of open hearth mild steel, equal in quality to the requirements of English Lloyd's rules.

The keel and bottom tie plates are of $\frac{1}{4}$ in. plate 12 ins. wide, the former strongly rivetted to lower end of stem, lapped and treble rivetted with $\frac{5}{8}$ in. rivets, the latter extending the length of longitudinal bulkheads.

The stem is of wrought iron 5 ins. x 1 $\frac{1}{2}$ in. extending well under forefoot & scarping over fore-end of keel plate.

The rudder frame is of forgings 3½ ins. diam. and 4 in. no., fitted into bearings at aft side of transoms.

The frames are of angle steel 3 ins. & 2½ ins. x $\frac{1}{4}$ in., spaced 21 ins. centres in after body & 18 ins. centres in fore-body, double at bulkheads.

The reverse frames are of angle steel 2 x 2- $\frac{3}{8}$ ins. rivetted across top of floors & continued to upper turn of bilges.

The floors are of steel channels 7 ins. deep, 9.75 lbs. per foot between longitudinal bulkheads, to which they are rigidly connected with $\frac{3}{8}$ in. plate. Brackets from the longitudinal bulkheads to the sides are of $\frac{3}{8}$ in. plate, 7 ins. deep, tapered at one end to size of frame & turned so as to extend up to upper turn of bilge. Floors forward of fore-bulkhead are of $\frac{3}{8}$ in. plate of sufficient depth to suit frame of vessel.

The centre keelson is a bulb T 6 ins. deep, 15.3 lbs. per foot, extending from transom plate as far forward as practicable.

The main deck stringer plate is 15 ins. wide amidships, $\frac{1}{4}$ in. thick, diminishing to $\frac{3}{8}$ in. at ends, lapped & treble rivetted, the rivets being countersunk. The bar is 2½ x 2½ x $\frac{1}{4}$ in. worked outside underneath, close-rivetted & caulked.

There is 1 beam to every frame, of 3 x 2½ x $\frac{1}{4}$ angle steel extending 2 ft. 3 in. on each side, fastened to main deck stringer plate & longitudinal bulkhead by angle lugs of sufficient length, supported at centre by 2½ in. pipe stanchion having wrot.-forged ends, rivetted to beams and keelson, with alternate

frames. The deck openings are framed out to suit requirements of machinery, etc. Holes are punched for deck bolts.

There is a stanchion to each alternate beam, as described in foregoing paragraph.

The steel plating is of $\frac{3}{8}$ in. steel extending from main deck springer plate to a distance down the side sufficient to allow the last strake of wood sheathing on bottom being brought up around bilge & finishing on the side planking, & to receive the upper strake of the planking. An angle bar of 2½ x 2½ x $\frac{1}{4}$ in. is worked all around the vessel. The butts of the plating are lapped & treble rivetted, all holes being punched fair & holes countersunk outside. The bottom of the vessel was covered with wood sheathing by the C.P.R. Co., at Vancouver, but the bolts for same were furnished by contractors, who have also punched the holes necessary to receive the bolts through the bottom, & the same for the deck.

The diameter and spacing of rivets is in accordance with Lloyd's rules, all plates & bars being punched & sheared from the laying side & all rivetted work is laid up close.

There are two longitudinal bulkheads throughout, placed each 7 ft. apart from centre line, of 3-20 in. steel plate, extending the whole moulded depth, connected to the bottom tie plates & deck beams by 2½ x 2½ x $\frac{1}{4}$ angle bars stiffened by double 3-16 in. brackets, one on each side at every floor, one 3-16 in. bracket at each deck beam, & a vertical stiffening bar 2½ x 2½ x $\frac{1}{4}$ in. opposite each alternate frame space. The lower bars connecting with the plates are close rivetted for water-tight work. Five athwartship water-tight bulkheads are fitted between double frames formed of 3-20 in. plate, stiffened with 2½ x 2½ x $\frac{1}{4}$ in. angle bars 30 ins. apart & strongly attached to longitudinal bulkheads between double bars. A partial bulkhead is fitted two or three frame spaces from transom, arranged so that its upper edge is above the load line level, & is stiffened as required.

Wale bar, a steel angle 3 x 2½ x $\frac{1}{4}$ in., is worked all around beam ends to act as a tie to beams & to receive the wale strake fastenings.

A flanged 3-16 in. bracket is worked & rivetted to each alternate frame head & main deck stringer plate on each side.

A wrot.-iron tiller is fitted to each rudder stock & all connected together by one rod. The necessary sheaves, rods or wire, wheel, chains & fairleaders are furnished by contractors, also a set of deck castings, consisting of 10 bollard heads, 4 warping chocks, 4 side pipes & 1 chain conductor & cap.

Steel coamings are fitted to deck openings.

One coat of paint was given after fitting up at Toronto & another was put on after erecting & riveting at Vancouver.

The work was all fitted up in Toronto & as much of the riveting completed as possible. It was then taken down, placed on cars & dispatched to Vancouver with sufficient materials & tools to re-erect & complete the hull there, by the contractors. The C.P.R. Co. provided suitable premises at Vancouver, with sufficient blocking, staging, &c.

The vessel is efficiently stiffened between decks with a lattice girder or truss; underneath the I-beams carrying the engines, & the beams are also strongly supported by brackets or otherwise outside the transom. A gutter or trough is furnished in deck to receive the swing of pitman rod.

The fire-room floor is covered with $\frac{3}{8}$ in. steel plating, with holes for piping punched out.

THE BOILER is of the locomotive fire-box type, shell 62 ins. diam., & 14 ft. long. The fire-box ends from 32 ins. to 36 ins. below the shell, & is 5 ft. wide & 7 ft. long on the inside, surrounded by a water space 5" thick.

The boiler contains between 200 & 210

American 2 ins. tubes 14 ft. long, at least $\frac{3}{4}$ in. apart.

All plates are of steel of required tensile strength to pass Government inspection.

There is a steam drum 30 ins. diam. & 10 ft. long.

The smoke stack is 24 ins. diam., 8 ft. above smoke box, then 34 ins. diam. for rest of length.

The boiler is built for a working pressure of 175 lbs., subject to Government inspection.

THE ENGINES are 1 pair high pressure non-condensing type, 16 ins. bore, 72 ins. stroke, with double piston valves, all parts designed for a working pressure of 175 lbs. to the sq. in. The steel shaft is of sufficient length to allow for a wheel having 18 or 19 ft. buckets. Four wheel flanges are provided for shaft, also an iron wheel rim & 8 wheel stirrups for each of the 17 buckets.

Two outside packed plunger Blake pumps no. 6 are furnished, entirely interchangeable, for feeding boiler, or flushing spark arrester, & fire service.

The vessel to be modelled & constructed with a view not to exceed a draft of $14\frac{1}{2}$ ft., with all equipments on board, steam up, & 50 tons of coal in the bunkers. The vessel to be tried on the measured mile & over a series of 4 consecutive runs to attain an average speed of $15\frac{1}{2}$ knots an hour.

To be rigged with 2 pole masts of pitch pine formed in one piece. To have one suit of sails, mutton leg fore sail & main stay sail, jib & main sail.

As the vessel is to be built for the purpose of crushing her way through heavy ice fields where the pressure is sometimes very great, the scantlings of the keel, stern, stern-frame keelson, & stringer plates must be increased in proportion as required to give the necessary strength; the stern, stern-frame, & rudder post to be at least $1\frac{1}{2}$ heavier than required by Lloyds' rules. The frames, reversed frames, bulkheads, & pillars to be heavier where required. The spacings of frames to be, forward & in bluff of bow, not more than 15 ins., & widening to 18 & 20 ins. at sides, & 22 ins.

best manner, diagonal stringers riveted to beams as required, on main deck beams, so placed as to give resistance to twisting pressure from side to side.

To have extra hold beams built & fitted where required at & near the load-water line & greatest pressure from the ice. To have centre line & quarter pillars where required.

Plating to be all of the best Siemens-Martin ship steel, & where not otherwise specified to be according to Lloyds' rules, doubled on the bows & under bottom 70 ft. from stern, & to have a belt of doubled plating all 7 ft. deep placed $\frac{1}{2}$ above & $\frac{1}{2}$ below the line of deepest draft when after-ballast tank is filled. Oak chocks to be fitted between the side plating & the deep draft stringer, or some other device, if approved, to support the plating at the centre between the frames where required.

To have a cellular double bottom, to run from the forward bulkhead in fore hold under boilers & engines to after bulkhead of engine-room, & to be made 6 ins. deeper than is usual to give better room for cleaning.



THE C.P.R. CO'S STIKINE RIVER STEAMER OGILVIE IN VANCOUVER HARBOR.

New Winter Steamer for P.E.I.

As announced in our June issue, Capt. McElhinney, Nautical Adviser to the Dominion Department of Marine, went to Glasgow, Scotland, some time since in connection with the construction of a steamer to perform the winter service between Prince Edward Island & the Mainland, in place of the Stanley, which is inadequate for the work. Parliament has voted \$180,000 for a steamer & tenders have been invited, but it is not probable that the vessel will be constructed till next year.

The specifications call for a single screw steamer, length between perpendiculars 225 ft., breadth moulded $32\frac{1}{2}$ ft., depth moulded 21 ft. Following are some extracts from the specifications which will be found of interest.

The vessel to be built under special survey of Lloyds' Register of British & Foreign Shipping, & to be fitted & equipped in all respects to the Board of Trade regulations, & to class in English Lloyds' Register A1. 100. To be constructed throughout of Siemens-Martin ship steel, unless otherwise stated.

aft, as may be required by the Nautical Adviser; scantlings of frames to be increased to get more strength where required.

To have a bar keel. To be a straight stem, forged of best selected scrap iron, size at least $1\frac{1}{2}$ larger than given in the rules, the scarf to keel must be carried well aft under the forefoot. To have a heavy shield or cutter fitted over face of stem & ends of plates, as directed, securely riveted.

Stern-frame & rudder post of best selected scrap iron forged in one piece, with the propeller space of sufficient size. The bosses for rudder pintles to be forged on, as also the lugs at sides & upper end, to support the rudder stock & pintles when backing into ice, & to have a strong bearing on it for heel of rudder; pintles & bosses to be bushed with gun metal.

Stringers & keelsons to be fitted with extra stringer plates, knees, braces, girders, & stanchions where required, extra stringer at line of deepest draft with braces where required.

Deck beams to be of bulb plate, spaced as in Lloyds' rules, knees fitted & riveted in the

To have the usually fitted ballast tanks in bottom & under boilers, & to have large trimming tanks aft & forward as required, all to have longitudinal midships partition for trimming to either side, & all necessary filling & emptying pipes, pumps, & attachments.

To have a large fresh water tank constructed with the ship, placed just forward of forward cross bunker, & to have 3 divisions to make it 4 separate tanks. Capacity in all 5,000 gallons.

Main deck to be of steel covered with pitch pine $3\frac{1}{2}$ x $3\frac{1}{2}$ ins. thick, to have teak or oak bindings. Tween decks to be steel, all hatches, manholes, coal shafts, & openings of whatever kind in tween decks to lower hold to be fitted with strong & strongly secured to compare with the water-tight bulkheads.

To have 2 cargo doors at forward end of tween decks, 1 on each side, open space 6 ft. high by 5 ft. wide, to close with 2 doors strongly made, & hung with proportionately strong lugs, & protected by heavy gun outside, strong fastenings.

Water-tight bulkheads, 1 collision, & 100

end of main hold, 2 in. & separating lower holds, 1 after end of main hold, 1 after end of engine room, & 1 at stern pipe stuffing-box, 7 in all; also partition of sufficient strength for coal bunkers, & a partition between engine & boilers, with all necessary sluices, valves, tunnels, doors, & slides, fitted complete to B. of T. requirements.

Shaft tunnel to have water-tight sliding-door from engine room, large enough to admit engineers to attend to shafting, stools for shaft-bearing blocks to be carried down & connected to ship's floors; thrust stool to be immediately abaft the bulkhead, & to be heavy plated & closely riveted. The tunnel to be made strong & water-tight on account of the after ballast & trimming tank running at each side & over it, & to be roomy as possible for handling the extra heavy shafting, & fitted with all necessary appliances for lifting the tail shaft.

Platforms for two small guns, 1 forward & 1 aft, to be properly arranged on deck.

Deck house to be built of $\frac{1}{4}$ in. steel plate with iron angle frame, hardwood door casings & doors. The deck to be of narrow white pine 1 $\frac{1}{2}$ in. thick, tongued & grooved, put together with white lead, covered with heavy cotton duck, fastened on with copper tacks. Frames on each side where required to extend to the rail & form skids for boat chocks, to have scuppers on each side of 1 in. lead pipe running inside wood finish to deck. Inside of deck house to be fitted with saloon, state rooms, engine-room, stokehold entrance, galley, pantry, steward's room, purser's office, engineers' & officers' rooms, mess-room, lavatory & w.c.'s, also aft of engine room a purser's room, lamp room, & smoking room. The top of the deck house to project over sides or eve 1 ft., to prevent the water dripping in over doors & sidelights. House to extend from the fore hatch as far aft as may be required to give the required accommodation. To have strong-hinged glass sidelights of heavy plate glass. To have galvanized iron railings round top of deck house where required. Wood top rail on account of frost.

Smoking room to be fitted up in after end of deck house, with door on each side. Seats round sides to be cushioned and strongly upholstered. Copper heating pipes all round under seats, & radiator in centre.

Bridge house and pilot house to be on forward end of deck house abaft the bridge; to have heavy plate-glass look-out windows all round forward & aft; to be finished in hard wood, & as large as the space forward of funnel will allow, with room for steering wheel, steering compass, 2 engine rooms, telegraphs, signal code, chart table, & officers' lounge; also steam heating pipes; to be fitted with doors on each side to reach the bridge shortest way, and a stairway to saloon without going out to main deck; to have brass hand rail where required. Captain's cabin to be in after end of pilot house.

The officers' bridge to be strongly built of galvanized angles, with necessary ladders; bridge to extend from side to side over top of deck house, with brass railing over same and around pilot house, the whole to be well secured to deck house & deck. House to be built of oak or teak.

Accommodation for seamen & firemen, separate, to be arranged under fore-castle deck, space for 24 men, finished in a good strong manner, with berths & lockers for each, one folding table on each side, a sufficient number of side lights, fitted, to be of strong brass, having hinged cast-iron galvanized plugs, glass of best plate, 1 in. thick, as many as required, handles & double screws, a w. c. & urinal on each side, all to be well ventilated as required; also fitted with steam heating pipe on both sides.

Six pairs of strong davits to be placed where required. Four boats with equipments, etc., complete to B. of T. requirements.

To have steam & hand-steering gear placed as required; steam steering engine to be fitted forward of engine room. Particular attention to be given to have the steering gear, in every detail, made in the best possible manner to secure strength. Engine to be large size approved.

Saloon & staterooms to be in the forward end of the deck-house. Saloon to forward of amidships in deck house, from side to side of house. A ladies' cabin to be arranged & neatly furnished, on the port side, forward of the ladies' cabin, to have a large clean linen locker, & 3 staterooms on port side. On the starboard side next to saloon to be an extra fitted stateroom for bridal parties, then 2 staterooms, staircase to captain's room, linen locker, & 2 more staterooms. All staterooms to have 2 berths & cushioned seat full length of room, neat cabinet washstand to close up.

Messroom to be neatly finished and fitted. Pantry to be fitted up in the best manner. Galley to be supplied with cooking range & utensils large enough to cook for 75 persons.

Two closets for crew fitted forward, 2 for officers on main deck, & 2 closets fitted aft, 2 urinals on deck, all supplied with galvanized iron salt water tank, connected with sanitary pump worked from main engines, also by hand; discharge pipes through ship's side to be extra thick of lead with storm valves; scuppers supplied where necessary, as per Board of Trade requirements, with brass gratings; one bath-room fitted complete.

After cabin to be fitted up plainly in 'tween decks aft; rooms, berths & seating for pilot, carpenter, boatswain, watchman & others; entrance by stairway at after end of smoking-room in deck house.

All steam & heating pipes to be made of copper, all pipes to have sufficient bends to allow for expansion & contraction; all joints to be made on the most approved plan, to be arranged & carried inside as much as possible away from the weather & frost.

The ship to be wired throughout for electric light; dynamos & all necessary electrical apparatus provided; to run 150 sixteen c. p. incandescent lamps and 1 large searchlight; the searchlight is to be fitted on main deck forward.

The heating arrangements of the cabins, officers' rooms, pilot house, & captain's cabin to have double the capacity usually furnished to steamers in the coasting trade; all steam pipes to be copper, & exhaust connected to tank in stokehold.

Engines to be direct-acting, surface-condensing, tri-compound engines, with 3 inverted cylinders fore & aft over crank shaft secured to sole-plate by 3 strong cast iron columns at back & polished wrought-iron columns in front, with all the latest improvements, & of sufficient power to maintain a speed of 15 knots at sea in ordinary weather.

Crank shaft of Siemens-Martin steel, of sufficient increased size to give the required strength. To be built & made in parts, all interchangeable.

Tunnel and propeller shafts to be made of the best selected scrap iron, of the increased size required; tunnel shaft rough turned all over, solid couplings truly faced & bolted with 6 heavy bolts each, sufficient bearings provided, built extra strong, blocks to have white metal strips cast in them. Propeller shaft to be of proportionate size, lined in wake of stern bush & gland with gun metal $\frac{3}{4}$ -inch thick, to have suitable feather & nut, to secure propeller boss.

An evaporator to be fitted up in engine-room of sufficient size to supply not less than 15 tons a day.

Propeller to have cast steel boss, & 4 portable blades of Forsyth & Miller's cast malleable iron annealed, to be carefully fitted & firmly secured to boss with longitudinal key & Muntz metal studs & brass-capped nuts with safety bolts to approved plan, 4 spare

blades & a full spare set of nuts & bolts, all fitted to boss. The propeller to be of sufficient diameter & suitable pitch to drive vessel the guaranteed speed, 15 $\frac{1}{2}$ knots. End of shaft to be capped, & all bolt-ends & nuts to be carefully covered with cement.

To have 2 double-ended cylindrical return tubular boilers to be fired in the latest & most approved manner. Plating & stays of Siemens-Martin steel, & boiler to be of such dimensions as to supply a constant full pressure of steam, at 160 lbs. a square inch, & to give the vessel & maintain the required speed; back combustion chambers to have back plates and water spaces. The boilers throughout to be constructed in the best manner, according to & to comply with B. of T. rules, & to be tested with cold water to twice the working pressure.

Donkey boilers fitted in stokehole. To be larger than usual, so much steam being required for heating purposes, & to have all required connections.

The engines & boilers, & entire machinery, to be upheld for 3 months from date delivery is taken. Any defect in material or workmanship during that time to be made good by & at the expense of the builders. Such cost, however, not to exceed what the work could be executed for on the Clyde.

Richelieu & Ontario Navigation Co.

The steel hull of the steamer Toronto, which this Co. is building in Toronto, to run between Toronto & Prescott, was launched June 21, being christened by Mrs. Forget, wife of the President of the Co. The launching was witnessed by a large number of guests on the steamer White Star. The following is a detailed description of the steamer, as she will appear when completed.

The hull is of open hearth steel, & of the following dimensions: Length over all, 278 ft.; length, keel, 270 ft.; beam, moulded, 36 ft.; beam, over-guards, 62 ft.; depth, moulded, 14 ft. The engines are of the triple expansion, inclined jet condensing type; cylinders, 28, 44 and 74 ins. by 72 ins. stroke. The feathering paddle wheels are 22 ft. outside diameter, & 10 $\frac{1}{4}$ ft. face of bucket. The air & feed pumps are attached to & worked from main engine. The boilers are 4 in number & are of the return tubular type, 11 ft. diameter, & 11 $\frac{1}{2}$ ft. long, over heads. Each boiler has two 4 $\frac{1}{2}$ ins. outside diameter, suspension furnaces. The boilers are fitted with the hot draft, & are designed for a working pressure of 176 lbs.

Spacious & elegant passenger accommodations are provided, 140 staterooms, including 4 parlor rooms & large Pullman sleeping cabin, furnish sleeping accommodation for 430 passengers. The dining room, placed on the upper deck, has seating capacity for over 100.

The interior finish & decorations of the spacious halls & deck saloons are most elaborately executed, the main & gallery saloons being finished in Francis I. Renaissance style, with the dining rooms in Louis XVI. The entrance hall is decorated in Neo Grec, with modern Renaissance details, with the smoking room in Oriental treatment. The refreshment & writing rooms will be in Elizabethan panelling of prima-vera, natural wood finish. The main staircases are in Honduras mahogany, with wrought metal balustrades, in hammered leaf work, finished in antique bronze, the main newels carrying bronze figures supporting electric torches.

A 700-light electric light plant, with ornamental electrolliers, in carbons, furnishes light throughout the steamer.

The upper works & machinery are now being rapidly proceeded with & it is said the vessel will be ready for her trial trip during August, though it is hardly likely she will be put on the route this year.

The officers will be Capt. H. Esford; Engineer, W. Black; Steward, F. M. Hepburn.

At a meeting of directors, July 13, it was decided to build a sister vessel to the Toronto, precisely similar for the same route, to be ready next year.

The Co's steamer Caspian, plying between Clayton, N. Y., & Montreal, ran into the Twin Islands, opposite Thousand Island Park, in St. Lawrence River, July 7. She was taken to the Kingston dry dock, when it was found that about 6 ft. of her forefoot was damaged. The damage was very slight, considering the force with which she ran on the shoal. The Caspian, formerly called the Passport, was built in 1845.

The Corsican, with about 135 passengers on board, had a trying time in the Lachine Rapids July 8. She passed Lachine at 6.35 p.m., with the intention of running the rapids, but in a few minutes a storm came on in full force. The Captain & Pilot, when near the head of the rapids, decided not to run them & the boat was turned round in the strong current, under full steam. It was with great difficulty she was kept in position for nearly an hour owing to the storm, but finally was got back to the landing-place at Lachine. The Corsican runs between Kingston & Montreal, & the Pilot, Alfred Ouellet, who had charge of her from Cornwall down, said it was the worst storm he ever had to contend with. The lifeboats were displaced by it, & several chairs were blown from the deck where passengers had been sitting a few minutes previously.

The Co. has returned to the 4 days a week service on the Saguenay River, instead of the daily service, the reason stated being that the Government has withdrawn the extra subsidy for a daily mail service. Boats now leave Quebec Tuesday, Wednesday, Friday, & Saturday.

Capt. T. J. Craig has been appointed Superintendent of the Thousand Island district, & will have the management of the steamers Columbian & Caspian.

On July 1, just after the steamer Corsican had cleared the Long Sault Rapids, about 12 miles above Cornwall, the iron tiller of her rudder broke & the crew lost control of the steamer. The anchors were quickly hove overboard, & holding well, the vessel swung round with her head up stream. The hand-steering gear was rigged, & with this the boat proceeded to Cornwall under half steam.

The double service between Montreal & Kingston has been withdrawn. Heretofore two steamers left Montreal daily for the western port, but now there is only one, this being considered sufficient for the business.

The Co. has restored the rates between Montreal & Toronto. When the season opened the rate was made \$4.50, including meals & berths, in order to compete with the railway rates. As no difference was noticed in traffic, as compared with previous years, the rates have been restored, & now they are as follows: From Montreal to Toronto, with meals & berth, \$8. From Toronto to Montreal, not including meals & berth, \$10; round trip, including meals & berth, westward, only \$16.70. The fare by the steamer Hamilton will remain for the present at \$4.50.

The Owen Sound Times recently stated that it had been decided to transfer the management of the C. P. R. Upper Lake steamers from Montreal to Owen Sound, & that Lincoln Smith, chief clerk in the office of the Superintendent of Steamships in Montreal, A. Piers, had been appointed Manager. There is not the slightest truth in the statement. Mr. Piers has simply transferred the book-keeping department of the lake steamers from Montreal to Owen Sound in charge of Mr. Smith, who will do his work at Owen Sound instead of in Montreal.

Thousand Island Steamboat War.

On July 15 the Richelieu & Ontario Navigation Co. declared war against the American Line & started competing boats to cut rates in the Thousand Island district. The R. & O. Co. took the Columbian & Caspian from the Montreal-Kingston route & put them on the Thousand Island route, which had hitherto been left to the American Line. The cut in rates amounts to about 75 per cent.; for instance, the R. & O. put into effect a rate of 25c. from Kingston to Alexandria Bay, calling at Gananoque, for which run the American rate was 75c. The new service will extend from Kingston to Ogdensburg, N. Y., including all intermediate points in the Thousand Islands, & it is said that if the R. & O. Co. finds it necessary it will carry passengers free. The R. & O. Co., in meeting the competition of the American Line, did not desire to cut the rate from Kingston to Montreal, as that would mean a reduction in the rate between Toronto & Montreal, on which route it has about all the business it can handle. It was decided, therefore, to go into the territory hitherto occupied almost exclusively by the Folgers, and cut the rates between Kingston, Ogdensburg & local points in the Thousand Islands.

The American Line was organized last year by the Folgers, of Kingston, who are said to be the principal parties behind it, although they are supposed to have some backing from the New York Central Ry. At first there was only one boat, the America, running between Clayton and Montreal. This season, however, it was decided to extend the operations of the line, & give a daily service between the points mentioned. Two boats were placed on the route, the United Empire & the New York. The latter was formerly called the Shrewsbury, but was rebuilt in Buffalo last winter, & renamed. The American Line has a traffic connection with the New York Central, which issues through tickets via the American Line to Montreal.

The General Manager of the R. & O. when asked for an explanation respecting the move said: "Self protection alone has compelled us to take this step. The American Company, not satisfied with its own territory, invaded ours. It attempted by every means to steal our business. The time has arrived for us to strike back. We will maintain the best service between the two points, & will call at other points, including Clayton & Alexandria Bay."

Another director of the same company said: "The American line is really owned by the Folgers, the monopolistic owners of steamboats in the Kingston district. For a period they respected our territory & we respected theirs. Last season, however, they ran boats twice a week between Alexandria Bay & Montreal. This year the Co., still further enraged by our refusal to buy 2 of their boats offered to us, began a daily service. Their experiment of running their boats ahead of ours proved a great failure. We make better speed, & our boats reach here at a more seasonable hour. Last night, for instance, their boat carried 9 passengers to Montreal, while ours numbered 141. Our captains in the new competing territory in the Kingston district have been instructed to accept business even if at a sacrifice. The district in the summer time is one of excursions, & we are bound to secure all of them even if we have to carry the passengers for nothing."

At the recent annual convention of the American Society of Railway Superintendents at Alexandria Bay, Mr. Folger in speaking said: "On an occasion of this character it is fitting that something new should be told you, and so I will announce here for the first time that a company has already been formed by the strongest men of this country to carry the shields that have been to Quebec & the

Saguenay, & to furnish a service there as we have here, to make the hearts of the tourists rejoice; & I wish it understood by this assemblage & their association that our hospitality to it will be as broad & as long as our route."

In reference to this the General Manager of the R. & O. Co. said: "The Saguenay project of our rivals is easier said than done. Talk is cheap. To become our competitors in the lower river traffic would require an investment of at least a million dollars. The capital represented by the American line in the Kingston-Montreal service does not exceed \$30,000. The boats were bought for a song, & the only improvement has been the addition of some interior fittings. We are having a daily walk over in the carrying of tourists from the Thousand Islands to Montreal. Yesterday, for instance, the Columbian left an hour behind our rival, the Empire State. We overtook them before Brockville was reached, and got out of Prescott 10 minutes ahead. We reached Montreal at 6.20, beating them by an hour. Our passengers all succeeded in making connections with the Quebec boat."

OCEAN, LAKE & RIVER.

British Columbia & The Yukon.

The Secretary of the U.S. Treasury has appointed Capt. G. Whitney Inspector of Steam Vessels & Hulls, & C. F. Lehnert Inspector of Boilers for the district of Alaska.

The river steamer Casca was thrown against the walls of the Stikine canyon as she was returning to Wrangel on her first trip. Her stem was smashed & a big piece of her guard broken off.

A press item to the effect that the C.P.R. Empress steamers are to be managed from Vancouver is without foundation. The management will remain in Montreal in the hands of Superintendent Piers.

The Bennett Lake & Klondike Navigation Co. has had 3 steamers built at Bennett, under the direction of W. H. T. Olive, of Victoria, & is running them between Lake Bennett & Dawson City, Yukon. One of them makes the trip from White Horse to Bennett, 120 miles, against the current, in 10 hours. Each boat has capacity of 60 passengers & 40 tons of freight.

The Polson Iron Works Co., Toronto, is building for the C.P.R. 2 fore & aft compound jet condensing engines with Clyde boilers, to be placed in tugs which that Co. is building on the Kootenay Lakes. One of the engines has cylinders 16 x 22 ins. x 10 ins. stroke; boiler, 7½ ft. diameter; 10 ft. long. The other engine has cylinders 12 x 26 ins. x 18 ins. stroke; boiler, 8 ft. 4 ins. diameter; 10 ft. long.

The C.P.R. steamers Athenian & Tartar have been withdrawn from the Vancouver-Wrangel route, owing to the collapse or cessation of the Yukon rush. It is probable the Tartar will be placed on the route between Vancouver & Japan & China, the business on which has increased to such an extent as to require the service of another boat in addition to the three Empresses. The disposition of the Athenian is not yet announced.

Up to July 7 only 4 river steamers had come down the Yukon. The May West left Dawson June 10, & arrived at St. Michael's July 3, with 100 passengers. The steamer Hamilton left Dawson June 24, & the B.B. Weare June 25, both arriving at St. Michael's July 5, the Hamilton being in tow of the Weare, having broken her chains. The Hamilton had 100 passengers & 100 tons of freight. The Yukon is unusually low this season, & boats that are already at St. Michael's have slight chances of passing Dawson. When the Bella came down, it surprised 3 steamers stuck in

the mud at Fort Yukon. The water in the river is not deeper than 3 feet in many places.

There is no foundation for the rumor that the C.P.R. Co. intends putting on a steamer between Vancouver & Victoria, but it is probable that the Co. would have done so had not the Canadian Pacific Navigation Co., in which the C.P.R. Co. has no interests, decided to do so. The present service between the two principal cities of B.C. is quite inadequate, & what is required is a fast boat to carry only passengers, mail & express matter, & not to be loaded down with freight as is now the case. The C.P.N. Co. has, it is said, opened negotiations with builders in Great Britain for the construction of a 1st class 21 knot steamer, which will be 270 ft. long, 34 ft. beam & 14½ ft. hold. A speed of 21 knots would enable her to make the trip between the two cities mentioned in less than 4 hours.

The experience in towing-stern wheel river steamers oceanwards to St. Michaels, Alaska, has proved a very unfortunate business, several having been lost. Early in July the stern-wheeler Marquis of Dufferin, built at Vancouver for the British American Corporation, at a cost of \$30,000, & which was being towed by the steamer Progress, went to pieces & sank between Cape Flattery & Cape Beale. The steamer Victorian, which is owned by the Canadian Development Co. of Victoria, started from Wrangel in June, in company with the river steamers Canadian & Columbian, consorted by the steamer Tordenskjold. A short distance north of Wrangel the river steamers put into a village for water. While there the tide went out & the Victorian settled down on the rocks, which came up through her hull. When the tide rose she was floated & after being temporarily patched taken to Wrangel for repairs, & the Tordenskjold & the other two vessels continued their voyage to St. Michaels.

Pickford & Black's steamer Alpha, referred to in our June issue, pg. 106, reached Vancouver, July 7, from Halifax, N.S. She is capable of running 11 knots an hour & is very comfortably fitted up, the saloon being amidships, with comfortable cabins off each side. She can carry 40 first & 20 second class passengers, and 100 in the steerage, while her freight capacity is 800 tons, & has been engaged in the service between Halifax & the Bermudas. A. H. B. McGowan is the local agent, but Mr. Black, of the owning firm, went to Vancouver to inaugurate the service, which will include the steamer Fastnet,

sent out by the same firm. As foreshadowed in our June issue, on her first trip to St. Michaels, Alaska, the Alpha took in tow the Yukon & Hootalinqua Co's. stern-wheel steamer Reindeer, which was built at Victoria. Her dimensions are: length 120 ft., beam 22ft., depth of hold 5 ft. Light she draws 22 ins. of water, & when loaded with 150 tons of freight draws only 6 inches more. On her trial trip she developed a speed of 17 knots. From St. Michaels, in addition to her own cargo, she is intended to tow a loaded barge up the Yukon.

The Maritime Provinces.

The Marine railway, which forms part of the plant of the Halifax Graving Dock Co., is to be rebuilt.

The S.S. Damara from St. John, N.B., to London, Eng., via Halifax, recently took 300 tons of pulp valued at about \$12,000.

The North German Lloyd steamer Ems ran down the schooner Gypsum Princess of Parrsboro', N.S., June 12. Six were drowned.

The Avon Tow Boat & Ferry Co., & the Wm. Weatherspoon Tow Boat & Ferry Co., both of Hantsport, N.S., have been incorporated.

The N.B. Government has issued supplementary letters patent increasing the capital stock of the Deer Island & Campo Bello Steamboat Co., from \$7,000 to \$15,000.

G. W. Churchill, of Hantsport, N.S., & 4 other members of the Churchill family have been incorporated by Dominion letters patent as the Ship British-America Co.; capital, \$2,000; headquarters, Hantsport; powers, to acquire ships & carry on business as ship owners & common carriers by sea.

The S. P. Benjamin Co. has had a steel steam tug built to tow lumber barges. She is 60 ft. long, 15 ft. beam & 7 ft. hold, & as it will be necessary for her to tow under 3 bridges on the Avon, her smokestack is removable, & when so trimmed she measures only 7 feet from her water to her top line.

The annual general meeting of the Chignecto Marine Transport Railway Co. was held in London in June. The old directors were re-elected, but no other business of importance was transacted. The Co. pays a heavy tax on their property in the shape of school & other rates in Cumberland County, N.S.

The steamer Mayflower, which has been laying idle for nearly 2 years at Port Hawkesbury, N.S., & which was sold to a company a short time since, has been thoroughly overhauled & fitted. She has been engaged by the government for the ferry service on the Strait of Canso in place of the S.S. Mulgrave, which has been laid off for general repairs.

J. T. Hamilton, H. Mc. Hart, G. Musgrave, C. W. Outhit, R. T. Braine, T. Dixon, W. J. Butler, F. J. Phelan, L. Hart, W. N. Wickwire & J. A. Johnson, of Halifax, are applying for Dominion Letters Patent to incorporate them as The Acadia Steamship Co.; capital, \$60,000; headquarters, Halifax. The first three named applicants to be the provisional directors.

Under the Nova Scotia Joint Stock Companies' Act letters patent of incorporation have been granted to G. W. Churchill & 4 other members of the Churchill family, of Hantsport, for the following companies: The W. M. Weatherspoon Tow Boat & Ferry Co., capital \$2,000; the Avon Tow Boat & Ferry Co., capital \$2,000; & the Chester Tow Boat & Ferry Co., capital \$2,000.

The question of a direct steamship service between St. John, N.B., & the West Indies has been discussed a good deal of late. There is a feeling that with a faster service more trade could be done, & that a local business would be supplemented by a growing western trade with the islanders through the port of St. John. The St. John board of trade has declared in favor of a direct line, & the city council has appointed a committee to co-operate with the board of trade in considering the subject. In this they will have the hearty support of the C.P.R., which is anxious to develop trade between the West Indies & points in Western Canada.—Maritime Merchant.

The steam ferry Chebucto, built in Great Britain to run between Halifax & Dartmouth, N.S., reached Halifax June 27 from the Azores, where she put in for shelter about a year ago, since which it was found almost impossible to get any captain to attempt to bring her the balance of the distance. Her voyage is probably the longest ever made by a ferry boat, without being towed, & altogether unaccompanied. The cabin windows were boarded, the cabins & gangways shored and braced to prevent straining, & she was boarded across the ends in a sloping manner to shed the water. The voyage from the

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Azores was made in less than 20 days, under Captain Crockett, formerly of the Anchor Line Scotia on the Mediterranean route, with a Glasgow crew. She is under 150 ft. long, but is one of the most up-to-date ferries extant, with compound engines, a propeller at each end & a line of shafting running fore & aft. The cabins run fore and aft, with no break such as side wheels produce. Her cost was about \$70,000.

Ontario & the Great Lakes.

The Victoria, a \$30,000 steamer, capable of making 18 miles an hour, has been launched at Pembroke for the Pembroke Navigation Co.

Letters patent of incorporation have been issued under the Ontario Act to the Georgian Bay Navigation Co., with a capital stock of \$20,000.

The steamer Algonquin made a fast trip between Kingston & Toledo last month, covering the return trip in 5 days & 22 hours. She carried 70,000 bushels of corn.

The lighthouses on the Great Lakes are having their supplies taken in this year by the Collins Bay Rafting Co's. steamer Saturn, not the Sequin, as previously stated erroneously. The charter price is said to be about \$3,750, a little less than last year.

The steamer Rosedale, which was badly damaged through stranding on one of the shoals of Lake Ontario last fall, but released, is again in commission, & is a competitor for the limited amount of business that is now offering for the general freighters.

The Department of Railways & Canals has decided upon an arrangement for the utilization of the canals on Sunday, as a sort of compromise between the demands of the Sabbatarians & the forwarders. The canals will be open to navigation until 6 a.m., & will remain closed until 9 p.m. On the one hand the Department was urged to allow the navigation of the canals continuously, while on the other a protest was entered against operating the locks between midnight Saturday & midnight Sunday.

The Canadian steamer Tecumseh struck on Ripley's Rock, in the lower Marquette harbor, Mich., June 27. Her crew attempted her release by the use of a line, but the steamer stuck all the harder & finally broke her shoe & wrenched her rudder. A bad leak was started, & during the afternoon the leak increased & the steamer filled until finally she slid off the rock part way & settled down with her forward decks awash & her stern high in the air. An attempt was made to hold her with the schooner Georgia, but the lines were not strong enough & parted. The bridge & light upper works of the steamer were torn away by the steam when she sank. The officers & crew escaped in the yawl & on rafts & saved most of their personal property.

The steamer Shrewsbury, purchased by the Folgers, of Kingston, last year for the American Line, between Clayton, N.Y., & Montreal, underwent extensive alterations and improvements at Buffalo, N.Y., last winter, & is now known as the New York. She is about 180 ft. long & 44 ft. beam. All on the main deck is a handsome dining room, enclosed by large observation windows, with mirrors between. The dining room is supplied with small individual tables. Forward the main deck is also enclosed by observation windows, & is arranged for lounging & smoking. On the promenade deck is a large saloon cabin, on each side of which is a row of state rooms, each containing a double lower & double upper berth. Forward of the saloon cabin is a broad promenade. It is said that on her

trial trip the New York made 20 miles an hour. Capt. C. Hinckley is in command.

To the G.T.R. belongs the honor of handling through its elevator at Midland, Ont., the largest cargo of grain that has ever been loaded in a single vessel on fresh water. The steamer Superior City loaded at South Chicago with 266,505 bushels of corn for Midland. This cargo is 34,550 bushels in excess of any that has hitherto been handled on the lakes, its net weight being 7,462.9 tons—equivalent to 443 carloads. A prominent official of the G.T.R. says: "On the completion of the G.T.R.'s elevator at Midland, which is in course of construction, it is expected that even the extent of this cargo will be exceeded, as vessels are now being built, to be operated on the lakes, whose capacity is larger than that of the vessel above referred to, & with the new & improved facilities at Midland, it is expected the handling of grain at that point will be performed more expeditiously than at any other port on the lakes."

No. 81 of the Standard Oil Co. boats went through the Welland Canal early in July. She is a large tow barge, 258 ft. long on the water line, 41 ft. beam, & when loaded draws 18 ft. of water. She was being taken to Boston to carry fresh water for the U. S. navy. Her capacity is 900,000 gallons. On account of her size a novel way was adopted for getting her through the locks. Being too large to tow by horses, two tugs were brought into requisition. These fetched her to the head of the locks, where she was securely snubbed. The tugs were then locked through & snubbed outside the foot gates. A line was then put out & fastened to the tugs, & she was pulled in by means of her own donkey engine, thus necessitating a double lockage each time. While in tow of the tug Rival going down the St. Lawrence, & running the Cedar Rapids, she ran ashore on Hog Island & was reported to be in a very bad condition.

The first general meeting of the shareholders of the Brockville Navigation Co. was held July 8. N. Cossitt, O. K. Fraser, R. Bowie, T. Wilkinson & W. S. Buell were elected directors. N. Cossitt was elected president, & W. S. Buell, Managing Director & Secretary-Treasurer. The Co's steamer Brockville, recently built in Toronto, arrived at Brockville July 9, & will run between Brockville & Union Point, 7 miles, making 4 trips a day & calling at the various summer resorts en route. She is 105 ft. long, 21½ ft. beam & 7 ft. deep, & licensed to carry 375 passengers. Her draught is only 5 ft. & the contract calls a speed of 14 miles an hour. The engines were built by the Polson Iron Works, & are compound fore & aft, with cylinders 9 x 18 & 14 ins. stroke. She is fitted with an incandescent light plant, with a large searchlight on the top of the wheel house, which will show the localities of the river by night.

Judge McDougall, of Toronto, has given judgment in the Admiralty case of the steam tug Fern against the schooner Porter. The case was tried at Windsor, Ont. During the season of 1897 the Fern was engaged in raising the wreck of the Grand Traverse, which lay in the middle of the channel over a mile north of the Colchester reef light on Lake Erie. The wreck was known to ship captains & the fact that the Fern was raising her was also known. On Sept. 2, 1897, the Porter, Capt. McDonald, on her way light from Buffalo to Detroit, ran into the Fern. The Porter had all sail set & was going about 4 miles an hour. Captain Herminger entered suit for \$252 damages, & Judge McDougall awards that amount. The evidence given at the trial was contradictory. The Porter's crew swore that there was no light on the Fern, while the latter's crew swore that the top light was burning brightly. They were corroborated by the keeper of the lighthouse, who saw the light burning.

A Nova Scotia Steamer.

The Yarmouth Steamship Co.'s latest acquisition, the Steamer Express, has been brought out from England, & is now on the South Shore route between Halifax & Yarmouth, N.S. She is of the low & rakish type, with a splendid hull & fine lines, resembling in some respects the D. A. R. liner Prince Rupert.

The Express was built for the Morecambe, Llandudno & Isle of Man passenger service, & was popular on that run. Her dimensions are: length, 202 ft; beam, 24 ft; depth moulded, 11 ft; across the paddle-boxes she measures 50 ft. Her engines are of the disconnecting type, the high pressure cylinder being diagonal & the low pressure oscillating. They indicate 1,200 h. p., being capable of driving the vessel 14 knots. Steam is supplied at a pressure of 100 lbs per square inch.

When in the Channel service she was fitted with fore-castle & bridge deck erections only, but since being taken over by the Yarmouth S. S. Co. she has been built up fore & aft, & covered in with a flush hurricane deck. On this 2 deck houses have been erected, 1 forward & 1 aft. The forward house contains accommodation for captain & officers, a smoking room & forward saloon companionway. On top of this is the pilot house.

The companion leads down to the forward saloon, along both sides of which are fitted very comfortable sleeping berths, settees being arranged where convenient. Below this again is a lower saloon, the forward part of which is fitted as a men's cabin, & the after part is fitted with berths. Below deck is the after saloon, a long apartment containing the staterooms, & at the forward end of the saloon galley. Along the sides are ranged settees, & a centre table is fitted abaft a large lower deck opening. The cabins, staterooms & upper saloon are decorated in white & gold & the upholstery is in maroon plush & American cloth. Baths, lavatories & the usual sanitary arrangements are provided for the several large apartments. The staterooms are all fitted with tip-up lavatories.

The dining saloon on the lower deck, with accommodation for 25 passengers, is a handsome apartment, finished in whitewood & cherry, fitted with 2 beautiful electric chandeliers. The sides of the saloon are adorned with panel landscape paintings. The Express is fitted throughout with electric lights, bells & telegraphs & has accommodation for over 200 passengers.—Halifax Chronicle.

The St. Lawrence Canals.

The Deputy Minister of Railways & Canals, who recently inspected the construction work upon the St. Lawrence canals, reports that operations are progressing rapidly. The contractors for the deepening of the channel below Prescott are taking out 500 cubic yards of earth & 500 yards of rock per day, & the output will shortly be doubled. At the increased rate of progress the channel will be ready for 14-ft. navigation next spring. On the contract for the Cardinal section of the Galops Canal, 8,000 cubic yards of earth are being taken out each day. On the Larkin & Sangster contract the rock & earth work are advancing towards completion. The masonry work on the lock is in progress & a large quantity of cut stone has been deposited on the ground. The work of the Canadian Construction Co. at Farran's Point is being energetically pushed forward. The cutters, dredges & dredges are constantly in operation, & the equipment will be increased by 2 more dredges in a few days. The masonry is well under way & cut stone is arriving from the quarries daily. Everything possible is being done to expedite the construction work on the St. Lawrence canals.

NOTICES TO MARINERS.

By the Dominion Department of Marine.

All bearings, unless otherwise noted, are magnetic & are given from seaward, miles are nautical miles, heights are above high water, & all depths are at mean low water.

No. 28, June 2. Parthia Shoal, Fairway Marks Brockton Point.—An open triangle, with sides 6 ft. long, painted white, has been placed apex uppermost on the eastern or back range mast at Brockton Point (see Notice to Mariners, no. 21 of 1897), so that the 2 masts may be more readily differentiated. This affects Admiralty charts 1022, 1022 N 2689, & B. C. Pilot, 1888, pg. 138.

2. Spar Buoy, Burrard Inlet, B.C. First Narrows.—A spar buoy, painted red, has been moored in 3 fathoms off the spit on the southern shore of First Narrows, Burrard Inlet. The following sextant angles fix the position of this buoy: Tangent of Brockton Point & East Beacon, $78^{\circ} 50'$; east Beacon & tangent Prospect Bluff, $82^{\circ} 24'$. This affects Admiralty charts nos. 922, 1922 & 2689, & B. C. Pilot, 1888, pg. 138.

3. Reef off Gibson Landing, Shoal Channel.—Pending the construction of a beacon, a small spar buoy has been temporarily placed on the outer rock that dries 3 ft. $2\frac{3}{4}$ cables eastward of Gibson's Landing, Shoal Channel. (See Notice to Mariners, no. 16 of 1897.) This affects Admiralty charts 579 & 585, & B. C. Pilot, 1888, pg. 169.

4. Welcome Point Shoal.—A spar buoy, painted red, has been moored in 6 fathoms water, off Welcome Point, eastern entrance to Welcome Pass, Seachelt Peninsula, to mark the extent of the shoal ground off that point. For a distance of 1 mile eastward of this buoy & the same distance as the buoy is from the shore the average depth is 5 fathoms, shoaling shoreward to 4 & 3 fathoms. The water is very deep close southward of the buoy & also west of it. The shoalest spot, which is awash at low water, is about $\frac{1}{2}$ a cable N. E. by N. from the buoy. Angles for Welcome Point Buoy:—Northerly tangent Merry Island & tangent Thormanby East Island, $29^{\circ} 24'$; Northerly tangent Merry Island & tangent Welcome Point, $46^{\circ} 00'$; tangent Welcome Point & tangent east shore trend westerly point of S.E. bay, $127^{\circ} 48'$. This affects Admiralty charts 579 & 1917, & B.C. Pilot, 1888, pg. 174.

No. 29, June 10.—Reef in Blinkinsop Bay, B.C.—An uncharted reef has been located by J. T. Walbran, Master of the D.G.S. Quadra, extending west south-westerly about $1\frac{1}{4}$ cables from Point Tuna, at the entrance to Blinkinsop Bay, Junction Strait, Lat. N. $50^{\circ} 28' 34''$, Long. W. $126^{\circ} 1' 37''$. The reef is marked by kelp & the middle is awash at low water spring tides. This affects Admiralty charts 581 & 630 & B.C. Pilot, 1888, pg. 211.

No. 30, June 10.—Derelict between Nova Scotia & Newfoundland.—Captain Jorgensen, of the Norwegian barque Svea, reports that on May 29 he passed a wrecked schooner apparently of 200 or 300 tons, in Lat. 46° N. & Long. $57^{\circ} 3'$ W. This derelict may prove dangerous to vessels crossing between N. S. & Newfoundland or entering the Gulf of St. Lawrence.

No. 31, June 10, Nova Scotia.—1. Hand Fog-Horn at Page Island Light Station.—A hand fog-horn is being supplied to the light station at Page Island, Port Latour, which on and after June 20 will be sounded during thick & foggy weather in answer to signals from vessels. This affects Admiralty charts 340 & 730, & Canadian list of lights & fog signals 148.

2.—Hand Fog-Horn at Pubnico Light Station.—At the same time a similar horn will be established at the light station at Beach

Point, on the east side of the entrance to Pubnico Harbor. This affects Admiralty charts 339, 352 & 2537, & Canadian lists of lights & fog-signals 138.

3.—Canso Harbor Fairway Buoy.—The Government has established a fairway buoy off the northern entrance to Canso harbor, in Chedabucto Bay, on the south-easterly coast of N. S., Lat. N. $45^{\circ} 21' 45''$; Long. W. $60^{\circ} 59' 45''$. The buoy is an iron can, painted in black & white vertical stripes, moored in 13 fathoms water, $1\frac{1}{8}$ miles N. $\frac{1}{2}$ E. from Hart Island light, & is intended as a fairway buoy to guide vessels into Canso Harbor by the northern entrance, & between outlying shoals. It will be maintained during the season of navigation & taken up for the winter. This affects Admiralty charts 729, 2163 & 2517.

4.—Beaver Island Shoal buoy.—The shoal extending easterly from the eastern extremity of Beaver Island, Halifax county, on the southern coast of N. S., has been marked by an iron can buoy, established by the Government. The buoy, which is painted black, is moored in 7 fathoms water, $\frac{1}{2}$ mile E. from Beaver Island light & $\frac{3}{8}$ mile from the eastern extremity of the island, Lat. N. $44^{\circ} 49' 45''$; Long. W. $62^{\circ} 19' 35''$. It is to be left on the port hand by vessels bound into Beaver Harbor or Salmon River. It will be taken up at the close of navigation for the winter. This affects Admiralty charts 2396 & 2663.

No. 32, June 27.—New Brunswick.—Improvement in Preston Beach range lights.—The masts, from which range lights were shown on Preston Beach, on the south shore of Miramichi Bay, have been replaced by lighthouse towers. The front tower stands on the top of a sand ridge which follows the shore of the bay, & is 68 ft. N. 18° W. from the former range light mast. Lat. N. $47^{\circ} 4' 47''$; Long. W. $64^{\circ} 54' 58''$. The tower is a wooden building, square in plan, with inclined sides, surmounted by a square wooden lantern, & is 29 ft. high from the ground to the vane on the lantern. It is painted white, with the lantern red. The light will be, as heretofore, fixed white, elevated 47 ft. above high water mark, & should be visible 10 miles in the line of range & also eastwardly down the bay approximately between the bearings of N. W. & E. S. E. The illuminating apparatus consists of a single wick lamp strengthened by a pressed glass lens. The back tower is erected on the south side of the high road, 804 ft. S. by E. $\frac{3}{8}$ E. (S. $40^{\circ} 30'$ E. true) from the front tower. It is a skeleton steel frame work, square in plan, with sloping sides, surmounted by a wooden lantern & light room. The height from the ground to the vane on the lantern is 59 ft. The lantern & ironwork are painted red; the enclosed upper part of the tower is painted white. The light is a fixed white light elevated 58 ft. above high water mark, & visible 10 miles in the line of range & also eastwardly down the bay. The illuminating apparatus is similar to that of the front light. The two lights are in exactly the same alignment as the old lights & in one lead vessels entering Miramichi Bay from the Bar buoy up through the ship channel east of the Lump buoy. This notice affects Admiralty charts 435, 2034 & 2187.

No. 33, June 29.—British Columbia.—1. Beacon at Gibson's Landing. A small stone beacon, surmounted by a wooden staff & lattice work ball, the whole painted black, & showing 9 ft. above water, has been erected by this Department on the northern portion of a rock $2\frac{3}{4}$ cables east of Gibson's Landing, Shoal channel, Howe Sound. Lat. N. $49^{\circ} 24' 10''$; Long. W. $123^{\circ} 31' 2''$. This beacon replaces the buoy described in part 3 of Notice to Mariners no. 28 of 1898. This affects Admiralty charts 579 & 585, & B.C. Pilot, 1888, pg. 169.

2.—Rock in Shoal Channel.—An uncharted danger in Shoal Channel, entrance to Howe

Sound, near the conspicuous cone shown on plan 585, has been located by J. T. Walbran, Master of the D.G.S. Quadra. The danger is a narrow shoal running S.S.E. from a point on the west shore where a slate spit extends 160 ft. south from high water mark. No depth of more than 2 fathoms is found on the shoalest spot, a rock awash, at a distance of 1 cable from the shore. A depth of 4 fathoms is found $\frac{1}{2}$ cable south of this spot, outside of which the water rapidly deepens. From the rock awash Gibson's Landing wharf bears S.S.W. (S. $45^{\circ} 45'$ W. true) distant $1\frac{1}{8}$ miles; the north Shelter Island, S. E. (S. $21^{\circ} 45'$ E. true) distant 7 cables, & the trend of the shore northwards bears N. $\frac{1}{4}$ E. (N. 26° E. true.) This affects Admiralty charts 579 & 585, & B.C. Pilot, 1888, pg. 169.

3.—Rocky Patch off Cole Bay.—Notice has been received from the Commander-in-Chief of the Pacific station of the location by the officers of H.M.S. Pheasant of a rocky patch off White Rocks, Cole Bay, Saanich Inlet. Lat. N. $48^{\circ} 37' 47''$; Long. W. $123^{\circ} 29' 40''$. The patch lies in a N.E. by S.W. direction with the westernmost of the White Rocks bearing N. 57° E. magnetic, distant 2 cables. It is about $\frac{1}{2}$ cable in extent & has at least a depth of 8 ft. The following sextant angles will locate the position of least depth: Village Point, 0° ; Hatch Point, $87\frac{1}{2}^{\circ}$; Coal Point, $22\frac{1}{2}^{\circ}$; Western White Rocks, 76° ; Senanus Island, $109\frac{1}{2}^{\circ}$; Village Point, $64\frac{1}{2}^{\circ}$. This affects Admiralty charts 1917, 2689 & 2840, & B.C. Pilot, 1888, pg. 72.

4.—Shoal Southeastward of Mitlenatch Island.—Information, dated April 21 last, was received by the British Admiralty from Commander M. H. Smith, H. M. surveying vessel Egeria, of the existence of a shoal, now named Sentry Shoal, lying to the southeastward of Mitlenatch Island. The shoal within the limits of the 10-fathom line runs N.W. & S.E. $1\frac{1}{2}$ miles, the least depth found being 5 fathoms, from which the summit of Mitlenatch Island bears N. 30° W., distant $2\frac{1}{8}$ miles. Shoal water also appears to extend $\frac{1}{2}$ mile from the north side of Mitlenatch Island. Approximate position of 5-fathom patch: Lat. N. $49^{\circ} 55' 0''$; Long. W. $125^{\circ} 1' 30''$. This affects Admiralty charts 580 & 1917, & B.C. Pilot, 1888, pg. 182.

5.—Rock in Schooner Passage.—Capt. Roberts, of the steamer Princess Louise, has reported that his vessel struck on an unknown rock in Schooner Passage, Rivers Inlet. The rock is about 70 yards from the western shore & is awash at extreme low tide. A mid-channel course will clear the danger. Approximate position on Admiralty chart 1923b: Lat. N. $51^{\circ} 33' 17''$; Long. W. $127^{\circ} 36' 30''$. Capt. Roberts also reports that the rock shown on the chart on the eastern side of the southern entrance to Schooner Passage dries at an extreme low tide. This affects Admiralty chart 1923b, & B. C. Pilot, 1888, pg. 360.

6.—General Information Respecting Work Channel.—The following summary of a report by Capt. Walbran has been published in U.S. Notice to Mariners, no. 24 of 1898: Work Channel, the entrance to which lies close northward of Point Maskelyne, is a nearly straight arm stretching about 30 miles to the southeastward, the head reaching within 2 or 3 miles of the Skeena River. There is good anchorage in 9 fathoms in a small cove, known as Trail Bay Cove, situated on the west side of Trail Bay. Trail Bay is situated on the western shore of the inlet & $\frac{5}{2}$ miles from the entrance. Two miles eastward of Grace Point, the entrance to Trail Bay, is a dangerous pinnacle rock situated nearly in the middle of the inlet. The rock just dries at an extreme low tide. It is surrounded by deep water, there being a depth of 130 fathoms close to it. The shores of this inlet are bold & compact & the whole of this channel is surrounded by high & precipitous

mountains. About 8 miles from the head a narrow arm branches off to the northward for about 3 miles & then turns to the southeast & eastward for 8 miles. Indifferent anchorage may be found at the head of the main inlet, between the 2 small streams in the southwestern bight, in 35 fathoms, 400 yards from low water mark. There is also anchorage, for a small vessel, in 9 fathoms in the cove to the northward of the bight & off the entrance to the salt water lake, steadying her with a hawser to the trees. The tidal stream in the entrance of Work Channel runs about 3 knots per hour. This affects Admiralty charts 1923a & 2430, & B.C. Pilot, 1888, pg. 428.

No. 34, June 30.—Ontario—I. Private Lights in River St. Mary.—A fixed white light has been established by Jos. Rouleau, pilot, to mark the southern edge of the dredged curve opposite the beacon in the upper entrance to the Canadian Canal, at Sault Ste. Marie, Ont. The light is shown from a buoy or float moored near the black spar buoy maintained by the Government. Two range lights have been established by Mr. Rouleau on Big Point, on the U.S. side of the river, in the same alignment as the lights on the Canadian side, to show the axis of the dredged channel above the canal from the U.S. side to the turning point at the beacon. These lights will be maintained by the pilots & the Canadian Government assumes no responsibility in connection with them. This affects Admiralty charts 320 & 324, & the substance of it should be entered in the Canadian List of Lights after no. 1115.

2.—Shoal off Gros Cap.—The Department of Marine is advised that several vessels, drawing 17 ft. or more, have struck an uncharted shoal in the upper or Lake Superior entrance to River St. Mary, between Gros Cap & Point Iroquois. One master states that the shoal is about $1\frac{1}{2}$ mile above Point Iroquois. The shoal is on, or a little to the eastward of, the alignment of the private lights known as Bernard's Range. Masters are advised to keep the range open a little to the westward until abreast of Point Iroquois. This notice affects Admiralty charts 320 & 324.

By the U.S. Hydrographic Office.

Lake Huron Georgian Bay Entrance Current off Cove Island Light.—Capt. McAllister, of the C.P.R. steamer Alberta, furnishes the following information (Capt. McAllister has had 12 years' experience on the one route between Owen Sound & Fort William):

After passing Grand Manitoulin Island, bound to the southward & eastward, opening up the entrance to Georgian Bay, between Hungerford Point & Cape Hurd, the effects of a current are immediately felt. This current is variable in both force & direction, setting from Georgian Bay into Lake Huron & vice versa with great irregularity. At times this current is so strong that in thick weather it would be hazardous to attempt an entrance into Georgian Bay unless the fog horn could first be heard & its direction established.

Ottawa River Navigation.

A correspondent writes: "Not many years ago the C.P.R. project was regarded as chimerical. But, where its opponents claimed the railway would never earn axle-grease, it is now paying dividends. The system comprises to-day over 7,500 miles of railway, & steamship lines on the Great Lakes & the Pacific, & last year its earnings were \$24,000,000. And now the great development of the Northwest due to it is enlarging its sphere of action daily. Lately it has been found necessary to add to the facilities for handling grain at Fort

William by the erection of a steel elevator. It is safe to say that, even with this addition, the existing capacity will soon have to be again increased.

"Just as the C.P.R. has made this western expansion possible there seems reason to believe that, on the opening of the Ottawa River to through navigation, history will repeat itself, & a new era of development in Central Canada will follow. Railways are imperfect colonizers where not aided by waterways. Had the C.P.R. been all along paralleled by a cheap water route from Lake Superior westward, the Northwest would have to-day five times its present population & the railway more & better paying business. And cheap water carriage will do even more for Northern Ontario than it could for the prairies. To the grain traffic it would be a great advantage, to lumber & minerals it is an absolute necessity.

"The Ottawa route will do for this part of Canada what no other waterway project can—open new territory for occupation. In the Nipissing & Temiscaming districts in Ontario & the Upper Ottawa agencies of Quebec are several million acres of lands, equal to any in Ontario, awaiting settlers. The increase in value of these alone, owing to their being brought on a main line of traffic, should repay the entire cost of opening navigation, lands now held at 50c. an acre becoming immediately worth at least 10 times that sum. Sturgeon Falls alone is said to be the shipping point for forests estimated to contain about 2,000,000 cords of spruce. On every cord of this from \$1 to \$2 would be saved to the producers as the direct result of the opening of the waterway. About the head of Temiscaming & northward is an inexhaustible supply of the same material, tributary to the Ottawa River. The manufacture of this should employ numerous mills. Water-power is abundant. Mr. Clarke, past President of the American Society of Civil Engineers, says: 'I can unreservedly state that I know of no other place in any manufacturing country, Niagara Falls not excepted, where there is such an amount of water-power as this scheme can make available.' The amount incidentally to be developed he places at upward of 500,000 h.p. This should be worth at least from \$2,000,000 to \$3,000,000 a year when fully taken up.

"As a through route it has the advantage of directness. From the Sault to Montreal is practically an air line. The Ottawa route must undoubtedly share in the enormous through traffic to the coast & Atlantic states, which is growing with wonderful rapidity. Mr. Clarke estimates that grain can be carried from Chicago to Montreal via the Ottawa at $2\frac{1}{4}$ c. a bushel. Provided the questions of feasibility & cost can be satisfactorily settled, the Ottawa waterway should be a success, & do for Ontario's 'New North' what the C.P.R. has done & is doing for the Northwest. It is a matter of provincial & national importance that the resources of that part of the Province which has contributed in the past so large a share of the provincial revenues should be developed. As to the feasibility of the project in question there seems no difficulty. If further steps are necessary to ascertain its cost these should be taken. If not too costly, the commerce created, the water-power utilized, the through traffic carried, & the general increase in land, timber & mineral values in the vicinity of the route should soon repay the outlay for construction of all necessary works."

Stikine River Navigation.

L. La Coste, engineer of the Public Works Department, who has been despatched for movements of the snag boat Sampson on the Stikine River, says, he found the Stikine a better navigable river than he had expected from report, & that the currents are not as

difficult nor is the current as rapid as those of many mountain rivers. The sandbars are the worst phase of the navigation, since by virtue of the kind of soil these are constantly shifting. Dredging would be of no use, & it is almost necessary for pilots to learn the channel fresh each year.

He states that one of the difficulties of the present season has been that the river boats, save in one or two instances, have not had sufficient power. All Stikine River vessels should develop 500 h.p. or 200 lbs. steam in order to make the up trip with a full cargo. Coal must be burned instead of wood. With plenty of power, & a captain who has thorough knowledge of the river, there should be no difficulty in making the trip on schedule time, except during the spring freshet, when the driftwood coming rapidly through the canyon is dangerous. The current, Mr. Coste asserts, occasionally reaches to miles an hour, but the average is little over half that. The rise and fall of the river reaches as high as 10 ft. On May 26 the water rose 7 ft. in one night at Glenora.

The Sampson has cleared the snags from two of the worst bends in the river. The snag boat not having power to stem the current above the 75-mile canyon, a crew was forwarded in small boats with 500 lbs. of dynamite to blow out the snags further up the river. On the road down the men cut off all dead cottonwood trees upon the banks. These trees are in abundance in this region. They grow to good height and girth, but they are surface rooted, die quickly, & when dead fall under slight pressure, adding largely to the floating driftwood.

B.C. Freight & Shipping Report.

R. P. Rithet & Co. say, under date of June 30:—It is reported from San Francisco that no spot grain charter has been effected there for more than 2 months & in the north matters have been but little more lively. There has also been very little forward business & that too confined to northern ports. The war has indirectly given something of a flip to coast freights in consequence of the U.S. Government withdrawing a number of steamers to act as transports. From the same cause a very animated demand has arisen for coal, both at San Francisco & the Hawaiian Islands, & the vessels in these trades are getting considerably higher rates. In the lumber market the tonnage offering is still limited, but the enquiry also is light, so that freights are steadied & changes during the month have been unimportant.

We quote freights as follows:—GRAIN: San Francisco to Cork f. o. nominal; Portland to Cork f. o., 38s. 9d.; Tacoma to Cork f. o., 31s. 3d. LUMBER: British Columbia or Puget Sound to Sydney, 42s. 6d. to 45s.; Melbourne or Adelaide, 52s. 6d. to 55s.; Port Pirie, 50s.; Freemantle, 57s. 6d. to 60s.; Yokohama, 43s. 9d. to 45s.; Shanghai, 45s. to 50s.; Tientsin, 57s. 6d. to 60s.; Valparaiso f. o., 47s. 6d. to 50s.; U. K. or Continent, 65s. to 67s. 6d. Rates for lumber are more or less nominal owing to the scarcity of tonnage.

The Trade & Commerce Department is informed that the present season's shipping totals are the highest in Canada's history. The Montreal lines, including both the passenger & freight lines; & at St. John, N. B., & Halifax the summer trade is very heavy. From the Maritime ports this is especially true of the West India trade. Shipments from the West Indies this season that a new boat had to be put on a short time ago, in addition to the regular service. The summer season is also unusually successful in the West Indies, & it is evident Canadians can capture the trade with a chance of returning.

ELECTRIC RAILWAYS.

British Columbia Lines.

B. C. Electric Ry.—D. A. Shiles, the Co.'s general manager at New Westminster, has been appointed traffic manager to succeed C. Aird, resigned. The Co. has issued a guide for visitors & tourists to Vancouver and New Westminster. It contains a colored map of the entire electric car system & views of many places of interest in & around the twin cities.

The Mount In Tramway & Electric Co. was incorporated at the last session of the B.C. Legislature.

Nelson.—C. S. Drummond, who is said to represent the British Electric Traction Co., of London, Eng., has applied to the Nelson town council for a 30 year charter for an electric street railway. The corporation clerk was instructed to reply that the council was favorably disposed towards the application, which would likely be granted if terms could be agreed on.

The Maritime Provinces.

The Charlottetown, P. E. I., Light & Power Co. held its first general meeting recently. L. L. Beer was chosen President; W. A. Weeks, Vice-President; & A. E. Ings, Secretary; the other directors being B. Hertz & W. C. Pitfield. H. R. Lordly, C.E., was appointed Engineer & Manager. After he has completed the surveys & the remodelling of the gas plant, it is said he will be sent to England to consult with parties who control a new electric motor, to be used for street cars.

Halifax Electric Tramway Co.—R. C. Brown recently resigned his position as Superintendent to become Assistant Chief Engineer of the Metropolitan Traction Co. of New York, & has been succeeded by F. A. Huntress, who was his assistant. When Mr. Brown's resignation was accepted the directors adopted a resolution reciting that his management had "resulted in the installation of a system of electric lighting & tramway service in the highest degree efficient, which efficiency is due in a very large measure to the ability & competency of Mr. Brown," & the President & Secretary were appointed to present him with a testimonial on behalf of the Co.

It is said this Co.'s stock, Halifax Tram, as it is known in speculative circles, is to be listed on Toronto Stock Exchange. It is listed on the Montreal Exchange, & has been an active speculative stock. It was listed in Montreal at par, & has since touched 142¾. It pays 4 quarterly dividends of 1¼%, so that it is a 5% stock. There is a rumor that a bonus of 1% will be paid with the next quarterly dividend, payable Oct. 1. The statement of earnings given out by the Co. for the first 4 months of the present year shows gross earnings of \$58,388.15, against \$55,646.38, an increase of \$2,741.77 for this year. The capital stock is \$800,000, & \$600,000 of bonds have been issued. The last annual statement shows its assets to be \$1,492,958.88, including cash on hand of \$76,845.10. After paying dividends of \$32,500 & all fixed charges last year, there was a surplus on hand of \$27,308.77, & \$20,000 was placed to the credit of the reserve fund. The directors are: Hon. D. MacKeen, President; J. Y. Payzant & W. B. Ross, Vice-Presidents; B. F. Pearson, Secretary; & A. Haley, J. Ross & A. Kingman.

St. John Ry—One of the St. John, N.B., city councillors wants the city to apply to the Provincial Legislature for power to expropriate the property, privileges & franchises of the Co., "with a view of running the same in the interests of the citizens & taxpayers."

Ontario Lines.

Berlin and Waterloo St. Ry.—There is no truth in the report that the G.T.R. has secured an option on this line, & G. T. officials deny any knowledge of the rumored extension to Preston. (Official.)

Guelph St. Ry.—The ladies of Guelph are to be permitted to "man" the street cars for one day, the proceeds to go towards the funds of the Guelph General Hospital, the railway only deducting the average day's receipts.

Hamilton Radial.—A writ has been issued on behalf of the Township of Saltfleet against this Co. to compel it to carry out the provisions of a by-law passed by the Township Council, requiring the Co. to water the road along the Beach.

Hamilton St. Ry.—Hamilton ratepayers will, on July 27, vote on these questions:—Shall the city now purchase and operate the Hamilton St. Ry? "If the city do not now purchase the Hamilton St. Ry., should the Council extend the franchise of the company for 15 years, that is, until 1928, when the other existing franchises of the local city electric railways expire?"

The Niagara Falls Park & River Ry. having completed laying its tracks on the upper steel arch bridge, the first car was run over it July 1. During the summer cars will run over the bridge every 5 minutes.

Ottawa Electric Ry.—The conductors recently demanded \$1.50 a day, for 9 hours' work. The Co. refused the demand & compromised on \$1.35, or 15 cts. an hour for a 9 hour day.

A movement is on foot in Ottawa to secure a citizens' vote on the question of operating the street railway on Sundays.

St. Thomas Electric Ry.—A. Bingham, Manager of the Bell Telephone Co. at St. Thomas, has resigned, to take the management of the electric railway.

Toronto & Mimico.—This Co. recently appealed to the Toronto City Court of Revision against the assessment of its wires, poles, rails, & buildings. J. Bicknell, for the Co., based his appeal mainly upon the contention that the properties were not assessable. The court could not see things from this point of view, & Mr. Bicknell consented to a confirmation of the assessment, & will appeal to the County Judge. The assessments disputed are as follows: \$103,005 on poles, wires & rails in the city, \$18,000 on buildings in the city, \$8,070 on poles, etc., of the Mimico line, \$1,350 on buildings of the Mimico line.

Our June issue, pg. 108, contained an extended report of the Sunday car case, which was decided by County Judge McDougall, of Toronto, in favor of this Co., a motion for a reserved case being afterwards granted. The terms of the reserved case have since been settled, the question which is reserved by Judge McDougall being: "Was I right in deciding that the conviction should be quashed?" The appeal will come on for hearing before the Divisional Court of the High Court of Justice at its next sittings, in September.

Toronto Ry. Co.—The gross earnings of this Co. are as follows:—

	1897	1898	Increase.
Jan.....	\$74,545.55	\$80,502.30	\$12,016.81
Feb.....	69,744.61	82,402.19	12,657.58
Mar.....	78,891.45	92,818.12	13,426.67
April.....	73,756.38	86,898.83	13,142.45
May.....	82,461.51	92,670.35	10,208.84
June.....	91,533.44	94,119.32	2,585.88

The T. Ry. Co. declared a dividend of 1% for the quarter ending June 30.

An office for the transfer & registration of the stock of the T. Ry. Co.'s stock has been opened at the office of the Montreal Trust & Deposit Co., Montreal.

The appeal of the T. Ry. Co. against the assessment on its poles, wires, etc., was dismissed by the County Judge. The decision was agreeable to both parties, the Co. having no objections to offer. A reduction of \$7,000 in the assessment was formally ratified.

Regarding the resolution of Toronto City Council calling upon the T. Ry. Co. to provide vestibules on the rear end of motor cars, Manager Keating has written the City Engineer expressing doubt whether the act requires the Co. to do so. He claims that these vestibules would interfere seriously with the proper control & management of the trolley rope, & could not fail to be a hindrance to the proper operation of the service; would also prevent ready access from motor to trailer & be sure to increase liability to danger & accidents. He adds he has not heard of any public demand for them, nor does he believe that such has ever been made or that there is any necessity for them, & the conductors have not made any request for them. It would be a mistake & source of danger to provide them.

Province of Quebec.

Chateauguay & Northern Ry.—At the recent annual meeting of shareholders the old directors were re-elected with W. D. Harris as President; J. J. Butterworth, Vice-President, J. P. Mullarkay, Managing Director.

Montreal's Electric Railways.—Electrically, Montreal is beyond doubt the most attractive city in the Dominion. There are 3 distinct systems of electric railways, the Montreal S. Ry., Montreal Park & Island Ry., & Montreal Belt Line Ry. Six years ago the M. St. Ry. was changed to electric traction, & the Co. has now in operation over 80 miles of road. The rolling stock consists of nearly 300 motors & trailers. The power house on William St. is 290 x 233 ft. In the engine & dynamo room are located 12 Edison generators of 200 k. w. capacity each; 6 multipolar generators of 300 k. w. capacity, & a 4,500 h.p. engine installed last summer. This engine replaced 6 compound engines of 600 h.p. each. An interesting feature of this installation is the switchboard, which is 60 ft. long & 11 ft. high, constructed of terra cotta lumber. The entire equipment is very complete & interesting. F. L. Wanklyn is general manager.

The Montreal Park & Island Ry. affords the means of visiting the many beautiful suburbs of Montreal, passing through a most picturesque country. The power station is located at Mile End, but it is intended to build a larger generating station when all the proposed lines of the Co. have been completed. C. A. E. Carr is general manager.

The system of the Montreal Belt Line Ry. comprises 13 miles of track. It is intended to serve the lower part of Montreal Island. The line leaves the C.P.R. at Hochelaga, passes through the municipalities of Maisonneuve, Longue Pointe, & Point aux Trembles, & following the course of the St. Lawrence River, reaches Bout d'Isle, where the cars are connected by a steam ferry with the town of Charlemagne & other points. The power-house is built near the centre of the line, & contains 2 generators of 200 to 325 kilowatt, 3 compound condensing engines, aggregating 700 h.p., with necessary boilers & other equipment. The cars comprise 9 open & 4 closed, in addition to an electric freight locomotive. The manager of the road is J. P. Mullarkay; J. Rowley is superintendent, R. Welsford, engineer; & C. H. Wright, electrician.—Electrical News.

Montreal Park & Island Ry. Co. To satisfy a claim of \$711, costs taxed against this Co., in its suit against C. C. McArthur, in which it was unsuccessful, it is probable that the entire property of the Co., plant, lines &

rolling stock, will come under the hammer. The line will continue to run as usual. A writ of execution was recently issued & placed in the hands of the bailiff, who immediately commenced the work of taking an inventory of the Co's belongings. These include a number of fine cars, lines to St. Laurent, Cartierville, Sault au Recollet, Cote des Neiges, & Lachine, etc. It is the present intention of the directors to allow the sale to proceed, as a judicial sale will free the line of many incumbrances. The public will not be in any way inconvenienced by these proceedings.

The M. P. & I. R. is issuing tickets, giving 3 hours continuous ride on any of its lines. These are specially intended for those wishing to take an enjoyable airing, and are just the thing for nurses with children. Good only up to 6.30 p.m.

As some confusion has arisen respecting the Montreal Island Belt Line Ry. Co. & the Chateauguay & Northern Ry. Co., it may be stated that they are two separate & independent corporations, though the capital stock of both companies is owned by the same parties. The C. & N. Co. built the section of the line between Montreal & the end of the Island & sold it to the M.I.B.L.R. Co. It is said that certain extensions are contemplated, but no information can be given in regard to them at present. The Co's stock is not yet listed.

Montreal St. Ry.—The gross earnings are as follows:

	1897.	1896.	Increase.
Oct.	\$110,202.00	\$109,110.48	\$7,091.52
Nov.	110,026.00	108,818.37	1,207.63
Dec.	113,128.91	103,116.02	10,012.89
	1898.	1897.	
Jan.	110,110.83	89,051.68	21,059.15
Feb.	102,625.49	89,051.68	13,573.81
Mar.	114,077.01	90,110.27	23,966.74
April.	100,819.37	89,051.68	11,767.69
May.	113,828.39	110,827.13	3,001.26
June.	133,164.61	130,676.78	2,487.83
	\$1,035,287.90	\$952,118.81	\$83,169.09

The M. St. Ry. has opened a cross town route to be known as the Park Avenue to River Front line. It traverses Park Avenue, Bleury, Craig, McGill & Commissioners St. to junction of Commissioners & Youville streets, then return by Youville, McGill, etc., giving a direct cross town line from Pine Avenue to the river side every 5 minutes.

The M. S. Ry. Co. has appealed to the Supreme Court from the judgment of the Court of Appeal in its dispute with the M. P. & I. Ry. Co., concerning the destruction of some cars at the Exhibition grounds fire.

At the Montreal City Council's last meeting Ald. Martineau drew attention to the matter of the taxation of the poles, wires, rails, etc., of the M. St. Ry. Co., which have hitherto gone unassessed.

The inhabitants of Longueuil are expecting to have an electric car service connecting with Montreal as soon as the Victoria Jubilee bridge is finished.

The Quebec, Montmorency & Charlevoix Ry. Co. has taken over the electric railway system of the Quebec District Ry. Co. The bonds of the amalgamated concerns, amounting to \$1,500,000, were sold to Hanson Bros., of Montreal, who have paid for some \$1,150,000 of the issue. The remaining \$350,000 of the bonds have been lodged with the trustees, the Montreal Trust & Deposit Co., & the proceeds of the sale of these are to be used for further extending the present city electrical system, & electrifying the steam system of the Q., M. & C. Ry. Co., so that in the near future pilgrims & others will be able to visit the shrine at St Anne de Beaupre by electric cars. A cheque for the \$1,150,000 of bonds was handed over by Hanson Bros. to Mr. Strathy, representing the Trust Co., which undertook to see to its proper disbursement to the old bondholders, creditors, etc., of the two concerns.

Investigation by the Rapid Transit Commission in New York has revealed some interesting facts as to the revenue & taxation of street railways. For the year ended June 30, 1897, it appears that the Metropolitan Co. paid in percentage & license fees about \$266,000, & for taxes on real estate \$384,000, a total of about \$650,000. During that time it carried about 178,000,000 passengers, & its gross earnings were \$8,888,000. Thus it paid about 7 1/3% of its gross earnings in taxes, or about 1/3c. for each passenger. The taxation of the Manhattan Co. was about \$609,000, its gross receipts were \$9,163,000, & it carried 183,000,000 passengers. The taxation thus was about 6 2/3% of its gross earnings, & 1/2c. per passenger. On a much smaller business the Third Avenue road paid about 28-10% of its gross earnings, or 1/2c. per passenger.

TELEGRAPHS & CABLES.

The Pacific Cable.

The Hong-Kong Press says: The development of events in the Far East & the addition of We-hai-wei to the list of British posts on the Pacific lend special interest to the renewal of activity with regard to the construction of swifter means of communication between the scattered British communities. The Australian premiers in conference have agreed that if Great Britain & Canada will contribute two-thirds of the cost of a Pacific cable, Australia should contribute one-third. In Canada an influential deputation has waited on the Premier & laid before him a proposal that a Pacific cable trust should be created under authority of the parliaments interested in the scheme, with power to raise the necessary funds & proceed to the construction of the cable. In this country it is understood that as soon as the Australasian & Canadian colonies shall agree in manifesting a strong desire for the construction of the line, any proposal which they may make to that effect will receive at least favorable consideration. The question with which the Imperial & Colonial Governments are playing is whether that Pacific cable shall be in British or in foreign hands. Japan has passed through an industrial second birth. Russia is pushing industrial enterprise on the northern Asiatic coast. France has not shrunk from heavy cost to establish a commercial footing on the south. Germany has made her latest move in the interests, we are asked to believe, of the protection of her commerce. Thus, north & south & east & west, the ocean is surrounded by rival nationalities. In presence of these waiting powers indications are given that the immense commercial field of China is about to be thrown open. Instantly the waters of the Pacific are alive. The military & political movements which have taken place are but the forerunner of intercourse. The trunk line of cable once established branch lines can easily be constructed to connect it with important points. One terminus under British protection in Australasia & another in Canada, one branch, if necessary, to join the San Francisco connection with Hawaii & another to Japan & the China ports would create a British network of cable communication which would for a long time to come meet the principal commercial needs of the Pacific. The matter might, indeed, be safely left to the operation of private interest but for the fact that in the present somewhat exceptional condition of affairs, when all eyes are turned to the Far East, time may become a question of importance.

Both the C.P.R. & the Western Union telegraphs now have call boxes in the hotels & business houses of Victoria, B.C. The C.P.R. use the messenger service boxes, while the Western Union has put in boxes of its own.

G.N.W. Telegraph Changes.

OPENED.—Ampersand, N. Y.; Ausable Chasm, N.Y.; Bluevale, Ont.; Cacouna, Que.; Caledonia Springs, Ont.; Childwold Station, N.Y.; Frontenac, N.Y.; Grand View House, Lake Placid, N.Y.; Grimsby Park, Ont.; Hotel Champlain, N.Y.; Hotel Childwold, N.Y.; Hotel Douglas, N.Y.; Hotel Ruisseau-mont, Lake Placid, N.Y.; Kushaqua Lodge, N.Y.; Lake Side Rest, Saranac Junction; Loon Lake House, N.Y.; Mountain View, N.Y.; Murray Isle, N.Y.; Pond View House, Gale, N.Y.; Port Sandfield Ont.; Roberval Hotel, Que.; Sandy Creek, N.Y.; Stevens House, Lake Placid, N.Y.; St. Lawrence Park, N.Y.; St. Placide, Que.; Thousand Island Park, N.Y.; Whiteface Inn, Lake Placid, N.Y.

CLOSED.—Chesterville, Ont.; Dunham, Que.; Etchenin Mills, Que.; St. Lin, Que.

Telegraph & Cable Items.

The directors of the Commercial Cable Co. recently declared the usual quarterly dividend of 1 1/4% payable July 1.

The largest telegraph office in the world is in the general post office building in London, Eng., over 3,000 operators being employed.

There are 41 ships engaged in the ocean cable telegraph service. The total capital invested in the submarine lines is estimated at \$200,000,000, & the number of lines is 1,305, of which 37 are over 1,000 miles long & 93 over 500 miles.

The C.P.R. Co. is building a telegraph line from Nelson, B.C., to Kuskonook, the point at which the Crow's Nest Pass Railway reaches the Kootenay Lake, & which will be the western terminus of the railway pending its completion to Nelson.

The total length of the world's telegraph system is not much under 5,000,000 miles. This is exclusive of 1,814,000 miles of submarine cables. This mileage is apportioned as follows: America, 2,500,000; Europe, 1,765,000; Asia, 311,000; Africa, 100,000; Australia, 218,000.

The new copper wire of the C.P.R.'s telegraph line from the coast to Vancouver was completed between Montreal & Winnipeg June 17, the first message over the new wire being from Mr. Hosmer, manager of telegraphs, to Mr. Shaugnessy, Vice-President of the Co., who was then in Winnipeg.

Hon. Dr. Lacot, of St. Henri, Que., & others give notice that they will apply for incorporation under the name of 'La Compagnie d'Electricite de Soulanges,' to operate telegraph & telephone lines in the County of Soulanges, with a capital stock of \$10,000, & principal place of business at Coteau Landing.

At the annual general meeting of shareholders of the Dominion Telegraph Co. in Toronto, July 6, the directors were re-elected as follows: T. Swinyard, President; Sir F. Smith, Vice-president; T. T. Eckert, C. A. Tinker, A. G. Ramsay, H. Pollatt, H. MacKenzie, T. F. Clark, T. R. Wood & F. Roper, Secretary & Treasurer.

The committee representing the C.P.R. dispatchers, agents & operators on lines west of Fort William concluded their deliberations with the management in Winnipeg early in July. They report having secured a liberal set of rules & regulations governing their branch of the service, in addition to an advance in wages. The committee speak very highly of the courteous & fair treatment shown by the management.

A firm of timber contractors in New Westminster has received an order for poles for the telegraph line to be built between Vancouver & New Westminster, B.C., by the Western Union Co. Work will be pushed simultaneously.

ously between New Westminster & Blaine, along the line of the Great Northern Ry. From Blaine the line will run via Fairhaven to Woolly, Wash., where connection will be made with existing Western Union lines. See this issue, pg. 110.

The Minister of Public Works, Mr. Tarte, recently visited Father Point, Que., & promised to have the signal station placed in direct telegraphic communication with all the lower signal stations, & thus remove the grievance that is so loudly complained of by steamship owners, captains & pilots, & which is the cause of so much detention to steamers. Father Point, though the most important station of the system, is cut off from direct telegraphic communication with the other stations, an anomalous & absurd state of things, & no news is obtainable there for passing vessels. The Minister expressed surprise at the existing state of affairs & promised immediate action that would place Father Point station in a position to be able to obtain & supply mariners with all the latest necessary information regarding shipping.

EXPRESS.

Dominion Company's Notices.

W. A. Whitaker represents this Co. at Liverpool, Eng., vice T. B. Evans, deceased.

W. J. Kirby has been appointed Route Agent, with headquarters removed to Vancouver, B.C., & will have charge of all territory west of Revelstoke, B.C., including State of Washington, vice A. W. Lee, transferred to agency at Seattle, Wash.

A. Devitt, Route Agent, with headquarters at Revelstoke, B.C., has charge of the following territory: All offices on main line of C.P.R., west of Moose Jaw, Assa., to & including Revelstoke, B.C., Edmonton branch, Lethbridge branch, McLeod branch, & all offices in Kootenay District.

H. F. Maley has been appointed Acting Route Agent, with headquarters at Winnipeg, Man., & will have charge of all territory between Moose Jaw, Assa., & Fort William, Ont., inclusive, & all branch intermediate lines.

Agents at exclusive offices of this Co. will Way-bill all matter for Pacific Express offices in Canada, also matter for Buffalo, N.Y., & Niagara Falls, N.Y., to St. Thomas, Ont., for transfer to Pacific Express.

Rates To Alaska:

Following are the rates between Seattle, Wash., & Dawson City, via Alaska Pacific Express Co. On merchandise when valued \$50 or under:

2 lbs. & under	Minimum charge, \$2.00
Over 2 lbs. not over 4 lbs.	2.25
4 " " " 6 "	2.50
6 " " " 8 "	2.75
8 " " " 10 "	3.00
10 " " " 12 "	3.25
12 " " " 14 "	3.50
14 " " " 16 "	3.75
16 " " " 18 "	4.00
18 " " " 20 "	4.25
20 " " " 25 "	4.50
25 " " " 30 "	4.75
30 " " " 35 "	5.00
35 " " " 40 "	5.25
40 " " " 45 "	5.50
45 " " " 50 "	5.75
Over 50 lbs. 2 cts. per pound, or 50 cts. per cwt.	

When value of shipments is over \$50, charge in addition to the above, 2% for valuation. Marine insurance cannot be effected beyond St. Michael's, & the present rate is 1½%, which is subject to change at any time. All charges must be prepaid.

General Manager Stout, of the Dominion Express Co., has been making an extended inspection trip extending as far west as the Pacific Coast.

The express companies have established an uptown office in St. Catherine's Street, Mon-

treid, for the accommodation of residents & shopkeepers in that part of the city.

The management & accommodation of the B.C. Express Co., one of the longest stage lines in America, has always kept up prompt connections with Cariboo & Lillooet, & often under great disadvantages. To make a 280-mile trip, regardless of weather or roads, in 4 days, is good work. The stage leaves regularly on Monday mornings, & but few times since the railway was built has it failed to bring in Cariboo mail, express, & passengers by 6 on Tuesday evenings.—Ashcroft Journal.

On June 6 the Pacific Express Co. opened offices at the following points in Ontario, reached over the Detroit-Buffalo line of the Wabash Railroad, operating over the Southern Division of the G.T.R.: Aylmer, Belle River, Bothwell, Canfield, Cayuga, Chatham, Corinth, Courtland, Delhi, Fort Erie, Glencoe, Jarvis, Jennett's Creek, Lawrence, Lewisville, Middlemiss, Nelles Corners, Newbury, Nixon, Port Robinson, St. Thomas, Simcoe, Stoney Point, Tecumseh, Thamesville, Tilsonburg, Walkerville, Welland, Windsor.

TELEPHONES.

London People's Telephone Co.

The People's Telephone Co., of London, Ont., has been incorporated under the Ontario Joint Stock Companies' Act, with a capital stock of \$100,000, to carry on in London & the County of Middlesex a general telephone business. The incorporators are R. H. Evans & H. Walters, of Detroit, Mich., & R. A. Bayly, T. H. Purdon, M. Masuret, R. Fox, F. B. Leys, T. H. Smallman, J. Milne & J. R. Minhinick, of London. The Company made application to the city council for a franchise, offering to provide a day & night service & a Sunday service, with modern appliances, including metallic circuits & double-battery, long-distance instruments, the whole system to be in operation by Jan. 1, next. The rates offered are these: For unlimited services under 5-year contracts for offices or business houses, \$26 a year; for unlimited services under 5-year contracts for private dwellings, \$18 a year, & \$42 a year for offices & residences combined. In the case of very large users, whose calls exceed 10,000 conversations a year on the average, the Co. reserves the right to make an extra charge or to compel the subscribers to use & pay for 2 or more lines in the place of one. The Co. agrees to keep the top cross-arm of all poles for the use of the city fire alarm wires, & to make no claim against the city for damages on account of the interference with the service or property (unless caused by an agent or servant of the city), or by reason of the wires being injured by firemen while working at fires. It is also stipulated that if the Co. fails to supply an efficient service, the city may, at its option, put an end to the agreement, by giving a month's notice, all rights & privileges then ceasing. The council has given the Co. a 15 years' franchise to operate in the city.

Bell Telephone Co.'s Assessment.

Last year the plant of the Bell Telephone Company in Hamilton was assessed by that city. The assessment was disputed on various grounds, among others, that a wrong principle of valuation had been adopted. It was contended by the city that the poles & wires in a certain ward should be valued as part of the plant as a whole, considered as a going concern. The Co. contended that the plant in a certain ward should be valued for what it was worth as material to be used by a purchaser in any way he thought fit, but must be valued without regard to whether it belonged to the Bell Telephone Co. or not, or

whether it was part of a going concern or not. The assessable value would be what the plant would bring when sold in the open market, without regard to whom its present owner happened to be, or for what purpose it was at present used. The case was carried to the Court of Appeal by the Telephone Co. In Toronto an agreement was arranged this year between the Co. & the Assessment Department whereby, in view of this pending case, the assessment against the Co. should be held over until the latest date, in the hope that in the meanwhile the Court of Appeal would render judgment, which would be of value in making the assessment upon the proper principle. The Court of Appeal recently gave judgment in favor of the Bell Co.'s contention, reducing the Hamilton assessment to the amount admitted by the Co. there as proper & reasonable.

Telephone Items.

At the recent annual meeting of the St. Martins, N.B., Telephone Co., the former board of directors & officers were re-elected.

It is said at Vancouver, B.C., that English capitalists have secured the controlling interest in the New Westminster & Burrard Telephone Co.

The Central Electric Light Co., Portage la Prairie, Man., is said to have under consideration the equipment of a telephone exchange, in opposition to the present company.

The People's Telephone Co., of Windsor, Ont., the incorporation of which was reported in our June issue, pg. 112, has been granted a 20-year franchise by the Windsor City Council.

The Spokane Falls & Northern Telephone Co. expects to have its line completed to the International Boundary Line almost immediately. At that point the line will be connected with that of the Nelson & Vernon Co., which has consented to construct a line from the Boundary Line through Cascade City, Grand Forks & Greenwood to Midway, B.C.

The New Brunswick Telephone Co. recently elected the following directors: Hon. A. G. Blair, President; F. P. Thompson, Managing Director; J. L. Black, Vice-President; W. E. Smith, Secretary-Treasurer; Dr. A. A. Stockton, Chas. Fawcett, C. F. Sise, W. T. Whitehead. The directors have decided to replace the wire on the trunk system between Fredericton & St. John & Amherst, N.S., with copper wire.

Some experiments were recently made with the telephone circuit between Manchester, Eng., & Brussels, by putting the operators at the two cities in direct communication with each other. Additional interest attaches to the experiments from the fact that land & sea wires had to be utilized, the wires running from Brussels through Coutrai & Lille to Calais, where they were connected with the London-Paris telephone cable under the Straits of Dover. The experiments were successful, the conversations being distinctly heard.

At the annual meeting of the Canadian Telephone Co. at Sawyerville, Que., June 27, the following were elected directors: J. Laroche, Sawyerville; A. Adam, Paquetteville; J. Lemieux, St. Malo; P. A. Barbeau, Cookshire; J. Hunt, M.L.A., Bury; F. F. Willard, Angus; E. Roberge, Notre Dame des Bois; N. P. Tanguay, Weedon; & M. Matheson, Lake Megantic. H. Laroche was re-elected President, J. Lemieux General Manager, & J. Fournier Secretary-Treasurer. A dividend of 5% for the past year was declared. The report stated that the Co. had built during the past year 60 miles of poles, with 114 miles of wire, & owned 220 miles of poles & 347 miles of wire. The Co. has 12 exchanges, with 322 subscribers.

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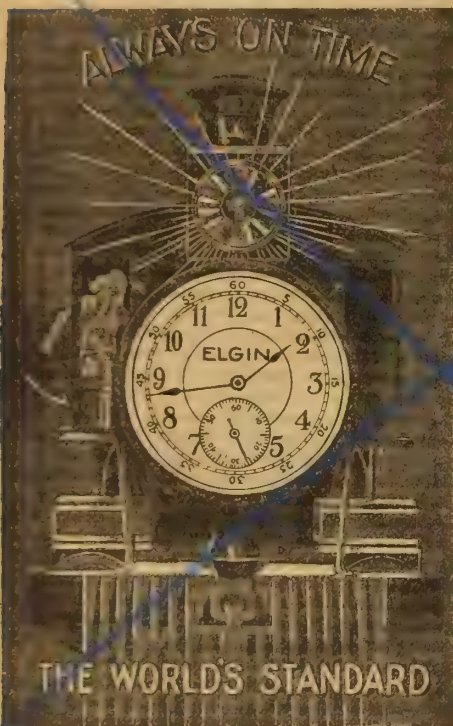
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TORONTO, CANADA, AUGUST, 1898.

\$1 A YEAR.

The Grand Trunk President.

Sir Charles Rivers-Wilson, C.B., K.C.M.G., is the son of the late Melville Wilson & was born in London, Eng., 1831. He was educated at Eton & at Balliol college, Oxford, where he took his B.A. degree. He entered the British Civil Service as a clerk of the Treasury in 1856; was Private Secretary to the Earl of Beaconsfield from 1868 to 1873; a Royal Commissioner to the Paris Exposition in 1878; & Finance Minister of Egypt, 1878 to 1879. He has been Comptroller General of the Office for the Reduction of the National Debt since 1874 & was appointed President of the G.T.R. of Canada in 1895. He holds the Medjidie order of the 1st class. He was created a C.B. in 1876 & a K.C.M.G. in 1880. He married 1st, in 1860, Caroline, daughter of R. Cook, who died; & 2nd, in 1895, the Hon. Beatrice Violet Mary Mostyn, sister of the 7th Baron Vaux of Harrowden. His principal residence is 71 Pont street, London, S.W. Eng., & he is a member of the St. James, Marlborough, Arthurs and Garrick clubs.

A U. S. View of Canadian Lines.

Lucius Tuttle, President of the Boston & Maine Ry., was recently interviewed in regard to the relations of the C.P.R. to New England interests, & said:—

"When you come to analyze this hue & cry against the C.P.R., it will be found that selfishness, pure & simple, is at the bottom of the whole business. All this talk about the Canadian Pacific having extraordinary opportunities to prey upon its American competitors, & that it is guilty of demoralizing rates, is the dust that is thrown into the eyes of our people to blind them to the motive that lies beyond.

"The assertion constantly made by the northwestern lines & those in the central & trunk line territories, to the effect that the Canadian Pacific is the only sinning party in the matter of rate reductions to the Pacific coast & intermediate points, is puerile & with no justification whatever. What have we seen within the past 20 years or more in the relation of these American lines to one another? Is it not a fact that they have come together on innumerable occasions, after rates have been whittled to the line of bankruptcy, & entered into the most solemn pledges to go back to established tariffs, only to break their word before the ink on the signatures to the agreements had had time to dry? They cannot live in peace together. This has been demonstrated time & time again, & I, therefore, reiterate that it is unjust & misleading to attempt to throw all the blame for the present rate trouble between the Canadian property & its competitors on our side of the line upon it.

"Another thing that appears to have been lost sight of is that whatever comment is

directed toward the Canadian Pacific applies with equal force to the Grand Trunk, but it is rarely the latter road is mentioned when this matter of foreign competition is discussed. There appears to be a special antagonism for the Canadian Pacific on the part of many who profess to understand the traffic relations of our railway systems & are privileged to spread their views before the public, as they rarely, if ever, admit that the Grand Trunk is a considerable factor in a competitive sense. I can see no justification on the part of certain American roads & the editors of technical railroad journals to make the Canadian Pacific the scapegoat. Nor am I so dull as not to see that the Northwestern roads are using the Canadian Pacific to pull chestnuts out of the

concerned. It will, therefore, be seen that these New England railroad properties, together with Boston's export interests, are vitally concerned in whatever affects the Canadian Pacific or the Grand Trunk railways.

"I have seen it stated that the Government should interfere in behalf of our American roads, & afford them the same measure of protection against this 'foreign' rail competition as it accords the merchant marine. This is urged by certain New York interests, but it is evident that those who take this position forget that the New York Central operates largely through Canadian territory, & that any curtailment of the privileges that the Canadian road enjoys in the handling of American products would also operate to the disadvantage of New York. I look upon the Canadian Pacific as essentially an American line. Much of its tracking runs through our territory, & it is within the jurisdiction of the Interstate Commerce Commission."

Mr. Hays Endorsed.

In a recent interview in Montreal, Vice-President Jos. Price, of the G.T.R., said: "I have no hesitation in saying that Mr. Hays enjoys the fullest confidence of every member of the board of directors, all of whom appreciate the services which he has rendered & is rendering, services which have resulted already in a wonderful increase of material value. It is felt on all hands that Mr. Hays is the right man in the right place. From the start his work has been appreciated by the board. Now that he has been in office for some time his value is thoroughly understood. This is a specially pleasing feature of the present regime, that there should be such a perfect understanding between the Manager & the board in London. He has shown since his advent to office that he understands how to employ those powers in the best possible way so as to ensure the highest results. I am especially anxious that it should be known that in Mr. Hays the board is convinced they have a man who is bringing at once much experience & ability to bear upon the duties of the responsible position he occupies, with results which are already seen in the appreciation of Grand Trunk values."

A telephone line has been erected at Dawson City, Yukon, by the Klondike Telegraph & Telephone Co., which is said to have 40 miles of wire on the ground, & expects 20 miles more at once. The Co. is putting in the plant under the charter of the Canada Western Co. At first the line will be strung to the forks of Ft. Porcupine & Bonanza creeks, with the intention of later on running it up to Dominion, Silver & Hunker creeks, & eventually to connect with the parent line, the Canada Western. The Co. is essentially a mining one. A. McDonald is General Manager.



SIR CHARLES RIVERS-WILSON, C.B., K.C.M.G.

fire of demoralized rates, & thereby escape the responsibility that justly belong to them.

"The great importance of these Canadian lines to the commercial existence of New England can hardly be measured. They afford us the only direct connection with the great northwest & many of the gateways in the middle west. We can operate over them entirely independent of the Vanderbilt interests, or any of the other great systems that work to the advantage of the seaboard points where they have their terminus. Without these Canadian connections the Boston & Maine & the Fitchburg would be practically bottled up, so far as our relations to the agricultural sections of Canada & our country are

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TORONTO, CANADA, AUGUST, 1898.

PASSENGER MATTERS.

The Interstate Commerce Commission Inquiry.

In view of the importance of the recent enquiry into passenger rate matters by the Interstate Commerce Commission we devote considerable space in this issue to the proceedings at Chicago. The papers of that city published very imperfect reports. Not one of them gave even a complete summary of the evidence, confining themselves to scrappy extracts, evidently selected to make the most of the case for the U.S. lines & to the disadvantage of the Canadian Pacific, "the foreign road."

As Sir Rivers-Wilson says, in an interview published elsewhere in this issue, the fight is really one between the transcontinental roads, & we will narrow this down still further by localizing it as between the Canadian Pacific & Great Northern (U.S.), with President Hill, of the latter, as the aggressor. It has been pretty well understood in railway circles for a good many years that there is no love lost between the managements of these two systems. When Mr. Van Horne made his first trip to Manitoba at the end of 1881, just prior to assuming the General Managership of the Canadian Pacific, it was in company with Mr. Hill, on whose recommendation, it was said, Mr. Van Horne, then the successful General Superintendent of the Chicago, Milwaukee & St. Paul, was selected for the position. Mr. Hill was then a director of the C.P.R. as well as of the St. Paul, Minneapolis & Manitoba, Mr. Geo. Stephen being President of both lines.

It is said, & pretty generally believed, in well-informed quarters, that very soon after Mr. Van Horne got to work at Winnipeg, Mr. Hill tried to use him to carry out schemes for the advancement of the St. P., M. & M. at the expense of the C.P.R. But the man from Milwaukee was not to be handled in that way. He had thrown his whole energy into the C. P.R.; he realized the magnificent opportunities before it, & with him its interests were paramount. Then came a struggle in which Mr. Hill came out second best, & in the course of which he is said to have resorted to methods which revived the story told in his flat-boat days on the Red River, when it was said there were three notorious prevaricators in St. Paul, — was one & "Jim" Hill was the other two; but "prevaricators" was not the exact word that was used. We have digressed somewhat, but it has been for the purpose of showing that Mr. Hill's policy is one of revenge & uncompromising hostility towards the Canadian Pacific, from the councils of which he retired years ago, foiled.

Vice-President Clough's speech before the Commission, reported further on in this issue, clearly shows that what the Great Northern wants is not a settlement of the rate question, but the absolute exclusion of Canadian lines from participation in U.S. traffic, & particularly to keep out Canadian Pacific competition. As a matter of fact, the speech did not deal at all with passenger matters, but was a

talk to the gallery, a deliberate attempt to arouse national feeling. But Mr. Clough will undoubtedly find that public opinion is not with him. It certainly is not in Minnesota or Dakota, which have benefited to a great extent by Canadian Pacific competition, as is shown by the article from a leading Minneapolis paper, published elsewhere in this issue. President Tuttle, of the Boston & Maine, has, in a recent interview, shown what the feeling of the New England railway managements is, & the Railway World, of Philadelphia, denounces Mr. Clough's proposal as "sheer nonsense."

The Chicago Times-Herald, in its issue of Aug. 3, said: "Before the Interstate Commerce Commission, in the Federal court-rooms in this city, the Canadian Pacific Railway is fighting against being barred from carrying a pound of American freight or a single passenger from American soil. Arrayed against it are the most prominent railroad men of the West, each of whom hammers home vigorous arguments against the continuance of a system that, it is alleged, diverts annually millions of dollars from American workmen, & many millions more from America's taxpaying railroads. Begun only with an idea of bringing to an end a disastrous & costly passenger rate war, the inquiry of the Commerce Commission has proceeded to a stage in which the expulsion of the foreign road from participation in strictly American traffic is practically demanded."

Legislation such as is indicated could not be directed against the C.P.R. alone. It would have to strike at all Canadian lines running into the U.S., & it would hit the Grand Trunk & Michigan Central more seriously than the Canadian Pacific. In view of this we cannot help thinking that the Grand Trunk management would do well to consider whether it may not carry its U.S. alliances too far for the shareholders' interests. It is undoubtedly suffering a very considerable diminution of revenue at present in consequence of having allied itself with the U.S. transcontinental lines, & there is no reason to doubt that if, by its so doing, the rate cutting is perpetuated, the showing for the current half-year will be a very unsatisfactory one.

General Passenger Agent Davis, of the Grand Trunk, in a recent interview, said: "Mr. Clough's proposal had not the support even of the U.S. railway men, & there is no danger of Congress adopting any such adverse legislation." As shown by President Tuttle, it has not the support of eastern lines, but what of the west? Mr. Clough's speech was delivered in the presence of dozens of representatives of U.S. lines, & it seems strange, if they did not agree with it, that they did not promptly repudiate the proposal.

If this was simply a rate fight between the Grand Trunk & Canadian Pacific, we should occupy a neutral position, but it is far more; it is an unconcealed attempt to exclude Canadian railways by unfriendly legislation in the interest primarily of the Great Northern, & secondly of other transcontinental lines. Our deep regret is that in such an issue there should be even the suspicion of a single Canadian line siding with the U.S. conspirators against Canadian interests.

The Call for an Enquiry.

At a session of the U. S. Interstate Commerce Commission in Washington, July 14, the following order was made:

In the matter of the alleged disturbance in passenger rates by the Canadian Pacific Railway Co.:

Whereas, it has come to the attention of the Commission that there exists at the present time a contest in passenger rates between the Canadian Pacific Ry. Co., a corpora-

tion of the Dominion of Canada, upon the one hand, & certain American lines & their connections, including the Grand Trunk Ry. Co. of Canada, upon the other; & whereas, it is charged by the American lines that the C.P.R. Co. has been & still is, in open violation of the Act to Regulate Commerce, making unreasonably low rates between various points in the U.S., not as a measure of legitimate competition, but as a means of retaliation for the purpose of exacting certain unreasonable demands upon its part, & that such illegal conduct on the part of the C.P.R. will result, if persisted in, in the utter demoralization of passenger rates over a large portion of the U. S. & in incalculable damage to the interests of the American lines, all of which is either denied or justified by said Canadian Pacific Railway Company; & whereas, it seems advisable that the Commission should be fully informed of the whole situation in respect to passenger rates as induced or affected by the competition of the C.P.R., as above set forth, with a view to determining what, if any, relief can or ought to be applied or suggested, or what action should be taken in the premises; now, therefore, it is ordered, that an investigation into the above matters be made, & that this cause be set down for hearing at the Federal Court Room in Chicago, Ill., on Aug. 1, at 10 a.m., at which time & place all parties interested in the matters under investigation will be heard, & at which time & place the following named companies are directed to appear by their general passenger agents or those persons having in charge the passenger traffic of the respective lines.

Following is a list of the lines included in the notice:—Atchison, Topeka & Santa Fe, Burlington & Missouri River Railroad in Nebraska, Burlington, Cedar Rapids & Northern, Chicago & Alton, Chicago & Northwestern, Chicago, Burlington & Northern, Chicago, Burlington & Quincy, Chicago Great Western, Chicago, Milwaukee & St. Paul, Chicago, Rock Island & Pacific, Chicago, St. Paul, Minneapolis & Omaha, Colorado Midland, Denver & Rio Grande, Fremont, Elkhorn & Missouri Valley, Sioux City & Pacific, Hannibal & St. Joseph, St. Louis, Kansas City & Northwestern, Kansas City, St. Joseph & Council Bluffs, Illinois Central, Iowa Central, Jacksonville & St. Louis, Missouri Pacific, Minneapolis & St. Louis, Michigan Central, Oregon Railway & Navigation Co., Oregon Short Line, Rio Grande Western, Rock Island & Peoria, St. Joseph & Grand Island, St. Louis, Iron Mountain & Southern, St. Louis & San Francisco, Southern Pacific, Southern California, Santa Fe Pacific, Texas & Pacific, Union Pacific, Wabash, Wisconsin Central, Great Northern, Northern Pacific, Boston & Albany, Fitchburg, Toronto, Hamilton & Buffalo, Chicago & Grand Trunk, Grand Trunk & the Canadian Pacific.

The Proceedings at Chicago.

The Commission opened its session in the Federal court rooms, Monadnock Building, Chicago, Aug. 1, the whole of the members being present as follows: M. A. Knapp, Chairman; J. C. Clements, J. D. Yoemens, C. A. Prouty & W. J. Calhoun.

The Canadian Pacific was represented by Passenger Traffic Manager D. McNicoll & Attorney H. R. Raymond. There were also present General Passenger Agent Davis, of the Grand Trunk, & representatives of a large number of western U. S. lines.

At the outset Mr. Raymond desired it to be distinctly understood that the C. P. R. was not present as a defendant, or to officially answer to any complaint which might have been filed by the U. S. interests. The C. P. R. had violated no law of the U. S., & had uniformly obeyed the requirements of the

Interstate Commerce Law as well as any of the lines in the U. S. President Knapp replied that the C. P. R. could not be regarded as formally on trial.

THE U. S. CASE.

The whole of the day was occupied by P. S. Eustis, General Passenger Agent of the Chicago, Burlington & Quincy Ry., who presented the case of the U. S. lines. He reviewed the history of C. P. R. influence upon U. S. business, from the opening of the transcontinental line in 1886 to the present. He asserted that at no time since the C. P. R. entered the field as a competitor for transcontinental business had it been disposed to treat fairly with U. S. lines, & it had secured what concessions had been granted it by mere force & threats of retaliation if what it asked was not granted. Early in its career the C. P. R. began cutting rates and continued that policy for two years, when the Transcontinental Passenger Association agreed to allow it a differential on the traffic to the Pacific coast, simply because the U. S. lines could by no other method prevent a demoralization of rates by the C. P. R. He claimed that this agreement became void when the U. S. Court ruled a few months ago that all such compacts were contrary to the anti-trust law. The Transcontinental Passenger Association died in 1895, and the U. S. lines claim that with it ended all its agreements, including that of a differential to the C. P. R. Since that time no U. S. railway or association of railways has agreed to allow the C. P. R. a differential rate. When it was originally granted a differential the rate did not apply to any business, but to lower Pacific coast points. When the Klondike gold discoveries started travel in that direction the C. P. R. demanded a differential rate to North Pacific coast points & Alaska. At first the U. S. lines only reduced their rates to those of the C. P. R. on Alaskan travel. Further rate cutting by the C. P. R., ostensibly to maintain its differentials, induced the U. S. roads to reduce theirs to meet reductions to all points. Authority to do so was granted the U. S. lines by the Interstate Commerce Commission last February, & extended on July 12 last.

In reply to Mr. Raymond, Mr. Eustis said he did not claim that the U. S. railways had always acted harmoniously, & admitted they had engaged in rate wars in which the C. P. R. had no interest. He said in effect that the U. S. railways were tired of being practically forced to subsidize the C. P. R., a foreign institution, in order to get a partial share of their rights.

Against the protest of the C. P. R. representatives, Mr. Eustis was permitted to put in as evidence a letter written by Sir Wm. Van Horne to the press, in March last, in connection with the application for a charter for the Kettle River Valley railway, in which he argued against the proposed line, on the ground that it would divert Canadian trade into U. S. channels.

TRANSCONTINENTAL ROADS HEARD FROM.

At the second day's session General Passenger Agent Whitney, of the Great Northern (U. S.), gave evidence. He declared, among other things that, figuratively speaking, the C. P. R. always went to conferences on rate matters with a shotgun & persisted in holding up the U. S. roads under threat of annihilation if they did not accede to its demands. It was in pursuance of such a plan, Mr. Whitney stated, that the C. P. R. first secured a differential from the U. S. lines, which had been compelled to grant it as the price of maintenance of rates. Asked regarding the extent to which U. S. roads had suffered on account of the rate war precipitated by the C. P. R., the witness stated that it was incalculable, mounting up into millions of dollars. The rate war, which began last December, had cost the Great Northern from

\$500,000 to \$750,000, assuming that they could have obtained regular tariff rates for the business which they carried at the cut rates forced on them. He gave a history of the relations between his road & the C. P. R. prior to the completion of the G. N. to the Pacific Coast. Then the C. P. R. controlled the transcontinental business over the two roads & dictated the policy to be pursued. The C. P. R. then made up four-fifths of the route & therefore had by far the larger interest in the business. He produced telegrams to show that the C. P. R., at the outset of the trouble, had declined to discuss the question of differentials. In explaining why his line refused to arbitrate, he said that experience had shown that the result of arbitration was always a compromise, which satisfied none of the interested parties.

As a final statement Mr. Whitney said: "The C. P. R. asks us to put a perpetual mortgage on American roads; to give to it a perpetual subsidy by granting to it a differential, because it would argue forever after that it was given by agreement."

GENERAL PASSENGER AGENT FEE, of the Northern Pacific, followed, practically reiterating all the charges previously made against the C. P. R. He produced statistics which he claimed showed that after the C. P. R. had forced the U. S. lines to give it a differential, its traffic from & to points in the U. S. increased to a wonderful degree.

T. H. GOODMAN, General Passenger Agent of the Pacific Division of the Southern Pacific, claimed that his line had been obliged to reduce passenger rates eastbound from San Francisco on account of unwarranted C. P. R. competition. He stated that some years ago, on account of the conduct of the C. P. R., his line suspended all traffic arrangements with it.

THE C. P. R. SIDE OF THE CASE.

Passenger Traffic Manager McNicoll followed, his evidence occupying the balance of the day, as well as considerable of the next. After declaring that the C. P. R. was as close an observer of the Interstate Commerce Law as any of the U. S. roads, he began his statement from the time the Klondike business first appeared & told how, finding his road was getting little business to Alaska, he made an investigation, which showed conclusively that the Great Northern & Northern Pacific roads were cutting rates to Alaska, not only from points within the U. S., but also from Canada & Europe. These rates, he said, were \$20 below these lines' published tariffs & \$15 below the C. P. R. tariff. The cut was not made by the payment of an excessive commission to ticket agents, but openly across the counters of these roads' ticket offices. He presented a batch of evidence of this secret rate-cutting by U. S. lines, & declared he could produce many times as much if it were necessary. An agreement which prevailed prior to 1897 had been deliberately violated by U. S. roads. The C. P. R. had two courses open, either to ignore the Interstate Commerce Act & meet these rates illegally, or do so openly by published tariffs. Knowing that it was useless to ask assistance from the eastern roads, the C. P. R. published its tariffs & took the fight upon its own shoulders. Mr. McNicoll proceeded to argue that the eastern lines had stubbornly kept out of the present fight, with one or two exceptions, & that at a conference at Montreal a committee of the trunk lines had suggested that the matter in dispute between the C. P. R. & the western lines should be arbitrated. This Mr. McNicoll said his road had been perfectly willing to do, but the western roads had persistently refused to acknowledge that there was anything to arbitrate. He said the Great Northern & Grand Trunk had been permitted to dominate the conferences held in New York & Chicago, & that but for their obstructive attitude the fight might have been ended. He further

charged that the U. S. lines did not really desire to settle, having an ulterior motive in allowing the present demoralization to continue. Mr. McNicoll said he was still willing to arbitrate the question of differentials at any time, & that General Passenger Agent Eustis, of the Burlington, had admitted to him that the refusal of the U. S. lines to arbitrate was based on their belief that the Canadian road would surely get some differential.

Dealing with the statements that the C. P. R. had been taking an immense amount of revenue from U. S. lines, Mr. McNicoll said that out of \$20,000,000 gross earnings of his road for 1897 the revenue derived from business originating at or destined to points in the U. S. was about \$1,300,000. These figures referred to the C. P. R. system proper, and not to the "Soo" line, which Mr. McNicoll claimed was a U. S. road, a statement from which the U. S. roads represented at the meeting strongly dissented. Against this revenue of \$1,300,000 Mr. McNicoll said that his road spent more than \$3,500,000 in the U. S. last year for supplies, & added that he would willingly trade his business from the U. S. for the business which the U. S. lines derived from the C. P. R. Asked as to the business his road had carried to the Pacific coast since the rate war began, Mr. McNicoll said he was satisfied with it & believed the road had received its share. Mr. Eustis thereupon tried to make him admit that since these rates were the same on both the U. S. & Canadian roads there could be no good reason why the C. P. R. should have any differentials on this business. Mr. McNicoll declined to admit anything of the kind, saying his line was selling tickets at first rates, whereas the U. S. roads were using the rebate plan, which gave the Canadian road an advantage. He also said the superior steamship facilities enjoyed by the C. P. R. drew a good deal of business. Throughout his examination he strenuously denied that the question of differentials had anything at all to do with the present rate war, which was caused solely by the quarrels among the U. S. lines. He charged these roads with attempting to rob the present investigation of its business features in order to introduce sentimental matters dealing with the question of international privileges.

Mr. McNicoll having stated that B. D. Caldwell, Chairman of the Western Passenger Association, had changed the official record of the proceedings of the Association's Immigrant Bureau in New York, so as to make it appear that all transcontinental lines, including the C. P. R., had agreed to ask no differentials on immigrant traffic, Mr. Caldwell was sworn at his own request & declared that the charge was absolutely false.

"I never agreed to such a proposition as you incorporated in the record of the proceedings," said Mr. McNicoll. "No such proposition was offered in my presence & I never even heard of it."

"It was made in your presence," replied Mr. Caldwell; "I can even tell you just where you sat in the room at the time, & I can prove by a host of witnesses that you were there, & made no objection to the proposition."

"That," says the Chicago Inter-Ocean, "closed the incident. At the same time ended a strong personal friendship which has existed for many years between Mr. Caldwell & Mr. McNicoll."

WHAT THE U. S. LINES REALLY WANT.

W. P. Clough, Vice-President of the Great Northern (U. S.), presented the political & economic side of the case for the U. S. lines. He insisted that the position which the U. S. Government suffers the C. P. R. to occupy, with regard to the domestic carrying trade of the U. S., is altogether exceptional, illogical & unjust to the U. S. people. From its very birth the U. S. Congress followed the settled policy of Great Britain by declaring that no foreign vessels should ever trade between one

U.S. port & another. For years this policy was followed, even on the great lakes. Then it was relaxed for a time until experience showed its wisdom & fairness, & it was restored by order of the President. If sound policy demanded the exclusion of Canadian vessels from the trade, no good reason could be advanced for admitting Canadian railroads to a share in that trade. Nevertheless, the U.S. Government had said, for the advantage of the Canadian railway owner solely, that the protection & encouragement invariably afforded by it to U.S. vessel property shall not be afforded to U.S. railroad property. In working out the U.S. protective tariff system it always had been the rule that to every industry the expenses of which are enhanced by the need of using the protected products of some other U.S. industry a corresponding & indemnifying protection against the foreign competitor should in turn be given. Yet this had been abandoned in respect to one solitary U.S. industry, & one having vastly more capital invested in it, having a vastly larger pay roll & of vastly more importance to the common welfare, in peace or in war, than any other—the railway carrying trade. All materials used by U.S. railways are of the highly protected class; but the Canadian railways had long been able to buy their track metal from U.S. makers at a price less than demanded of the U.S. roads by an amount practically equalling the tariff duty.

On account of this protective system, Mr. Clough argued, U.S. railways were compelled to pay the highest wages in the world, the tariff making living so high that corresponding wages must be paid. The railway must bear a full share of the burden incident to the protection of the other industries, it must stand the direct & large increase in the cost of materials, supplies & wages, which it is the very end of the protective system to accomplish, & after all this it must stand alone in naked exposure to the unlimited & unconditioned competition of the foreigner. He contended that the amount of the discrimination against U.S. railways was stupendous & constantly growing. The statistics of the Customs Department showed that the freight traffic diverted to the Canadian roads already amounted to nearly or quite 10,000,000 tons a year, & represented a loss to the U.S. lines of not less than from \$20,000,000 to \$25,000,000 in money every 12 months. Statistics of passenger traffic were not so complete, but its volume was likewise known to be large. The U.S. lines had not lost a pound of traffic on account of want of facilities for handling it.

It had not been lost to them because of unwillingness to handle it at fair rates. In the U.S. nearly two-thirds of the gross earnings were paid out in operating expenses. Practically, the whole of this expense was for wages in some department. It was obvious therefore that every time foreign lines diverted from the U.S. lines \$21,000,000 of traffic they took \$14,000,000 directly out of the pockets of U.S. workmen. Mr. Clough contended that the C.P.R. did not fit into the system which U.S. national legislation had devised for preventing the use of unjust discriminations between persons & places in the conduct of the railway transportation business. Congress might prevent the C.P.R. from discriminating between points wholly in the U.S., but it could not prevent a rebate being given for the haul on Canadian soil before re-entry into U.S. territory. If such discrimination was discovered Congress was unable to punish the offense. To work out a fair indemnification to the U.S. lines for the burdens of the protective tariff system put upon them Mr. Clough suggested several ways. The simplest & most practical way would be to put transportation by rail on the same footing as transportation by water. There was no good reason why both kinds of transportation should not be upon the same basis & every reason why both should. Another method, which he urged as perfectly fair, would be the imposition of a duty upon goods passing across Canadian territory, in transit, at a scale sufficient to equalise the condition made by the U.S. tariff. It would not be difficult to fix such a scale. It might be on the ad valorem basis or according to quantity. Either would be perfectly practicable & would abolish the unjust discrimination against the rail transportation business now exercised by the U.S. Government. Mr. Clough did not expect that the privilege of competing for the U.S. trade would be wholly withdrawn from the Canadian roads at once. A little notice in advance of a proposed change of policy in this regard might well be given. But the early withdrawal of the privilege should be notified without delay. In the meantime there were some details of this competition as now carried on which ought to have immediate attention. There was no reason why railway equipment, liable to very substantial customs duties, should be suffered to enter U.S. territory free. Yet outside of law, or even of departmental regulation, the practice had crept in of suffering cars, both freight & passenger, to cross the frontier without the slightest question being raised. This practice, plainly illegal, had had the effect of

putting into regular service over thousands of miles of lines in the U.S. freight & passenger cars used in foreign countries, & which had never paid a dollar of duty. The law making power of the Government had never consented to such a practice. It should be stopped immediately. No freight or passenger car should be permitted to enter U.S. territory without payment of the duties which the tariff imposed on imported articles. The U.S. roads were forbidden to bring into the country either cars or the materials from which cars were made, without paying duties. Why should the Canadian roads be allowed to bring their equipment across the boundary free? The laws had not provided for any such additional favor to the foreigner. The practice had grown up in the face of the law. Foreign railways should ultimately be prohibited from carrying U.S. traffic, freight or passenger, if reasonable experiments, under more restrictive laws, demonstrate that they cannot be compelled to do business on terms of strict equality with the U.S. lines. For purposes of this experiment new legislation that will give the Commerce Commission control over the Canadian lines must be enacted. If the Commission could not then control the foreign roads it should have the authority to at once bar them from handling U.S. freight & passengers. Mr. Clough stated further that he would at once prepare the draft of a bill embodying his ideas, & file it with the Commission.

THE COMMISSION'S POWERS.

Before the adjournment of the session, President Knapp said it was not within the power of the Commission to issue any order, or to compel any certain course on the part of any of the lines represented, because of the fact that the hearing was not in any sense a court proceeding, but only an informal one. It was, however, the desire of the Commission to make an early report, in the hope that it might have some influence in bringing to an end the disastrous rate war. He asked, therefore, that if either side desired to submit written briefs, they should be presented within 10 days. The Commission would then make some recommendation. For purposes of the annual report and recommendations to Congress the lines were given 50 days in which to submit briefs.

CLOSING PROCEEDINGS.

At the 4th day's session, Attorney Raymond, for the C.P.R., declared that differences such as exist between the U.S. lines & the C.P.R. can be settled only by arbitration, &

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if necessary, continued arbitration. No other method, he insisted, could be a fair one to all interests. The C.P.R. stood ready to arbitrate.

In closing the case for the U.S. lines Mr. Eustis outlined the position of the roads he represented as follows:

U.S. lines do not ask that Canadian lines be barred from a share of U.S. traffic.

Differentials have been failures wherever used.

The C.P.R. can set up no fair claim to a differential.

If the C.P.R. is entitled to a differential, many U.S. roads are more entitled to like concessions.

According to the argument of the C.P.R. respecting the participation of U.S. roads in Canadian business the C.P.R. has no right to do business in San Francisco at all.

U.S. lines do not ask any advantage where the C.P.R. can fairly compete with them, but deny that the C.P.R. is entitled to any advantage over U.S. roads.

They believe that the burden of proof is upon the C.P.R. to show that it is entitled to a differential, & that unless a clear case has been made by it no differentials should be allowed.

"I can guarantee for the west that if the C.P.R. will stop its shotgun policy we can get along together & it will secure a fair share of any business to which it is entitled. If it does not Congress is going to interfere."

This last statement was made by Mr. Eustis because of Mr. McNicoll's testimony that Mr. Eustis had threatened the C.P.R. unless it would settle its difficulties with the U.S. roads. "I told Mr. McNicoll," said Mr. Eustis, "that if the C.P.R. would stop making unreasonable demands & be fair it will have no trouble in getting along in this country, but that if it persisted in its unreasonable demands the U.S. would probably pass laws that would tend to control seriously the extent to which all Canadian railroads may do business in this country."

Mr. McNicoll states that the C.P.R. handed in its brief to the I.C. Commission on Aug. 13 along with the other railways interested in the investigation.

Mr. Clough Repudiated.

The Minneapolis Journal says: "Ever since the controversy concerning who ate the first apple, it seems to have been human nature to shirk responsibility for questionable transactions. Whenever a railway cuts rates & is taken to task by its associates for having violated its agreements, it falls back on the excuse that some other road has previously cut the rate. The standing argument of the railways, when they do something which they recognize as improper, is to charge the blame to the Canadian Pacific. They must have some scapegoat, & to save trouble with some home competitor they charge it up to the Canadian Pacific."

"It was not surprising, therefore, because it was according to custom, when a prominent road cut the rates from the twin cities to Chicago, a few days ago, to see an authorized interview appear simultaneously in all the papers announcing that the cut was made to meet the rates of the Canadian Pacific. The Canadian Pacific has no road from the twin cities to Chicago, but that makes no difference in the accusation. If the Czar of Russia should appoint an American railroad manager to take charge of the Siberian railway, the manager would undoubtedly, from mere force of habit, cut the rates in order to compete with himself, & charge it up to the nefarious conduct of the Canadian Pacific, because it runs a steamship line from Vancouver to Hong Kong. This would be as sensible & as brilliant a display of common sense as holding

the Canadian Pacific responsible for the cut between the twin cities & Chicago.

"The Soo, which is one of the United States connections of the Canadian Pacific, has always maintained an independent position, refusing to be bound by combinations & the pools, & has thus proved a thorn in the flesh. This policy has proved of great advantage to the public, & in reverse ratio to the public advantages obtained through the Soo the hostility of the other lines has been incurred. Consequently, no matter what comes up, they see only the ghost of the Canadian Pacific & the Soo."

"The jobbers & manufacturers of the twin cities, & the farmers of the Northwest, know & appreciate the services which the Soo has rendered them, both directly by carrying their freight, & indirectly as a leverage which has prevented combinations & extortions they would otherwise have had to endure. No higher compliment could be paid to the Soo & Canadian Pacific for what they have accomplished on behalf of the public, than the universal & unanimous effort to hold them responsible for everything which occurs in the railway world. If the Soo could only be dragooned into coming into the combination to fleece the public there would be no further outcry concerning the Canadian Pacific. The public is to be congratulated upon the situation, & will consider itself protected so long as the Soo & Canadian Pacific continue in their present independent position."

A Western Rate War.

A passenger rate war that will affect directly every fare in the western states & indirectly half of the tariffs of eastern & southern U.S. lines, was started Aug 8, when the Chicago Milwaukee & St. Paul reduced the rate between Chicago & St. Paul & Minneapolis from \$11.50 to \$8. The rate between Chicago & Omaha was cut from \$12.75 to \$9.25, & between Chicago & Kansas City from \$12.50 to \$10.50. Of course other lines met the rates of the C. M. & St. P., which charges the C. P.R. as the cause of making the cuts necessary. In its notice the C. M. & St. P. says the C.P.R. brought about a war of rates to Alaska points. The application of these low rates—about 60% below authorized tariffs—affected the Chicago-St. Paul situation to such an extent that Chicago brokers have had no difficulty in selling tickets for either St. Paul or Minneapolis for \$8: & \$8.50, & the same rates have been made by brokers from St. Paul to Chicago. The same war of Alaska rates has affected regular fares between Chicago & Omaha because the trans-Missouri lines also quoted low rates to Alaska. Brokers were, therefore, able to greatly undersell the railways between Chicago & Omaha. To a limited extent the same is true as regards the Chicago-Kansas City traffic, though that is affected most seriously by a form of round trip ticket in use, which permits of a natural scalp of \$5. The C. M. & St. P. says it is weary of having the brokers doing its business, & that for this reason it makes the open reductions quoted.

"Sheer Nonsense."

Under the above heading the Railway World, Philadelphia, says in its issue of Aug. 13: "Railway officials are discussing the probable effects of the Interstate Commerce meeting at Chicago last week. They, as a rule, are anxious to have not only the Canadian Pacific, but all foreign roads, shut out of American territory, except where they can compete with them on equal terms. They are in favor of the highest tariff to prevent foreign cars coming into America & taking business from one point to another. They be-

lieve that the same rule that applies to foreign ships plying between American ports should work in the case of the railways. Some pretend to think that the exclusion of Canadian lines would enable Americans to maintain rates. Before the Canadian lines were constructed the American lines could not maintain rates, & are unable to do so in territory where there is no foreign competition. They have been at war with each other for months on packing-house-product rates from Kansas City, & are constantly cutting rates between Chicago & the seaboard. Tariffs are made only to be cut within a short time; in many instances before they are in print."

The Grand Trunk View.

Interviewed at Montreal, Aug. 3, Sir Rivers Wilson, President of the G.T.R., said:—"The rate war is of great concern to us, & our earnest hope is wiser counsel will prevail & a settlement be reached at an early date. I deny the charge that we are responsible for the trouble. We are all desirous of being on good terms with the C.P.R. The fight is really one between the trans-continental roads, & I am sure I have no influence with Mr. J. J. Hill, of the Great Northern. There is no justification for the C.P.R. demand for differentials. There may have been at one period, but the C.P.R. is now more than able to compete on equal terms. In regard to the trouble between the G.T.R. & C.P.R., respecting the North Bay line, the explanation is simple. The arrangement between the roads was liable to modification. We simply gave notice of its discontinuation in order to make a new arrangement with the C.P.R., but our proposals were not met."

One on Mr. McNicoll.

At the recent session of the Inter-State Commerce Commission in Chicago, General Passenger Agent Fee, of the Northern Pacific, produced some statistics about C.P.R. passenger traffic, based on reports from his agents, who he said had counted the passengers at Winnipeg & Pacific Coast points.

"How could your agents tell whether our passengers came from the U.S., or from our local points in the Northwest?" said Mr. McNicoll, of the C.P.R.

Before Mr. Fee could reply, General Passenger Agent Eustis, of the Burlington System, answered:—"Because you have no local business in the Northwest, Mac!"

Of course, as everyone knows, the answer was ridiculous, but it brought down the house.

A Railway Accident Case.

In the Divisional Court at Toronto, July 26, in the case of Chandler vs. Mich. Cen. Ry. Co., Judges Falconbridge & Street gave judgment on motion by plaintiff to set aside nonsuit entered by Meredith, J., at the trial at St. Thomas, & for a new trial. The action was brought by W. Chandler, a youth, who was severely injured by being run into by a train of defendant's while crossing a railway track near Tilsonburg late at night, & whose vehicle was also broken, for damages for his injuries & loss. The plaintiff contended that there was no evidence of negligence to go to the jury & nothing to show contributory negligence. Held, that every element of negligence of any statutory duty on the part of defendants was absent, & the nonsuit was properly entered. Wakelin v. London & Southwestern Ry. Co., 12 App. Cas. 41, followed. Motion dismissed with costs. J. A. Robinson (St. Thomas) for plaintiff. D. W. Saunders for defendant.

FINANCE, MEETINGS, &c.

Six Months Railway Increases.

The following table gives the percentage of increase in gross earnings of a number of the principal American railways for the 6 months to June 30 last :

Oregon Railroad & Navigation Co.	64
Northern Pacific.....	35
Rio Grande Western.....	32½
Chicago, Rock Island & Pacific.....	24
Illinois Central.....	23
Great Northern.....	23
Denver & Rio Grande.....	22
Canadian Pacific.....	19½
Cleveland, Loraine & Wheeling.....	19
Iowa Central.....	19
Wabash.....	18
Missouri Pacific.....	17
St. Louis & Southwestern.....	17
Buffalo, Rochester & Pittsburg.....	16
Chicago, Milwaukee & St. Paul.....	15
Texas & Pacific.....	15
St. Louis & San Francisco.....	15
Baltimore & Ohio Southwestern.....	14
Union Pacific, Denver & Gulf.....	14
Grand Trunk.....	11½
Louisville & Nashville.....	11
Mobile & Ohio.....	11
Southern Railway.....	9½
Chicago, Indianapolis & Louisville.....	9
C., C. & St. Louis.....	7
Michigan Central & Canada Southern..	6½
Lake Shore.....	6¼
Norfolk & Western.....	6

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases over 1897 from Jan. 1, 1898, are as under :

Earnings.	Expenses.	Net Profits.	Increase.
Jan. \$1,072,372.04	\$1,139,744.45	\$515,627.59	\$142,284.49
Feb. 1,494,596.98	1,070,929.62	423,667.36	38,844.28
Mar. 2,079,479.06	1,326,245.55	753,233.51	233,020.67
April 1,058,361.88	1,241,371.19	717,090.69	89,073.35
May 2,252,999.16	1,326,336.85	926,662.31	51,092.47
June 2,138,110.04	1,320,714.67	817,395.37	68,731.93
\$11,596,019.16	\$7,442,342.33	\$4,102,584.36	\$623,947.19

The approximate traffic earnings for July 1898, were \$2,024,000, against \$2,106,000 in July, 1897, a decrease of \$82,000.

AUXILIARY LINES.

MINNEAPOLIS, ST. PAUL & SAULT STE MARIE.—The approximate earnings for July were \$290,743, as compared with \$324,271 in July, 1897, a decrease of \$33,528.

DULUTH, SOUTH SHORE & ATLANTIC.—The approximate earnings for July were \$173,925, as compared with \$169,411 in July, 1897, an increase of \$4,514.

MINERAL RANGE & HANCOCK & CALUMET.—The approximate earnings for July were \$35,056, compared with \$27,383 in July, 1897, an increase of \$7,673.

Grand Trunk Earnings.

These figures include the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.

	1898	1897	Increase.	Decrease.
Jan.....	\$1,916,332	\$1,639,614	\$276,718	.....
Feb.....	1,674,453	1,522,246	152,207	.....
Mar.....	2,048,970	1,803,279	245,691	.....
April.....	1,918,477	1,776,840	141,637	.....
May.....	1,940,980	1,774,802	166,178	.....
June.....	1,880,402	1,912,185	.....	\$31,783
July.....	1,860,884	1,992,628	.....	131,744
	\$13,240,498	\$12,421,594	\$818,904	\$163,527

Financial Notes, &c.

Buffalo & Lake Huron.—The report for the half-year ended June 30 states, that after meeting interest on the bonded debt, the balance of revenue of £14,145 os. 5d. for the half-year will allow of a dividend of 5s. 3d. a share, carrying £360 7s. 2d. to the current account. The dividend will be payable early in September. The dividends for the past 31 half-years have been at the same rate. The line is leased in perpetuity to the G.T.R., for a rental of £70,000 a year. The Co.'s office has been removed to 3 Great Winchester Street, London, Eng., & the English Asso-

have been appointed London agents of the Co. ciation of American Bond & Shareholders

Calgary & Edmonton.—The net earnings for June were \$5434.20, against \$1555.98 in June, '97.

Canadian Pacific.—At a meeting of the Board, Aug 8, dividends of 2% on the preference stock & 2% on the common stock for the half-year ended June 30 last were declared, payable Oct. 1. Last year the dividends paid Oct 1 were, on preference stock 2%, on common stock 1½%. The dividends paid April 1 were, preference 2%, common 2½%.

Cobourg, Northumberland & Pacific.—The final instalment of £37 on each perpetual 1st mortgage debenture is due at Barclay & Co.'s bank, London, Eng., August 20. (See June issue, pg. 100; July, pg. 126.)

Elgin & Havelock.—The annual shareholders' meeting will be held in London, Eng., Sept. 7.

Grand Trunk.—A London cable dated Aug. 12 says:—The accounts of the G.T.R. for the half-year ended June, which have just been issued, show the balance available for dividend to be £106,900 sterling, admitting the payment of a full dividend for the ½ year of 2% on the 4% guaranteed stock, leaving about £2,500 to be carried forward.

Several of the English papers comment on the report:—The Financial News says it is disappointing. Relatively it is much worse than the most cautious expected, & creates grave suspicions as to managerial methods. The statement, however, shows improvement over the statement of 1897, which was better than that of 1896, & encouraging to General Manager Hays, who has reduced expenditure without impairing efficiency. Unless he is going to reverse his reputation for able, economical management, the future ought to give better results. The Manager's statement is extremely disappointing to those who made optimistic calculations.

The Statist says the report is an unpleasant surprise. But the general opinion is that Mr. Hays' management is excellent, & the best that can be done for the road.

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Grand Trunk & Wabash.—The visit of a number of Wabash officials to Montreal recently gave rise to a report that a rearrangement of the running privileges over the Southern Division of the G. T. was being effected. This is incorrect, as the Co.'s are operating under the contract originally entered into for the use of the line between Detroit & Suspension Bridge. (Official.)

Great Northwest Central.—J. B. Delap has obtained a judgment in Manitoba against this Co. for \$243,986.

Intercolonial.—An Ottawa dispatch says: "An estimate of the financial result of the operations of the Intercolonial Ry. for the past year places the probable deficit at \$250,000. The loss last year was \$59,940, & for the previous year \$55,187. There has therefore been an increased deficiency, if the reported estimate is well founded, of \$200,000. It is attributed to the failure of the business of the Montreal extension to come up to the expectations of the Government. When the year ended, the line from Levis to Montreal had only been in operation four months. The rental accruing in that period would be \$70,000. The loss is equal to three times the rental of the line. On this basis, if operated for a whole year, a very substantial deficit would be built up. In the face of the loss this year the Government will, it is probable, not ask next session, as was intended, for the ratification of the permanent contract. It will operate the extension for another year, & if the results are no better may abandon the project altogether." In reference to the foregoing, it is only fair to add that the dispatch was to an Opposition paper & may not have been free of political bias.

Kaslo & Duncan.—The 1st annual meeting of shareholders will be held at Kaslo, B.C., Sept. 6, to elect 5 directors & transact other business.

Kaslo & Slocan.—Kaslo papers think a change in the ownership of this line is imminent & it is also rumored that the C.P.R. has purchased it, which is doubtful, as the ownership has always been looked upon as very closely allied to the Great Northern (U.S.) The President is D. J. Munn, New Westminster, B.C., & the Vice-President, A. Guthrie, St. Paul, Minn.

A prominent official of the K. & S., who certainly should be in a position to speak with authority, assures us he has absolutely no knowledge of any change in the ownership of the line, & that he does not anticipate any at the present time.

The line runs from Kaslo to Slocan, B.C., 28 miles, with a branch from Junction to Cody, 3 miles. The share capital is \$1,000,000, of which \$600,000 is subscribed & paid up. Its authorized bonded debt is \$954,000, of which \$600,000, bearing 6% interest, is issued & sold. Its capital from other sources is \$279,805 paid up, making a total capital subscribed & paid up of \$1,479,805. It had a floating debt of \$279,805.92. The total cost of the railway & rolling stock was \$778,816.49. These figures are up to June 30, 1897. It received a land grant from the B.C. Government. The gross earnings for the year ended June 30, 1897, were \$117,488.22 & net earnings, \$66,093.04.

Lake Manitoba Ry. & Canal Co.—The annual shareholders' meeting will be held at Portage la Prairie Sept. 1.

New Brunswick. Coupons due Aug. 1, on N.B.R. 5% 1st mortgage bonds, have been paid by Melville, Fickus & Co., London, Eng.

Pontiac & Pacific Jet.—In our July issue, pg. 118, it was stated that the Quebec Government has issued executions against this & the Gatineau Valley roads in connection with a judgment secured in the Superior Court in 1884 for taxes. An Ottawa dispatch of Aug. 11 said P. W. Resseman, who is Superinten-

dent of both lines, had received a communication from the government's solicitor settling the matter, that all proceedings had been withdrawn, the papers being cancelled on July 30, & that the sales advertised would not take place.

Port Arthur, Duluth & Western.—The annual meeting announced for Aug. 2, to be held in Toronto, was adjourned for 30 days.

Qu'Appelle, Long Lake & Saskatchewan.—The net loss in operating for June was \$6,689.33, as against a net loss of \$714.48 in June, '97. About \$5,000 had to be expended on account of damage by freshets, part of the bridge over the South Saskatchewan, at Saskatoon, having been swept away. A considerable further amount will have to be expended in repairing this bridge. (Official.)

Quebec Central.—The net earnings for the 6 months to June were \$57,102, against \$19,615 for corresponding period.

Quebec, Montmorency & Charlevoix.—The annual shareholders' meeting will be held at Quebec Sept. 30.

St. Lawrence & Adirondack.—The annual shareholders' meeting will be held in Montreal Sept. 7.

Spokane Falls & Northern.—The Spokane Falls & Northern Ry. & its allied roads, the Columbia & Red Mountain & the Nelson & Fort Sheppard, were formally turned over to the Great Northern, (U.S.) at Spokane, Wash., Aug. 8. President Hill, of the latter road, was present at the transfer. The new officers of the Spokane & Northern are: J. J. Hill President, & Cornelius Shields, Vice-President, & General Manager. (See July issue, pg. 117.)

Tilsonburg, Lake Erie & Pacific.—The annual meeting of shareholders will be held at Tilsonburg, Ont., Sept. 13.

Toronto, Hamilton & Buffalo.—The Co. recently took up the award in the arbitration between H. J. Gonder & E. W. Fares & the Co., over a dispute as to the value of a little over 5 acres of land expropriated by the Co. for freight yards at Welland, Ont. The T., H. & B. offered \$390 for the land, but \$3,000 was claimed as a fair price therefor. The arbitrators decided the property was worth only \$389, a dollar less than the company offered in the first place. The arbitrators' fees amount to \$623, & the costs of the case, which go to the T., H. & B., amount to \$500 more.

Vanderbilt Lines.—The Railway World, Philadelphia, says:—"Before the end of this year—much earlier perhaps—we are likely to have announcements of certain corporation consolidations of far greater consequence than any recently printed. We have it, on the authority of a member of the foremost banking house of this country, that the return of W. K. Vanderbilt to this country will probably be the signal for extraordinary developments. Wall Street used to have a notion that W. K. Vanderbilt was at odds with J. Pierpont Morgan, but that idea has gone glimmering. These two are not only enjoying fuller satisfactory understanding, but it can be relied upon that between them there is now a relationship of greater consequence than any similar alliance known in American financial history."

Westinghouse Air Brake Co.—At a meeting of directors, July 12, it was voted to increase the capital stock from \$5,000,000 to \$11,000,000, of which increase \$1,000,000 will be retained in the treasury for the purchase of property or other uses as may be deemed best by the board. The action was taken in the form of the adoption of the following resolution: "Resolved, That of the 120,000 shares (\$6,000,000) of new capital stock authorized by this meeting, the stockholders recommend that the directors should distri-

bute 100,000 shares, that is \$5,000,000 at par, to the stockholders as a stock dividend out of the surplus earnings of the company not heretofore divided among the stockholders, & that the remaining 20,000 shares (\$1,000,000) remain in the treasury & be issued by the board of directors from time to time for the purchase of property upon such terms & in such manner as they shall deem for the best interest of the Co.

RAILWAY APPOINTMENTS, &c.

Brockville, Westport & Sault Ste. Marie.—At the annual meeting July 12, R. G. Murphy, Elgin, Ont., was elected a director, vice W. G. Parish, Athens, Ont. The officers were re-elected.

Canadian Government System.—It has recently been announced in a number of papers that J. E. Price, Superintendent of the Intercolonial at Truro, has been appointed Assistant General Manager of the system, & that W. Rennels, Superintendent at Campbellton, has succeeded him at Truro. The Deputy Minister and the General Manager advises us that these changes have not taken place. Later Maritime Province exchanges say the changes are to be made & that Train Dispatcher Jarvis at Moncton will succeed Mr. Rennels at Campbellton.

Grand Trunk.—F. T. Byrne has been appointed Commercial Agent at St. Louis, Mo., & H. A. Richards has been appointed Traveling Freight Agent there. These appointments, with headquarters at that point, are due to the fact that the National Dispatch & Great Eastern lines have withdrawn their agencies from St. Louis.

J. H. Burgis has been appointed Acting City Passenger & Ticket Agent, Chicago City Office, vice L. R. Morrow, resigned.

Northern Pacific.—W. L. Darling, heretofore Division Engineer, with headquarters at St. Paul, Minn., has been appointed Assistant Chief Engineer.

Ottawa & New York.—It is officially announced that the general offices of this Co. & of the New York & Ottawa Ry. Co. have been removed from Moira, N.Y., to Ottawa, Ont., & that the following appointments have been made:—Auditor, G. B. Colpas; Treasurer, W. Chance; General Freight & Passenger Agent, G. H. Watson; Trainmaster & Chief Dispatcher, S. W. Derrick; Roadmaster, M. Keefe; General Agent, J. O. Hibbard; Freight Soliciting Agent, C. Haggarty; Passenger Agent, J. W. Boyd. A. W. Flack has been appointed Travelling Agent, with headquarters at Cornwall, Ont.

Spokane Falls & Northern.—The new organization is as follows:—President, J. J. Hill; Vice-President & General Manager, C. Shields; General Freight Agent, C. G. Dixon.

Personal Mention.

Grant Hall, recently removed from the Mechanical Foremanship of the I. C. R. at Moncton, N.B., has removed to Montreal.

On Aug. 12 Traffic Manager Reeve, of the G. T. R. received a cablegram announcing the death of his mother in London, Eng., at the age of 93.

Robt. McGuire, Foreman in the G. T. R. Bridge & Building Department at Windsor, Ont., with territory extending to St. Thomas, died recently.

Wm. Mackenzie, President of the Toronto Street Ry. Co., left Toronto early in August for the Pacific coast, in connection with his various railway enterprises.

W. H. Price, formerly Travelling Passenger Agent of the Intercolonial & now chief clerk in the Passenger Department at Mon-

ton, was married at Richmond, Que., Aug. 10, to Miss A. E. Smith.

P. G. Denison, Freight Agent for the C.P. R. at Rosslund, B.C., has been appointed Station Agent & Contracting Freight Agent, C. W. Mount, who has been Station Agent for the Columbia & Western for the past 2 years, has gone to Butte, Montana. The Rosslund ticket office will be maintained in charge of A. B. Mackenzie.

H. Tandy has resigned the superintendency of the Brooks Locomotive Works, Dunkirk, N.Y., to accept the managership of the Canadian Locomotive Engine Co., at Kingston, Ont., with which he was formerly connected. The foremen of the Brooks Works presented him with a gold-headed ebony cane.

H. G. Gorman, late locomotive foreman in the C.P.R. shops at Winnipeg, has been transferred to Field, B.C., where he takes the place of R. Inches. M. J. Collins, of Broadview, Assa., has been appointed in charge of the Winnipeg shops.

J. W. Kimball has been appointed Auditor of the Construction Department of the Columbia & Western Railroad, from Robson to Midway, B.C., under W. F. Tye's management. Mr. Kimball was Secretary & Auditor of the C. & W. under the Heinze management.

C. Shields has been appointed Vice-President & General Manager of the Spokane Falls & Northern & other lines of the Corbin System, recently acquired by the Great Northern (U.S.). Mr. Shields was one of the first C.P.R. dispatchers at Winnipeg, & was afterwards Superintendent at Moose Jaw. He followed J. M. Egan from the C.P.R. to the Great Northern as Superintendent of Construction, again following Mr. Egan to the Chicago Great Western, of which he became Asst. Gen. Supt. in 1888, resigning in 1891 to take the General Superintendency of the Great Northern in 1891 & returning to the Chicago Great Western in 1893, & remaining with it till a few months ago, when he resigned the General Superintendency.

On removing from Toronto to London, Ont., recently, Superintendent Williams of the C.P. R. took with him as dispatchers, A. L. Smith, W. Killingsworth & J. K. Savage. Superintendent Price has as his dispatchers at Toronto, W. H. Allison, S. Robins & J. S. Duff.

Vice-President Shaughnessy.

"The Auditor" writes in the Railway Age as follows:—"At the recent investigation before the Interstate Commerce Commission in Chicago, more than one representative of American lines testified sincerely, but regretfully, to the fact that the Canadian Pacific was managed by discouragingly able men. In the issue of Mar. 4, 1898, an admirable portrait of Sir Wm. Van Horne, with some remarks upon his personality, was published in The Railway Age. Next to Sir William, the railway man in Canada who is of most interest to us over here is T. G. Shaughnessy, the Canadian Pacific's Vice-President. Like Sir William, Mr. Shaughnessy was born in the U.S., having seen the light in Milwaukee 45 years ago, & it was in the purchasing department of the Chicago, Milwaukee & St. Paul that he began his railway career, when 16 years of age. He was storekeeper on the Milwaukee & St. Paul when Sir William (then Mr. Van Horne) persuaded him to go to the C.P. when that Co. was struggling with the difficulties of construction. Those difficulties were at times considerable, & on more than one occasion it looked to the men on the inside as if the Co. would have to throw up its hands. It is said to have been in one of these crises that Mr. Shaughnessy finally demonstrated the ability which was in him. Debts had accumulated, creditors were vociferous, & it looked as if construction would have to stop, when, so

the story goes, Mr. George Stephen (now Lord Mount Stephen) succeeded in getting a temporary loan of a million dollars from the Government at Ottawa, & Mr. Shaughnessy was told that he would have to make that million pay five millions of debt. He is said to have done it, or at least to have so impressed creditors with the immense resources of the C.P. that few of them cared to accept any payment on their accounts from a company so ostentatiously solvent, & those that did took only a small instalment. The whole story may be purely mythical, but it is current among C.P. officials, & it is said to have been the ability which Mr. Shaughnessy showed in that emergency that created his career. Whatever truth there may be in it, it is certain that if the opportunity had not come then of demonstrating his capacity, it must have come in some other way, for no man could come in contact with him without recognizing that he was a man of unusual ability & force, & a man for whom, sooner or later, success & conspicuous position were inevitable. He has now been Vice-President & a Director of the C.P. since 1891. Whenever rumors of Sir William's retirement become current it is always accepted as a matter of course that Mr. Shaughnessy will succeed him. This will doubtless be so, & there is no human doubt that Mr. Shaughnessy is going to be (if he is not already) one of the most powerful & most honored men in Canada.

Port Arthur, Duluth & Western.

The Toronto General Trusts Co., representing the estate of the late Jno. Leys, and other Toronto interests, has sold the P.A.D. & W. Ry. to Mackenzie, Mann & Co. (W. & R. J. Mackenzie & D. D. Mann), for about \$250,000. The sale includes nearly the whole of the shares & bonds of the Ry. Co., with the exception of a few small holdings.

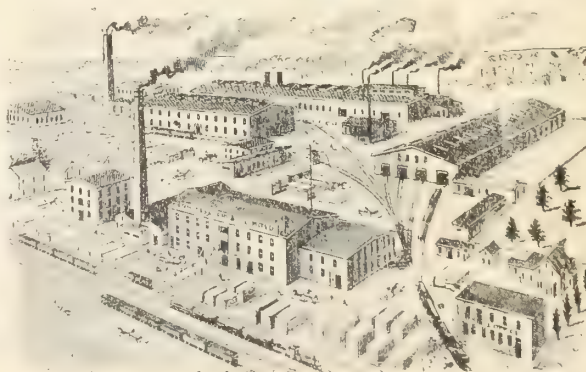
The P.A.D. & W. R. (first known as the Thunder Bay Colonization Ry.), which was completed in 1894, runs from Port Arthur, via Fort William, connecting at both places with the C.P.R. southwesterly to Gunflint Lake, on the Minnesota Boundary, 85.50 miles, with an extension of about 6 miles to Gunflint Mines, on the U.S. side of the line. The contractors were Connec & Middleton. When the road was constructed it was intended to operate it in connection with the iron mines of that region of the country, & large contracts for the haulage of ore were entered into with the original owners of the road. But unfortunately owing to a general collapse of the iron mining interests & the failure of the parties with whom the contracts were made the road has proved a costly failure. In view

of the facts that the road ended practically nowhere, had no connection for traffic at its southern end, & was of no use without the expenditure of considerable money to extend it, we think the Toronto General Trusts Co. made an excellent sale of the interests of its clients, who are no doubt glad to be rid of the burden on their hands. Mackenzie, Mann & Co. ought to be able to run it to advantage. They will use the first 16 miles from Port Arthur to Stanley as part of the Ontario & Rainy River Ry., the construction of which has just been commenced from the latter point westward, & it is said they are likely to extend the P.A.D. & W. from its present terminus at Gunflint Mines to Ely, Minn., 114 miles from Duluth, where connection will be made with the Duluth & Iron Range Ry., thus affording a through line from Port Arthur to Duluth.

The following statistics of the P.A.D. & W. Ry. Co. are up to June 30, 1897: Ordinary share capital subscribed and paid up \$1,200,000; bonded debt authorized, issued & sold, \$1,392,000 at 5%; Dominion Government Aid \$271,200; Ontario Government Aid \$255,571; Municipal Aid \$40,000; total capital paid up \$3,158,771; floating debt \$43,771.71 at 6 & 7%. Total cost of railway & rolling stock \$2,910,879.75. This is the theoretical cost, the actual cost having been about \$1,400,000. The total gross earnings for the year ended June 30, 1897, were \$9,313.61, & the expenses \$14,042.87, a loss of \$4,729.26. We are informed that there was an improvement for the year ended June 30, 1898, earnings having about met working expenses. The line is laid with 56 lb. steel rails. The radius of the sharpest curve is 573', & the heaviest grade is 95 ft. per mile. It has 4 locomotives, 2 passenger coaches, 2 baggage cars, 10 freight cars, 4 conductors' vans, 80 flats & 1 flanger.

The present Superintendent of the line is Ross Thompson, Port Arthur.

The Arctic Express Co., of Seattle, Wash., has been registered in British Columbia as an extra-provincial company, with F. M. Rattenbury, architect, Victoria, as its attorney. The capital is \$100,000, the time of the existence of the Co. is 50 years. The objects of the Co., besides doing an express business, include acquiring estates, franchises & privileges of every denomination, to acquire & operate vessels, & to carry on a general transportation business of freight & passengers upon the navigable waters of the State of Washington, Province of British Columbia, Territory of Alaska, & the Canadian North-West Territories, & the Pacific Ocean; to build & operate railways, street railways & tramways, & to acquire & operate telegraph & telephone lines.



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Railway and Street Cars

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Special Cars for Coal, Ore,
Lumber, &c., with Ball-
Bearing Wheels. ❖ ❖

Car Wheels, Castings, Forgings, &c. AMHERST, NOVA SCOTIA.

Lake Erie & Detroit River Ry.

It has been known for some months that this Co. was negotiating for the purchase of the Erie & Huron Ry., & it was also said that the Michigan Central had similar views. However, the L. E. & D. R. was successful & has made a straight purchase of the property, the transfer having been made on Aug. 19. The parties to the transfer have not made the price public, but it is rumored at Chatham, the E. & H. headquarters, that it was in the neighborhood of \$750,000.

The E. & H. line runs from Rondeau, Ont., to Sarnia, 76 miles, connecting with the L. E. & D. R. at Blenheim, 8 miles from Rondeau; at Fargo & Courtright with the Michigan Central & at Chatham with the C. P. R. & G. T. R. The following statistics of the E. & H. are up to June 30, 1897: Ordinary share capital, authorized, \$150,000; paid up, \$109,000. Bonded debt, \$740,000 at 5%. Dominion Government aid, \$96,000; Ontario Government aid, \$83,000; municipal aid, \$257,500; capital from other sources, \$61,028.75; total capital subscribed and paid up, \$1,346,528.75; floating debt, \$61,028.75; total theoretical cost of railway & rolling stock, \$1,346,528.75. The gross earnings for the year ended June 30, '97, were \$107,891.19, & the net earnings, \$25,408.44. The line is laid with 54 & 56 lb. steel rails, & the radius of the sharpest curve is 661 ft., & the heaviest grade is 52 ft. to the mile. It has 5 locomotives, 8 first-class coaches, 5 baggage, mail & express cars, 25 cattle & box cars & 17 flat cars.

The directors of the E. & H., of which E. H. Bickford, Toronto, was President, & J. G. Ross, Chatham, Managing Director, resigned, & a new board was elected with the following officers: E. C. Walker, President & Managing Director; Dr. S. A. King, Vice-President; J. H. Walker, Treasurer; J. H. Coburn, Solicitor; W. Woollatt, General Superintendent & Traffic Manager. These gentlemen all hold precisely similar positions on the L. E. & D. R. The Secretary of the E. & H., J. E. Foreman, Toronto, was re-elected. The officials of the L. E. & D. R. have been placed in charge of the E. & H. & are operating it. In addition to Messrs. Bickford & Ross, above mentioned, who retire, the other officials of the E. & H. under the old management were: E. H. Edwards, Freight & Passenger Agent; C. H. Crofts, Storekeeper; F. Stamelen, Master Mechanic, & J. G. Entwistle, Roadmaster.

A new time-table will probably be put in effect about the middle of September, when some changes will be made in operating, & trains will run between Walkerville & Chatham & between Ridgetown & Sarnia. The L. E. & D. R. now connects with the E. & H. at Blenheim Jct., & that will be the junction used to & from Chatham.

In addition to the E. & H. just acquired, the L. E. & D. R. consists of its main line from Walkerville, Ont., to Ridgetown, 84 miles, the line following the Lake Erie shore line a few miles back from it. The Co. also operates the London & Port Stanley line between those towns, under lease.

A rumor has been current that the L. E. & D. R. has purchased the London & Port Stanley Ry. We are authorized to say that this is absolutely foundationless. The lease has yet 15 years to run & nothing further has been considered.

There is nothing definite as to the proposed extension of the L. E. & D. R. from Ridgetown to St. Thomas. The management hopes to secure a subsidy next session, in which event construction will go on without delay.

The new slip docks at Port Stanley, the contracts for which were awarded by the L. E. & D. R. Co. late in May, will be completed & ready for use early in September. The contracts called for their completion on Aug. 1, but unavoidable delays prevented their being finished in that time. The docks are

being constructed immediately to the west of the lighthouse piers, & with the tracks & grading of the approaches will cost in the neighborhood of \$55,000, the estimated cost of the docks alone being \$45,000 & of the approaches \$10,000.

The main objects of the Co. in having the slip docks built are to get a good connecting link between the coal & iron regions of Ohio & Pittsburg respectively, & the West, by means of a car ferry service & the Port Stanley line to London. During the past 2 years the Co. has handled a large quantity of coal & iron for London by the lake route, but the greatest drawback, especially in the coal trade, was experienced in the trouble of having to remove it from the schooners & on to the cars. This meant a heavy expense for labor & also a loss of time, & to remove these obstacles the L. E. & D. R. decided to build the docks & operate the car ferry Shenango no. 1, which for 3 years has run between Conneaut, Ohio, & Port Dover, Ont. The Shenango is a very large vessel, costing \$150,000, & has a capacity of 26 cars, having 4 tracks, the 2 centre tracks holding 7 cars each, & the 2 outside ones 6 cars each. In addition to this she can carry on her upper deck 1,200 excursionists & she is fitted for regular passenger business with staterooms. The Shenango made her first run from Conneaut to Port Stanley Aug. 18.

The distance from Conneaut to Port Stanley is 58 miles, Port Stanley to St. Thomas 9 miles, & Port Stanley to London 24 miles. It will thus be seen by this new route Western Ontario is practically placed in direct connection with Pittsburg & the central States, from which a large amount of business comes into Canada. The L. E. & D. R.'s direct connection at Conneaut is the Pittsburg, Bessemer & Lake Erie Ry. (largely owned by the Carnegie Co.), which works direct with the Baltimore & Ohio, the Pennsylvania & other railways running out of Pittsburg. The L. E. & D. R. has already completed traffic arrangements with the C. P. R., & similar arrangements are pending with the G. T. R., M. C. R., & Wabash. (Official.)

The principal owners of the L. E. & D. R. are Hiram Walker & Sons, the millionaire distillers of Walkerville, so that the Co. will not want for capital to work its property to the fullest advantage.

The Quebec Conference.

Several questions of special importance to the interests represented by THE RAILWAY & SHIPPING WORLD will come before the representatives of Great Britain, Canada & the U. S. sitting at Quebec. These are referred to by the Toronto Globe as follows:

"While it is a large question, there should be no great obstacle in the way of coming to an understanding in regard to the bonding privilege, the continuance of which is recognized as an advantage both to the U. S. & Canada, & it would seem that all that is called for in this matter would be the careful drafting by experts of a series of clauses covering all possible conditions of transportation for incorporation in the treaty.

"The proposed revision of the treaty stipulation in regard to the maintenance of war vessels upon the great lakes seems to prevent no time-consuming difficulty. It is the wish of the U. S. merely to be allowed to construct war vessels on the upper lakes for ocean service, & not to maintain a fleet in the inland waters, it is probable that no serious objection will be offered.

"The alien labor question, which has been the cause of so much irritation, will, doubtless, find an easy solution.

"The anomalies of the wrecking laws of both countries have long been felt by the shipping trade & recognized by public men, & there

being a manifest disposition to wipe out small causes of difference, this one will be removed with the rest. In short, if the three questions of prime importance relating to reciprocity in trade, the Bering Sea seal fishery & the Atlantic fisheries are disposed of, there can be little doubt that the solution of the other differences will follow."

A few days later the Globe said in reference to the question of war vessels on the lakes: "The crucial question will be one of transit, rather than construction. The vessels contemplated are, we suppose, destroyers, and other small but deadly craft, capable of passing through the Canadian canals. The Globe said when this subject was first broached (July 25) that it was opposed to the maintenance of armed fleets on these waters & to giving the Americans any territorial rights in our canals, for that or any other purpose, & it adheres to that view."

A correspondent of the Globe, writing from Quebec, Aug. 22, says: "A city which is early in the field is Ogdensburg, represented here by State Senator Malby, of the New York Legislature. Ogdensburg wants to see the Welland canal thrown open free to all vessels, a tonnage fee of 2½ cents a ton being at present collected on all vessels, Canadian or U. S., passing through. With this tax removed he thinks Ogdensburg would get a lot of the grain that now goes over the Erie Canal to eastern points by way of Buffalo. He admits that Buffalo & New York will object to free canal navigation into Lake Ontario but thinks the grain-shippers of the west & the grain-users of New England will support his position. Canada, he thinks, would gain heavily also by the diversion of grain bound for Europe from the Erie route to the St. Lawrence. The benefit to Montreal, however, is not what Senator Malby is here to put to the front. Buffalo & the Erie are what Ogdensburg is out after."

Toronto Street Railway Taxation.

The application of the Toronto Ry. Co. for leave to appeal from the decision of the Court of Appeal of Ontario, holding that the rails, poles & wires of street railway companies were land, & assessable as realty, came on to be heard before the Privy Council in London, Eng., Aug. 2. Hon. E. Blake, Q. C., appeared for the T. Ry. Co., & C. Robinson, Q. C., for the City of Toronto. The position taken by the city was that leave to appeal should not be granted, because the legislature of this country & its courts should have the right to settle their own domestic questions of taxation, & that no broad general question of general law was therefore involved. The Privy Council gave effect to this contention, & refused the leave to appeal. The refusal of the leave does not settle the question as to whether rails, poles & wires are assessable as land. The Toronto Ry. Co. intends to further contest the question by paying its taxes under protest, & then suing the city to recover back the same. It will then be entitled to the decision of the Privy Council upon the assessability, as a matter of right, without special leave.

Smoke, Noise, Vibration & Bustle.

In Toronto, Aug. 22, Judge Rose gave judgment in the appeal of the T. H. & B. Ry. against the award of \$5,000 made by Arbitrators Judge C. J. Snyder & W. Bell, of Hamilton, in favor of the trustees of the McNab Street Presbyterian Church, Hamilton, for damages to land & for "the smoke, noise, vibration & bustle" consequent upon the running of the railway past the church. The judgment confirmed the \$500 land damages, but referred back to the arbitrators the balance of the award, \$4,500, to eliminate "any amount allowed for smoke, noise or bustle."

Up-to-Date Advertising.

From the Toronto Daily Papers.

No. 1.

Always travel by the Grand Trunk, when you can. S. S. S.; Scenery, Safety, Speed.

No. 2.

All sensible people travel by the C.P.R. H H H; Ha! Ha! Ha!

No. 3.

All sensible people travel by the C.P.R. V. V. V.; Veni, Vidi, Vici.

No. 4.

Then there are few sensible people in Canada. O. O. O.; Oh! Oh! Oh!

A Canadian Case at Duluth.

U. S. District Judge Lachlan of Minnesota has just decided a somewhat peculiar case. In Oct., 1892, the Canadian steamer Arabian carried away a lock in the Welland canal & the escaping water broke the lines of the Canadian schooner Minnedosa below & jammed the schooner against the lock wall. The Minnedosa was damaged something like \$15,000, & claim was made on her underwriters for about that sum. In the fall of 1895 one of the underwriters on the Minnedosa, the Marine Insurance Co., which had paid \$8,000 on account of this damage, libeled the Arabian in the district court at Duluth, claiming of the Arabian \$8,051.20, under the subrogation clause in its policy. The repairs actually made to the Minnedosa were trifling in amount, nearly all of the damage claimed being on account of a disalignment in her side & keel, & which was not repaired. Both vessels were Canadian; the damage occurred in Canadian waters & the Insurance Company libeling was a foreign company. Objection was made to the court entertaining jurisdiction & was overruled, a court of admiralty being one open to all the world & having the right to exercise jurisdiction in such cases or not at its discretion. The case was heard; the court fixed the damage at \$8,000 & decreed that amount to the Insurance Company. The case will doubtless be appealed.—Marine Review.

Spokane & Northern Organization.

The Great Northern has now completed the formal taking over of the Spokane & N. Ry. & the other lines of the Corbin System. The directors chosen were: J. J. Hill, C. Shields, J. D. Farrell, W. H. Thompson, F. H. Mason & T. G. Thompson. The directors immediately elected officers as follows: President, J. J. Hill; Vice-President & General Manager, C. Shields; General Freight Agent, C. G. Dixon. Columbia & Red Mountain Ry.: President, C. Shields; Vice-President, W. H. Thompson; Directors, C. Shields,

J. D. Farrell & W. H. Thompson. New officers for the Nelson & Fort Sheppard Railroad will be chosen at once. The men who are now in the management of the tributary lines are nearly all well-known Great Northern men. C. Shields is an old Great Northern man & is well-known on the coast in the operating department. C. G. Dixon, who is made General Freight Agent, is well known on the Western Division. He went to Seattle several years ago, but was, after a stay of a few months, transferred to Spokane, where he has been nearly ever since in the employ of the Co. as General Agent. J. D. Farrell is well known as a skilful & genial Superintendent. W. H. Thompson is a Seattle man, in the law department, & has charge of much of the G.N.'s legal business on the Pacific coast.

A New York Passenger Meeting.

Passenger Traffic Manager McNicoll, of the C.P.R., & General Passenger Agent Davis, of the G.T.R., attended in New York Aug. 19 a meeting of passenger officials of lines east of Chicago, held for the purpose of trying to restore rates, which are in a somewhat demoralized condition at present. The gathering did not represent any particular association, but was a special gathering of all lines interested. It had no satisfactory result, however, & the gathering broke up, the subject to be continued at their next meeting.

Speaking of the condition of things in the West, Mr. McNicoll stated that the rate from Chicago to St. Paul was now practically \$5 for a ride of nearly 400 miles. It is a secret rate, but it shows how the Western lines are fighting among themselves. Shortly after the recent meeting of the Inter-State Commerce Commission an open rate of \$8 was announced, but now it is down to the first-named figure. Mr. McNicoll considers the existing state of affairs an evidence of the hollowness of the claim that the C.P.R. was the cause of the passenger rate cutting.

Express Rates in the West.

With a view to encouraging the growing of fruit in British Columbia, & to supplying the demand for fruit at points west of Winnipeg, which could not be met satisfactorily from the present fruit shipping centre, the Dominion Express Co. has put in force very low rates on fruit from the Pacific Coast to points as far east as Winnipeg; the maximum rate on the main line being \$2.40 per 100 lbs to Winnipeg; with the result that the growers in British Columbia have marketed all the fruit they could produce this season in excellent condition, realizing prices that were highly satisfactory to them. The growers state that on the results of this year's business they will increase their orchards as rapidly as possible, & it is expected that in the course of a few years they will supply the demand for fruit in

the Northwest, & that the arrangement will be a mutual advantage to the grower, the Express Company & the consumer.

Aliens on the Canada Atlantic.

An Ottawa dispatch says: "The locomotive engineers of the Canada Atlantic & Ottawa, Arnprior & Parry Sound railways are waging a war against aliens. Some time ago these companies leased a number of locomotives from the Central Vermont Ry. for aiding in the hauling of the extensive lake grain trade from Parry Sound. At the same time a number of men were imported to run the locomotives, thus giving to aliens the work which should have belonged to Canadians. At present the engineers are provided with pilots, but these will shortly be removed, & with their removal the old employees of the lines state they will insist on the new men being sent back. It is stated the C.V. Ry. refused to lease the engines to the C.A. unless C.V. men were employed."

C.P.R. Land Sales.

	Acres.		Amount.	
	1898	1897	1898	1897
Jan.....	22,044	9,443	\$77,924.00	\$33,871.00
Feb.....	20,050	8,163	66,399.00	27,573.00
Mar.....	33,421	8,727	109,010.00	29,080.00
April.....	43,145	10,785	140,275.00	37,145.00
May.....	43,148	15,802	137,835.00	51,508.00
June.....	49,113	18,064	160,199.00	63,160.00
July.....	39,512	17,083	123,011.00	55,949.00
Totals.....	2,510,33	88,967	\$687,872.11	\$242,897.49

Two trains a day each way are being run on the Ottawa & New York, between Ottawa & Cornwall, Ont.

The general traffic agent of the Northern Pacific Ry. states that the excursion on that road from Dakota towns to the Winnipeg Industrial Exhibition this year carried 3,000 people, as against 1,600 in 1897. On the first section of the train alone 225 went from Pembina, 239 from Grafton, 69 from Cashel, 306 from the little town of Drayton, 23 from Pittsburg, 64 from Bowsement, & 31 from Joliet. These are Dakota towns & villages from 10 to 50 miles south of the Canadian boundary; & these people travelled, therefore, from 70 to 120 miles to get to Winnipeg.

The new freight tariff of the C. P. R. on grain, from the west to Lake Superior points, issued in connection with the Government agreement on the Crow's Nest Pass Ry., has been officially promulgated. The reduction on the former rate is 1½c. per 100 lbs. The tariff also contains the storage charges of the elevators at Fort William, which have a capacity for 5,250,000 bushels, effective Sept. 1, as follows: elevating (including 20 days storage) per bushel ¾c, storage for each succeeding 30 days, or part thereof, per bushel ½c., cleaning & blowing, per bushel, ¼c.

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CONSTRUCTION & BETTERMENT.

Work on Various Lines.

The Canada Eastern has built an up-to-date station at Fredericton, N.B.

Coast Ry. of Nova Scotia.—The U.S.-Spanish war seriously interfered with negotiations which were about completed in connection with this line when war was declared. Surveys have been completed for the entire line to Halifax, which satisfies the Chief Engineer that his Co. has the shortest rail line between Yarmouth & Halifax, & that it will be the most attractive tourist route in the Maritime Provinces. A person directly interested in hotels & transportation in the Southern States is interesting himself in the matter of summer hotels along the route of the line, & it is hoped some favorable action on his part may result. (Official.) (April, pg. 40; May, pg. 66.)

East Richelieu Valley.—This line, which was built last year from Iberville, P.Q., to Henryville, 12 miles, is being extended a similar distance to a connection with the Canada Atlantic Ry., on the east side of the Richelieu river, near Lacolle. P. H. Roy, of St. Johns, P.Q., is the President. It is said this line is really an extension of the United Counties Ry., which runs from Iberville by way of St. Hyacinthe to Sorel. (Unofficial.)

Edmonton Bridge.—Tenders will be received by the Department of Railways up to Sep. 13, for the construction of the superstructure of a railway & traffic bridge over the North Saskatchewan River at Edmonton, Alberta. The piers are already in.

Irondale, Bancroft & Ottawa.—It is said this line has been extended this season from Baptiste to Bancroft, 5 miles, but up to the time of going to press we had no official information. (June, pg. 99.)

Lake Manitoba Ry. & Canal Co. When in Winnipeg recently W. Mackenzie said the extension will be pushed on this year as far as Swan River, a distance of 40 or 50 miles, the stations being placed 18 or 20 miles apart. Next spring construction will be rapidly pushed on to the Saskatchewan, & if the necessary aid can be got to finance the scheme, the road will be constructed to Hudson's Bay. No doubt steamboat companies can be induced to run to the Bay now, just as they were prepared to do at the time of the projected Winnipeg & Hudson's Bay Ry. scheme. He is fully satisfied navigation is perfectly open for a good part of the year in the Bay, quite so long as navigation to Montreal. The work on the extension is progressing rapidly, & track laying has commenced.

Manitoba & Southeastern. When in Winnipeg recently, W. Mackenzie said that 40 or 50 miles would be completed this year, & if the traffic seemed to warrant it, the road would be put into operation so far as built. Just where the Winnipeg terminal was to be, he could not yet say, as he would have to look over the ground, nor could he say whether the terminal when fixed would be reached via the C.P.R. or N.P.R., or if an independent bridge would be built over the Red River. He could not tell anything about a possible connection between this road & the Dauphin road, as nothing had ever been said about it. At the eastern end it would connect with the Ontario & Rainy River Ry., which has already been commenced 16 miles west of Port Arthur on the P. A., D. & W. Ry., & he expected fully 20 miles to be graded this year. He did not know at what point the connection between the O. & R. R. & the M. & S. E. would be made, that not having been decided on. He was not aware that engineers were now at work on the Lake of the Woods to find out the best & easiest place to bridge the narrows. As for the report that the G. T. would use the

Mackenzie, Mann & Co.'s lines to reach Manitoba, there was absolutely nothing in it."

Midland.—The contractors are advertising for 500 men, 50 heavy double teams & 50 light carts. (April, pg. 40. June, pg. 99.)

Montford Colonisation.—The gauge of this line from Montford Jct. to Arundle, Que., has been changed from 3 ft. to standard, 56 lb. rails being used. (Official.)

Nelson & Reddington.—This line from Bonner's Ferry, Idaho, to Kuskanook, B.C., will be 51 1/2 miles long. We are officially informed that it will be owned & operated by English capital, & that the Great Northern Ry. (U.S.A.) is not interested in it.

The Rossland, B.C., Miner, says:—"It is now stated that the N. & B. Ry. will be constructed within a few months. It was presumed when the Great Northern acquired the Corbin system that this road would not be built. It is now learned that while the interests of the G. N. in this road are large they are secondary to those of Geo. Alexander, H. Foster, a member of the British parliament, & their associates. The N. & B. R. Co. has a trackage agreement with the G. N. by which it can reach Spokane. Bids for the construction of the line will be opened at Bonner's Ferry. The line is to be about 53 miles in length, running from Bonner's Ferry along the banks of the Kootenay River, crossing the boundary line & striking lower Kootenay Lake at a point somewhere south of Pilot Bay. It will cross the C.P.R. Crow's Nest Pass line, & will be through a rich country. It is expected boats will be run on the lake & a connection made with the Kaslo & Slocan Railway for reaching the richer portions of the heart of Kootenay. The intention is to make connections so as to enable passengers leaving Spokane in the morning to be landed in Sandon & other Kootenay points the same night. While there are no hard grades on the line, there is considerable rock & bridge work, which will make the construction expensive. In building the bridges required, over 4,000,000 ft. of lumber will be used."

Ontario & Rainy River.—A contract for clearing & grading the first 20 miles from Stanley, on the Port Arthur, Duluth & Western Ry., 19 miles from Port Arthur, following up the Kaministiquia & Matawin Rivers, has been let to E. Fauquier, of Toronto, who has sublet the first 10 miles to W. Heald, of Toronto. Work began on Aug. 10, & it is expected the 20 miles will be completed this year. Surveys are being carried on under T. H. White, C.E., & will be continued until the line is located to some point on Rainy Lake not yet selected. (Official.) (May, pg. 71; July, pg. 129.)

When at Fort Frances recently, D. D. Mann, speaking of the O. & R. R. & its western connection, the Manitoba & Southeastern, is reported to have said: "The surveyors are out now along the whole line, & while I do not care to say much as to the future construction work, I think it is altogether likely it will go on without interruption, which, if the route is feasible, will be within a short distance of Fort Frances." When asked if the line would come into the town Mr. Mann said: "It is impossible to say until Mr. McCarthy, our engineer, who is now taking soundings across the north arm of Rainy Lake, makes his report. My own impression, however, is that the country & road would be better served by running the road from Fort Frances parallel to the river, as far as the mouth, thence across into Minnesota & around the southwest end of the Lake of the Woods to Winnipeg. This would open up a valuable agricultural land & timber belt & would give the settlers what they have been clamoring for, markets for their produce & means of communication with the outside world."

Ottawa & New York.—This line having been completed between Cornwall, Ont., & Ottawa, trains were run over it both ways July 29. The completion of the O. & N.Y. Ry. marks the realization in a slightly altered form of a scheme originated by the late Dr. Bergin, M.P., nearly 20 years ago, & in the furthering of which he spent many years of his life. The original scheme when it first came before the public was for the building of a line with the aid of Jay Cooke, of Philadelphia, & others from Cornwall, to Sault Ste. Marie, & thence to the Pacific Coast on pretty nearly the same route as is followed by the Northern Pacific. This scheme met with strenuous opposition, & was never carried out. Then for years Dr. Bergin strove against various obstacles, & on Aug. 14, 1896, a few months before his death, he had the satisfaction of seeing the contract signed with the representatives of the New York & Ottawa Co., who have since built the road. This Co. sub-let the grading of the road to Balch & Peppard, of Minneapolis, Minn., & the first sod was turned Aug. 23, 1897, by J. Bergin, Q.C., brother of Dr. Bergin, & President of the Ontario Pacific Railway Co. The grading was sub-let to numerous contractors, & with the exception of a few small sections was finished last fall.

Following is a list of stations with distances from Ottawa: Edwards 13.4, Russell 20.1, Embrun 23.6, Chrysler 31.4, Berwick 34.7, Finch 37.1, Newington 41.3, Black River 48.6, Grand Trunk Jct. 55.9, Cornwall 57.0. It is expected the bridge across the St. Lawrence River at Cornwall will be completed about Oct. 1. Interlocking plants are being put in at the crossing by the O. & N.Y. Ry. of the G.T.R. tracks at Cornwall, Ont., & also at the crossing by the New York & Ottawa Ry. of the G.T. tracks at Helena, N.Y., on the Rouse's Point branch. (Official.) (April, pg. 38; June, pg. 99; July, pg. 122.)

On Aug. 5 this Co. applied to the Railway Committee of the Privy Council for entrance to its Ottawa freight terminals at the canal basin over the tracks of the Ottawa, Arnprior & Parry Sound. The Committee reserved its decision.

Pontiac Pacific Junction.—It is the intention of this company to build an extension from the present southern terminus of its line at Aylmer, Que. to Hull, this year, a distance of 10 miles. The contract had not been let up to Aug. 3. (Official.)

This Co., jointly with the Ottawa & Gatineau Ry. Co., is going on with the substructure for the interprovincial bridge between Ottawa & Hull, 2 piers of which are finished, a 3rd one-half finished & the excavation of sawdust being done for a 4th. Rock excavation is also going on on the approach to the bridge on the Ottawa side. The acting chief engineer is G. C. Dunn. (Official.)

Quebec Bridge.—This bridge, as projected, is to be a cantilever, about 3,300 ft. long, 150 ft. above high water, with a span of 1,600 ft. It is said tenders will be asked for shortly, on plans & specifications prepared by E. A. Hoare, C.E.

Restigouche & Western. The first sod was turned Aug. 12 by Chief Engineer C. L. B. Miles, about 3 miles from Campbellton, N.B. The contractors, Malcolm & Ross, have about 300 men at work, & this force will soon be increased. The first 15 miles of the survey has been revised & 10 miles will soon have been located. Another 10 miles will then be located. (Official.) (July, pg. 122.)

Vancouver Victoria & Eastern. In connection with the construction of the portion of the line between Victoria & the Pacific coast, part of a bill introduced for which we gave in June, it may be added that one of the conditions imposed by the Provincial Government is that the Co. shall equip & maintain a ferry steamer, suitable for freight & passenger cars,

between the mainland & Vancouver Island. When in B.C., recently, Vice-President Straightnessy stated that although the C.P.R. had nothing to do with the building of the line between Midway & Penticton it would probably be operated by that Co. (May, pg. 100. June, pg. 100. July, pg. 122.)

A Vancouver dispatch of Aug. 10 says: "All work has been ordered stopped on the survey for the V.V. & E.R., which has been in progress for some weeks under the direction of A. Hill, C.E. He completed the survey from Abbotsford to a height of land on the route towards the coast, & had made good progress towards Chilliwack, when orders came to discontinue the work, but for what reason is not yet made known."

The Rossland, B.C., Miner says Hugh Sutherland, of Winnipeg, who it speaks of as "a partner of Mackenzie & Mann," the owners of the V.V. & E. charter, is reported as saying that the construction of the Penticton-Boundary Creek branch will not be commenced until next year, & that it has good reason to believe Mr. Sutherland has spoken with definite knowledge. The B.C. Legislature voted a cash bonus of \$4,000 a mile for this line, & construction was to have been commenced by Aug. 8, but it is said the time has been extended, as the projectors want to obtain a Dominion subsidy in addition.

White Pass & Yukon Railway.

As previously described by us, this line is being built from Skaguay, Alaska, via the White Pass & Lake Bennett, the objective point being Fort Selkirk, Yukon. The line on the U.S. side of the line, or rather within the disputed territory, as it may turn out to be British, is owned by a U.S. Co., the Pacific & Arctic Railway & Navigation Co. The line within the limits of British Columbia is owned by the B.C. Yukon Ry. Co. & the line in Canadian territory, outside of B.C., is owned by the British Yukon Co. These three different lines will be operated by a company called the White Pass & Yukon Ry. Co., of London, Eng. Close Bros. & Co., of London, Eng., & Chicago, are the financial agents of the Co., & S. H. Graves, of that firm, is the representative on this side of the Atlantic. The Chief Engineer is E. C. Hawkins.

The distance from Skaguay to the Summit is about 20 miles, & from the Summit to Lake Bennett about 25 miles. The Pacific & Arctic Co. has about 1,500 men employed on construction, & would be glad to have double the number, & expects to get them as soon as the pressure of harvest work is over. Trains are now running to about half-way to the summit of the White Pass, & it is expected to reach the summit early in September & the Lakes about a month later. A heavy rock cut on Porcupine Hill, which has been such an obstacle to rapid progress, is finished,

& trains are running through it. The heavy rock cut at the summit of the Pass is also about completed & ready for track, & much of the heavy work on the line at intermediate points is in such a forward condition that track-laying will from now on be much more rapid than it has been. It is practically all heavy rock work to the summit of the Pass from Skaguay. There are 2 or 3 long, heavy rock cuts & 2 short tunnels. The maximum grade is 3.9 ft. per hundred. The maximum curvature is a 6 degree curve, of which there is only one. There are several bridges, but none of them involving any difficult or unusual construction. The larger bridges will be of iron & the smaller ones trestle. The only other structures in connection with the first section of the line are the large wharf & customs warehouses, etc., which are being erected at the port of Skaguay, & alongside of which there will be 30 ft. of water at low tide. The gauge of the line is 3 ft., & it is being laid with 56-lb. steel rails.

The rolling stock is the best modern equipment for that class of work, & the line is specially constructed for winter operation, so as to avoid snow blockades, etc. Early in August the Chief Engineer wired the Manager in Chicago: "More business is in sight than we can handle. Urgent need more equipment quick." In reply he was wired to procure immediately all the extra equipment needed.

The steamers plying on the Upper Yukon have proved so successful this season as to completely demonstrate its advantages over the Lower Yukon for safe & regular steamboat navigation. Several syndicates have already been organized for the purpose of running freight & stage lines during the coming winter between the end of the constructed railway & the interior. (Official.)

The Manager writes us from Chicago: "As regards continuing the line from Lake Bennett to Ft. Selkirk, the intention is to push on as fast as possible. It will not be possible to work during the winter on account of the shortness of the days & the severity of the weather in that northern latitude, but it is intended to commence work as soon as possible in the spring & to push it with the utmost possible speed. I hope that by having everything ready before-hand it may be possible to reach Ft. Selkirk before the end of next year, but this is a matter which, of course, one cannot speak with any certainty about; much will depend upon the nature of the line. We have survey parties running lines between the lakes & Ft. Selkirk, & the actual location of the road between those points will be decided after the survey parties come in this fall. You understand, of course, that running a railway survey in that country is an extreme-

ly different thing to running one down here. You will be better able to judge of this when I tell you that it took us 4 days to move one survey camp 4 miles, & that I have just received a letter from our Chief Engineer, who had returned from a 'flying' trip over one of the lines, in which he says that it took him over 2 hours to go half a mile, unimpeded by instruments or baggage of any sort." (June, pg. 98. July, pg. 123.)

Canadian Government Railway System.

The new I.C.R. station at Moncton, built by Rhodes, Curry & Co., of Amherst, N.S., was opened Aug. 1. The ground floor is used for purely station work. On the 1st floor are the dispatchers' & the Western Union Telegraph offices.

Rhodes, Curry & Co., of Amherst, N.S., have been awarded the contract for building the Intercolonial pier & sheds in Halifax. The contract calls for a pier 600 ft. long & 120 ft. wide, with a shed 80 ft. wide on it, having tracks through the centre. The contractors have started work. Tenders have also been asked for erecting a grain elevator, towards which the city of Halifax contributes \$50,000.

Mr. Fielding, acting Minister of Railways, has been in St. John, N.B., with General Manager Pottinger & Chief Engineer McKenzie about the proposed I.C.R. terminal facilities. He said the engineers were preparing the plans as rapidly as possible, & the work, when commenced, will be pushed to completion. He could not say whether the elevator would be built on the Long wharf or on the Harris property. Nor was he certain that the improvements could be completed in time for this winter's trade. Mr. McKenzie said the intention was to build berths, one at either side of the Long wharf. There would be some difficulties in connection with dredging, because of rock, & possibly, it might be necessary to acquire more property. That in the neighborhood is all held at a very high figure, & just what course will be pursued has not been determined on. It is thought that not a great deal will be done until the Minister, Mr. Blair, arrives. He will leave England Aug. 25.

J. M. LYON, General Passenger & Ticket Agent, Intercolonial Ry., Moncton, N.B., writes: "In enclosing my subscription I wish to say that THE RAILWAY & SHIPPING WORLD is worth looking forward for. I think the busy ones among its readers, which I trust are many, will find the time given to its perusal well invested."

THE CANADIAN PACIFIC RAILWAY COMPANY.

The undermentioned dividends have been declared for the half-year ended June 30th, 1898:

On the Preference Stock, two per cent.

On the Common Stock, two per cent.

The Common Stock transfer books will close in London at 3 p.m. on Friday, 10th August, and in Montreal and New York on Friday, 10th September.

The Preference Stock books will close at 3 p.m. on Friday, 10th September.

All cheques are to be remitted on Monday, 13rd October.

Whereas the Common Stock dividend will be mailed on the 1st October to shareholders of record at the closing of the books in New York and London respectively.

The Preference Stock dividend will be paid on Saturday, 1st October, to shareholders of record at the closing of the books, and the warrants will be posted from the Company's London Office.

By order of the Board,

CHARLES DRINKWATER, Secretary.

Montreal 30th August 1898.

INSURE IN

The Canadian Railway Accident Insurance Co.

OTTAWA ONT. A PURELY CANADIAN CO.

Authorized Capital - - \$500,000.

Subscribed Capital - - \$175,000.

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Work on the Canadian Pacific.

West St. John, N.B., Terminals.—The Co. is doing a large amount of work at its deep-water terminus at West St. John, formerly known as Carleton, on the west side of St. John Harbor, & which is reached by a branch line of 4 miles from Fairville, the 1st station west of St. John, & in fact, the 1st station on the eastern end of the system, as the Co. uses the I.C.R. station in St. John. Over \$600,000 is being expended in the extension of wharves, warehouses, &c. The city of St. John joined the Co. in the work & retains the ownership, leasing to the Co. for 999 years. To show the extent of the work, it may be stated that 14 acres are occupied by wharves & docks, of which $2\frac{1}{2}$ acres is warehouse floor space. The wharf frontage extends 2,100 ft., forming 5 distinct steamship berths of over 400 ft. each, all of which will accommodate at the low state of the tide vessels drawing 28 ft. of water. There is one stretch of wharf 870 ft. long, with 28 ft. of water at low tide, that will easily accommodate the largest vessel afloat. Each of these wharves will be provided with conveyors that will enable vessels to take on grain & cargo without moving from the original position & will permit them at the same time to receive from & dispatch into the sheds their package freight without intermission or delay. The elevator, which has a capacity of 250,000 bushels, is being increased to 1,000,000 bushels capacity, at a cost of \$150,000 for the elevator & conveyors, there being 2,500 ft. of the latter. There are 4 conveyors, 1 being double decked. They have a loading capacity of 6,400 bushels an hour & can load 4 steamers simultaneously. Stock yards are being built to accommodate 1,000 cattle. The warehouse accommodation is of the most extensive & substantial character, & in viewing, as the writer did recently, these terminal improvements at West St. John, which, as before mentioned, cover an area of 14 acres, every portion of which is utilized to the fullest advantage, those interested in the steamship traffic & its development will heartily appreciate the efforts made by the Co., with the generous aid of the City, in affording so inexpensive & efficient means of accommodating it.

Atlantic Division Bridges.—In our June issue, pg. 97, we referred to the improvements being made on this division. It may be added that a considerable amount of bridge work is being done in Maine, between Megantic & Mattawamkeag. During construction the bridges were built with stone piers, steel superstructures & short wooden approaches. The piers are being made into abutments & the wooden approaches are being filled. Wooden structures are being replaced by stone abutments with steel superstructures. Two steel viaducts that had wooden approaches are having stone abutments put in & the approaches are being filled. Nine wooden trestles are having box culverts put in, & the whole structures are being filled in. One wooden trestle is being replaced by a 14 ft. stone arch, with filling.

Place Viger Station.—This station & terminal hotel in the east end of Montreal was opened Aug. 13. The building was erected in consequence of an agreement entered into between the Co. & the City Council. Rather than return to the C.P.R. some property that has long been used as a park, the City offered to buy a site for a new building & exchange it with the Co. for the park. The offer was accepted & the City purchased the site upon which the building now stands. The Co. faithfully carried out its part of the agreement by erecting one of the handsomest buildings in Montreal at the cost of \$350,000, & producing at the same time the finest & most modern hotel in Canada. It has been furnished with a regard only to good taste & not

expense, & is a credit to the city. The station occupies a whole block, & is situated on Craig St., facing the Viger Gardens; it is bounded on the west by Berri, south by Notre Dame, & east by Lacroix St. The Craig St. frontage is 300 ft., & the depth, measured along one of the wings, is 116 ft.; the depth of the main portion of the building is 50 ft. The tower rises 138 ft. above the curb, the whole structure forming a grand aggregate of 1,750,000 cubic feet.

The building is arranged after the idea so prevalent in England, with the hotel above the station proper, making it at once a haven of rest & comfort for the travelling public. The architecture is of the French Renaissance, partaking of the type of the old chateau found on the banks of the Loire. The general outline & effect of the building is one of great solidity combined with gracefulness, & with its numerous towers, turrets & quaint gables it forms altogether a most pleasing sky line. The situation, in fact, is of the very best, as it commands a splendid view of the Gardens & that portion of the city. The C.P.R. evidently does not agree with those people who think that the west end is the only place for a first-class hotel. The Co. has faith in the east & has built an hotel whose magnificence would command liberal patronage wherever the building was situated. The lower portion of the building is of Montreal gray limestone & the upper portion of Scotch buff fire brick with stone trimmings, all in complete harmony, & emphasizing the beauties of the noble & graceful style. The Craig Street facade is composed of the grand portico, with 21 elliptical arches, the portico being 228 ft. long by 16 ft. wide. It is crowned on the top by a beautiful balustrade, behind which can be seen the spacious balcony. The tower, raising from a graceful sweep into a great circle, is the central point of interest & with its numerous turrets & gables makes a telling picture. The arcade is lighted from the balcony with prismatic lights. This arcade is one of the most pleasing features of the building. It runs along the front of the hotel & has 21 arches. Broad granolithic steps lead up to it from the sidewalk. The arcade will be a delightful place for the guests to sit out the pleasant hours of a summer evening, &, facing the Gardens, will command a pretty view. The 2nd storey comes out over the arcade. The building is 5 storeys high. The slate roofs are very steep, being at an angle of 50°, studied by copper & stone dormers & airy turrets, the whole mass making an unexcelled sky line. In the centre of the arcade large doors afford admittance to the general waiting room, which is circular in form & is in the centre of the whole building. It is 55 ft. in diameter. To the left, arranged along either side of a main corridor, are the offices of the executive officers, smoking rooms, ladies' waiting rooms, & lavatories, while farther along is the baggage room, & to the rear of the baggage room, occupying a whole wing of the building, is the express room. To the right of the main waiting room is the hotel department. All the upper floors are devoted to hotel purposes on plans arranged according to the most modern & up-to-date ideas. Passing out through the main waiting room the car tracks are found. The passenger platforms are covered over with roofs which run up to the rear of the building, thus putting the passengers to no inconvenience or discomfort during unfavorable weather. The station is one of the most completely equipped buildings of the kind on the continent. In the hotel portion, west of the central tower, are the reception room & offices just off the corridor, & off the same corridor are the smoking rooms, cafe, bar, billiard room & barber shop, parcel & cloak rooms. From the centre of the rotunda a grand marble staircase leads to the 1st floor, which is of Mosaic, with a Greek fret border round each room & the corridor. The build-

ing is wainscotted & trimmed with oak throughout. On the second floor are the dining rooms, breakfast room, writing rooms, parlors, etc., all finished in oak, besides the extensive corridor running the whole length of the building 10 ft. wide. Throughout the rest of the building are found ample sized parlors & bedrooms, making a total number of 150 bedrooms. These bedrooms are arranged to rent en suite or single, as required by guests. In this hotel will be found all the accommodation necessary, everything being modern & up-to-date, electric light wiring, wired throughout in iron-armored conduit, steam heating, electric elevators, & bells, & a kitchen service unsurpassed. An illustration of this hotel appeared in our June no., pg. 97.

Montreal & Ottawa Ry.—This line, having been completed, will be opened for passenger traffic Aug. 28, by 3 hours' service between the 2 cities, 2 trains a day each way. The rumor is revived that the Co. intends building a passenger station in Ottawa on the east side of Sapper's Bridge.

Point Fortune to Hawkesbury.—A number of daily papers have recently been asserting that the Co. had decided to extend the Point Fortune branch, from that place, 24 miles from Vaudreuil on the Montreal-Toronto line & 47 miles from Montreal, to Hawkesbury, Ont., on the Ottawa River. We are officially informed that there is no truth in the statement.

Eastern Division.—In our July issue, pg. 123, we give a summary of work being done on this division. It is said \$80,000 are being spent between Cartier & Port Arthur in cleaning out old cuts & reballasting. In fact, more work is being done than in any one year for the past 10 years. The few remaining trestles are mostly being filled, wooden bridges are being replaced by iron, & heavier rails are being laid.

Fort William to Winnipeg.—The work of replacing the few remaining old rails with new heavier ones is proceeding rapidly. The wooden bridge across the Kaministiquia River is being replaced by a massive stone arch similar to the one illustrated in our May issue, pg. 63. The long trestle near Finmark is being filled. A large number of additional side tracks are being put in & others are being changed; so that the distance between any 2 will not be more than 7 miles.

The Stonewall Branch, which runs from Winnipeg north to Stonewall, 19 miles, is being extended to Foxton some 18 miles further north. Neil Keith has the contract. G. H. Garden, C.E., is in charge of the surveys, &c., for the C.P.R. (Official.)

The Pipestone Branch, which runs from Menteith Jct., on the Souris Branch, to Reston, 31 miles, is to be extended west 25 miles this year. Neil Keith has the contract. It is the intention to build a further 40 or 50 miles next year, which will carry the line to about Carlyle, Assa. (Official.)

Branch from Hartney. This is a sort of Will-o'-the-wisp that up to date we have been unable to locate. In our June issue, pg. 97, we stated a branch of 20 miles would likely be built from Hartney east, which would for that distance parallel the Belmont—Hartney branch now building by the Northern Pacific. Then it was announced in a contemporary officially that a branch would be built west from Hartney 20 miles, instead of east. So far work has not been started from Hartney in either direction. We understand the original proposition was for a spur from Hartney 20 miles eastward & a little south, with the idea that it might ultimately be connected with the Pembina mountain branch at Killarney. Winnipeg papers announced that Neil Keith had moved his outfit to Killarney to start work on this spur, but he afterwards moved it to Reston & put it at work on the extension of

the Paystone branch. We have been unable to ascertain anything definite as to whether any work will be done either east or west with the above as a starting point.

Mountain Yards, Shops, &c.—A large roundhouse is to be built at Field, B.C. M. Carlin has the contract for the excavation, which calls for the removal of some 25,000 yards of earth. The tracks at Field will be increased to the extent of some 4,000 yards, the rails being taken up at Donald to be re-laid at Field. Most of the plant at the Donald repair shop will be moved to Field. The new workshops at Revelstoke will be equipped with new plant. About 3,000 ft. of additional tracks will be put in at Laggan. Some of the railway buildings at Donald will be removed & re-erected at Field & Laggan. (Unofficial.)

Crow's Nest Railway.—Up to Aug. 22, rails had been laid 20½ miles west of Lethbridge, Alberta. (Official.)

From Magleod to Bull Head a regular train is run 3 times a week, & passengers can travel in comparative comfort that far. To Bull Head the track is in good shape, & the trains invariably make their time. From Bull Head to Coal Creek, now called Fernie, where the extensive coal mines are located, is probably the most interesting part of the trip. It is between these points that the celebrated loop is located. This is a nice piece of engineering, the line dropping several hundred feet from the mountain side into the valley in the form of a letter S. The track around the loop is not in extra good shape yet, though large gangs of men are constantly employed lifting, surfacing, etc., & every day sees a marked improvement. The contractors on the Moyie portion of the road have practically finished their work, & are turning off their men & preparing to leave. J. Haskins has left for the lower end of the road to finish his contract near there. McBeath & Peters are practically through with their work & will soon be pulling out. Cowan & O'Neil, who have had the tunnel contract, have moved their outfit & left for Vancouver. R. Balfour's bridge gang has completed the bridge crossing the Moyie River at the foot of the lake, & is working on the bridge at the head of the lake. (Unofficial.)

A branch line of about 16 miles is being built to the North Star & Sunderland group of mines north of Cranbrook, from which big ore shipments are expected. (Unofficial.)

It is said the Dominion Government has notified the C.P.R. Co. that in cases on the Crow's Nest construction where contractors failed to meet their obligations to workmen regarding wages, the Co. will be held liable.

(Mar., pg. 15; Apl., pg. 39; May, pg. 67; June, pg. 97; July, pg. 123.)

Robson to Boundary Creek.—It is said there is a scarcity of men on this work. J. E. Stevens, Chief Engineer for the contractors, has stated that until they could have some assurance that the supply of men could be increased, no effort would be made to scatter the work, but that it would be concentrated on the worst portions of the road during the good weather. He expected to have about 2,000 men at work at the summit near the North Fork during August, & possibly at other points on the Boundary side of the divide. Mr. Stevens was Chief Engineer for the Great Northern Ry., but resigned to go into this contract with Mann, Foley Bros., & Larsen. McLean Bros. have the contract to bore the big tunnel, & also for the several miles of approaches to it. The tunnel is 3,100 ft. It is expected that over 100 men will be employed for a year in the boring of this tunnel. Besides this, McLean Bros. have the contract for constructing the several miles of track that will constitute the switch & over the summit, which will be used until the tunnel is finished. P. Genelle & J. Poupore have the contract for timber work. (Unofficial.) (July, pg. 124.)

Nakusp & Slocan Extension.—We mentioned last month that H. B. Walkem, C.E., was making a final location of this proposed line in the direction of the Whitewater Basin. We have since been informed that the line had previously been located, & that Mr. Walkem was simply sent over it to see if it could be improved. The Nakusp & Slocan branch runs from Nakusp, on the east side of Upper Arrow Lake, southeasterly to Sandon, 40 miles. The proposed extension would start from Three Forks, the next station to Sandon & 36 miles from Nakusp, going up Carpenter Creek past Bear Lake, then following the north fork of Kaslo River to Whitewater, a distance of about 9 miles. This extension would help the McGuigan, Bear Lake & Whitewater districts, which are now entirely tributary to the Kaslo & Slocan Railway. No definite decision as to construction has been announced, but it is expected it will be gone on with at an early date. (Official.)

Grand Trunk Work.

The Co. will erect a 100 x 50 ft. building on car shop property at London, Ont. Mr. Mills, Hamilton, Ont., has the contract. (Unofficial.)

Tenders have been asked for the erection of the round-house & other improvements at Sarnia, & it is expected to have the work well in hand by the beginning of September. The cost will be in the neighborhood of \$70,000. Improvements at Port Huron will be deferred till a little later on. (Official.) (July, pg. 123.)

VICTORIA JUBILEE BRIDGE.

The work of connecting the two portions of the temporary erection truss for the centre span was completed Aug. 7, & the last pin was put in its place Aug. 19, practically completing the work on the superstructure proper of the bridge. The work on the new bridge was started in the summer of 1897 with the widening of the piers, so as to admit of the placing of the new structure, which, in addition to the two railway tracks, also provides sufficient space for roadway & a footwalk on each side. Each pier was widened to the extent of about 7 ft. The construction of the superstructure was commenced in Nov., 1897, with the erection of the 1st span at the west end, which was completed on Nov. 27. The delay to traffic during the construction of the first span was but 25 minutes. The winter weather interfered with further construction operations, & the 2nd span was not commenced until Mar. 23, when the temporary erection truss (around which the new superstructure was built) was moved out to the 2nd span, occupying but 7½ minutes, & closing the bridge to traffic but 1 hour & 52 minutes. During April 3 spans were completed, during which the traffic was interfered with but 3 hours & 50 minutes. In May 3 more spans were completed, causing a delay to traffic of but 2 hours & 25 minutes. During June 4 spans were completed, including the last span from the west end, delaying traffic but 2 hours and 20 minutes. At the east end the construction of the 1st span was commenced April 24. During May 3 spans were constructed. During June 5 spans were constructed, & by July 15 the 3 remaining spans were completed; the total delay being but 9 hours & 21 minutes during the entire work of constructing the east end, & the total delay to traffic on account of the construction of the east & west ends, excepting the middle span, being but 20 hours & 13 minutes. The entire time occupied in moving the temporary erection trusses from span to span, referred to above, was but 3 hours; the average time for each span being about 7 minutes.

The construction of the center span, on account of the different character of the work, was carried on upon the cantilever principle.

A very complete description of the bridge

appeared in our Mar. issue, pg. 7. Some statistics regarding the new & old structures may be of interest.

	New Bridge	Old Bridge
Number of spans.....	25	25
Length of ironwork.....	6,592	6,592
Weight of ironwork.....	22,000 tons	9,044 tons
Covering area one inch thick of.....	25 acres	11½ acres
Masonry in piers & abutments.....	97,983 cub. yds.	
Covering an area one foot thick of.....	61 acres.	

Work will be at once commenced on the placing of the roadways at the side, but the most important part of the business is to get the double tracks down before the heavy travel commences in the autumn. In order to do that it will be necessary to rush with all possible speed the work of removing the old tube. Pneumatic machines are being made to expedite the work, which would otherwise have to be done by hand, which naturally would consume a lot of time. Night & day gangs of men will be kept at work on the drilling out of the thousands of rivets in the old structure, & it is hoped to have the double tracks in operation by the middle of October.

At the Point St. Charles Yard & on the St. Lambert end of the bridge the roadbed is being lowered & widened to suit the level & increased facilities of the new bridge. The Victoria Park Station, near the bank of the river in St. Lambert, has been removed to permit of the widening of the roadbed.

THE MONTREAL HEAD OFFICES.

Plans prepared by R. A. Waite, of Buffalo, N.Y., for the head office building to be erected on the property given the Co. by the City of Montreal, & the principal frontage of which is on McGill St., have been accepted by the management. The building will be 5 unusually high stories, covering a 200 ft. frontage. It will present a most imposing & effective appearance. It will be larger than the Montreal Board of Trade building. The windows will be as large as most store windows. The vital lines of the frontage are carried upward—that is, instead of producing a belittling, horizontal effect they are all vertical. They carry the eye upward. This will add greatly to the impressiveness of the general effect. The extent of the frontage would have a certain dwarfing effect were it not for the provision which gives an added height to the general appreciation through the vertical lines. Each floor of the 5 stories will be devoted to a separate department of work. That is to say, the 1st will be devoted to the audit department & all co-related work, & will contain 20,000 ft. of space. The 2nd floor will be given to the General Manager's offices & all the officials who have immediately to do with the supreme direction of the G.T.R. system. The rooms are so arranged upon each floor that each will be in plain view from the elevator. The corridors will be wide & light; the central authority in each department will, so to say, be able to have all his subordinates immediately under his direction, the idea being to realize concentration, & obviate all cause of delay. The head officials will thus be in touch with all the men with whom they sustain official relations, & in this regard the department will be most economical & efficient. This idea is wrought out upon the 5 floors, & the result will be a smooth running of the great official machine, impossible under less favorable conditions. Some beautiful frieze work has been provided for along the top storey, while above the colonades along the tops of the windows in each storey there will be also embellishments of a highly artistic character.

The contracts for the carcass of the building will be let & the architect expects the foundation will be complete before bad weather sets in. The building is to be completed in 1900. These figures will appear upon the front of the building, as well as the date of the inception of the G.T.R. system in Canada, while the seal of the Co. will be set forth over

the main entrance opposite the 2nd story, as well as the words "Grand Trunk Railway," cut in the stone. The building will be fireproof throughout, & all the material, external & internal, will be of the best & most modern character. The original estimate of cost was \$250,000, but it is expected this will be at least doubled. It is said the building will be the 2nd largest railway office building in the world, the largest being the Philadelphia & Reading offices in Philadelphia.

EQUIPMENT.

Ottawa, Arnprior & Parry Sound Ry.

The illustration on this page shows one of the locomotives recently built at the Baldwin Locomotive Works, Philadelphia, Pa, for this line. The following are the general dimensions:

CYLINDERS.

Diameter, high pressure, 14 ins.
" low " 24 ins.
Stroke, 26 ins.
Valve, Balanced piston.

BOILER.

Diameter, 60 ins.
Thickness of sheets, $\frac{5}{8}$ & $\frac{11}{16}$ ins.
Working pressure, 180 lbs.
Fuel, soft coal.

Total engine, 24 ft. 9 ins.
" & tender, 51 ft. $3\frac{1}{2}$ ins.

WEIGHT IN WORKING ORDER.

On drivers, 117,000 lbs.
On truck, 34,000 lbs.
Total engine, 151,000 lbs.
" & tender, 239,000 lbs.

TENDER.

Tender wheels, diameter, 33 ins.
Journals, 5 x 9 ins.
Tank capacity, 4,000 gals.
Weight, empty, 40,500 lbs.

SERVICE.

Freight. Guaranteed to haul a load of 750 to 800 tons (2,000 lbs) of cars & lading on a grade of 1% combined with curves of $4\frac{1}{2}$ degrees, track & cars being in good condition.

Another Westinghouse Victory.

In addition to the decisions of the U.S. courts, requiring the removal of about 1,100 infringing New York air brakes from the Buffalo, Rochester & Pittsburg Ry., & of 3,200 such brakes from the cars of the Great Northern Ry., the U.S. Circuit Court for the district of New Jersey has rendered its decision in the case of the Westinghouse Air Brake Co. vs. the Central Car Trust Co. & the Commerce Despatch Co. By this latter

ped with the brake of the New York Air Brake Co., with notice that it was an infringement on the claims of the patent in suit. . . . If they now suffer inconvenience through being obliged to discontinue the use upon their cars of the complainant's patented device, it will not be greater than they might have anticipated."

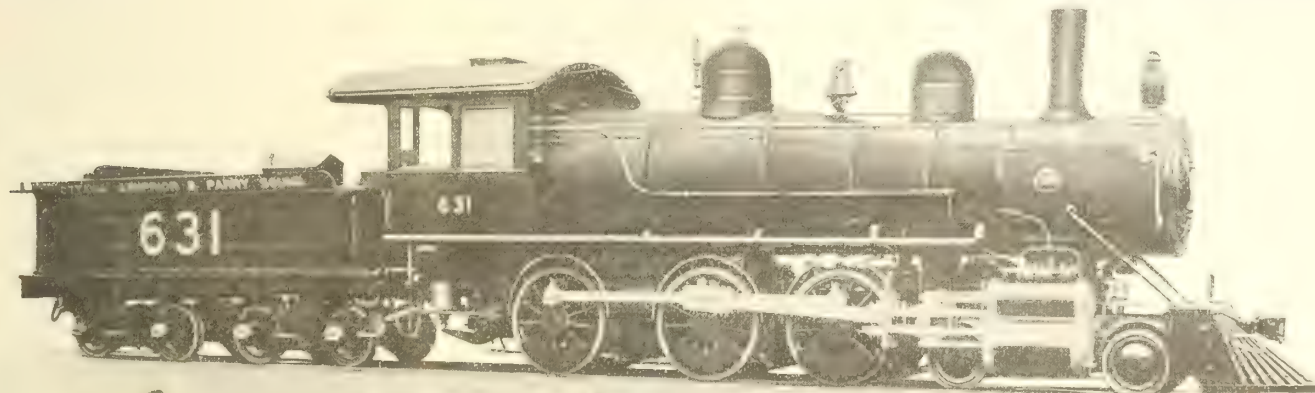
Equipment Notes.

The Intercolonial Ry. has invited tenders for 400 box cars, 60,000 lbs. capacity, & 100 flat cars.

The C.P.R. is building 2 dining cars in the Montreal shops, which will be unique in design & finish & will contain several new features.

The Northern Pacific has recently sent 1,000 new grain cars, of 70,000 lbs. capacity, on to the Manitoba division. A number of new locomotives have also arrived at Winnipeg. They can each haul 1,300 tons from Winnipeg to Grand Forks, Dakota.

In the recapitalization of the Westinghouse Air Brake Co. it is understood that the 20,000 shares set aside in the treasury are to be used for the acquirement of the Boyden & American Brake Co., the former a Baltimore & the latter a St. Louis company. Six thousand of the 20,000 shares will, according to the arrangement, be given to the Boyden people.



Ref to Burnham, Wallace & Co. Oct 17/94

OTTAWA, ARNPRIOR AND PARRY SOUND RY'S COMPOUND TEN-WHEELED LOCOMOTIVE.

FIRE BOX.

Material, steel.
Length, 102 $\frac{1}{2}$ ins.
Width, 42 ins.
Depth, front, 69 $\frac{1}{2}$ ins.
" back, 58 $\frac{1}{2}$ ins.
Thickness of sheets, sides, $\frac{3}{8}$ in.
" " back, $\frac{3}{8}$ in.
" " crown, $\frac{1}{2}$ in.
" " tube, $\frac{1}{2}$ in.

TUBES.

Number 280.
Diameter, 2 ins.
Length, 14 ft. $4\frac{1}{2}$ ins.

HEATING SURFACE.

Fire box, 154.0 sq. ft.
Tubes, 2,108.0 sq. ft.
Total, 2,262.0 sq. ft.
Grate area, 29.75 sq. ft.

DRIVING WHEELS.

Diameter, outside, 56 ins.
" of centre, 50 ins.
Journals, 8 $\frac{1}{2}$ x 11 ins.

ENGINE TRUCK WHEELS:

Diameter, 30 ins.
Journals, 6 x 10 ins.

WHEEL BASE.

Driving, 13 ft. 0 ins.

decision New York air brakes are required to be removed from 1,400 cars controlled by defendants. The Circuit Court of Appeals of the second circuit, in affirming the decision of the Circuit Court against the Great Northern Ry., says, in conclusion: "In Oct., 1894, the attention of the defendant was called by a general circular to the decision of the Circuit Court of Appeals; & in May, 1895, its attention was particularly called to the infringement by a written proposition from the complainant for a purchase of its valves & an indemnity against claims for infringement. It has paid no attention to the subject for about 3 $\frac{1}{2}$ years, & it now thinks that it is a hardship to be prohibited from further infringement. It has been a deliberate user of a large number of valves, & has preferred to run the risk of an injunction than to displace its present equipment." The Circuit Court in New Jersey, in enjoining the Central Car Trust Co., says: "There does not appear upon the record in this case any special matter which commends the defendants to the special consideration of the court. . . . The complainants requested them to remove these brakes, & offered to supply their own device upon reasonable terms; but both the request & offer were declined. . . . For purposes of economy, as charged in the bill & not denied, they purchased these cars equip-

The Ottawa & New York Ry. recently received from the Pullman Co. 2 passenger trains, each consisting of 2 passenger coaches & a baggage, mail & express car. The Co. has a number of other passenger train cars. The locomotive equipment consists of three 10 wheelers, recently built by the Baldwin Locomotive works, & 3 other engines which have been used during construction.

The Baltimore & Ohio Southwestern Ry. has solved the problem of cooling sleeping cars in stations at night. At Cincinnati, Louisville & St. Louis this line has sleeping cars placed in the stations at 10 p.m., which do not depart until after midnight, & in order to make them comfortable & cool 16-inch rotary electric fans have been placed in each end of the sleepers, thus removing the heated & impure air from all parts of the car.

In our July issue, pg. 120, we gave some information about the Cleveland cylinder which has been in use on an I.C.R. locomotive between Moncton & St. John for some months. We have since been informed by the Department of Railways that arrangements have been made for the trial of some of these cylinders. This is just about what we expected, as we hardly thought it likely that any arrangement would be made for their general use without tests first being made in an exhaustive manner.

The Country, the 1st of the new C.P.R. sleepers, was turned out about the end of July. It is decorated, as will be the others, from the designs of the French artist, Theodore Jongey, & the beauty of its fittings certainly suggests the hand of a master. It contains 8 sections, 2 drawing-rooms, & at one end a large smoking & tea room. The smoking room & the main body of the car are finished in mahogany & gold, the ceiling being of stamped leather, & the panels of the upper berth are of the same material. The upholstery is of terra cotta & green brocaded plush, imported from France. The 2 drawing-rooms are most artistic. The seats & ceilings are covered with brocaded plush of old ivory & green, & the furnishing is a beautiful white wood, known as primavera, or white mahogany. The toilet-rooms are arranged after the latest designs.

APPLICATIONS FOR INCORPORATION.

Kettle River, B.C.—Bodwell & Duff, Solicitors, Victoria, B.C., give notice of application to the Dominion Parliament for the incorporation of a company to build a railway from a point on the International Boundary Line, at or near Cascade City, B.C., thence westerly, following the valley of the Kettle River to a point on the boundary line, at or near Carson, also from another point on the boundary line, at or near Midway, northerly following the valley of Boundary Creek to a point about 20 miles north of Midway, with power to construct & maintain branch lines, & at the Boundary Line to connect with, & to operate the whole in conjunction with the railway line of the Spokane Falls & Northern R. Co., with power to construct telegraph & telephone lines for commercial purposes, as for the business of the railway, & for all other necessary & usual powers.

Ottawa River Bridge.—Perkins & Fraser, solicitors, give notice of application to the Dominion Parliament for the incorporation of a company to construct & operate a railway & general traffic bridge across the Ottawa River between the cities of Ottawa & Hull, with the necessary approaches from any station which the Co. may erect in those cities to the bridge for railway, street railway, tramway, carriage, foot & passenger traffic purposes, with power to expropriate lands; to amalgamate with or enter into arrangements with railway, street railway or any other corporation for the use of the bridge; & to charge toll, subject to the approval of the Governor-in-Council. The height of the arches of the bridge to be not less than 35 ft., & the interval between the abutments or piers to be not less than 150 ft., & for other purposes.

West Coast of Vancouver Island.—S. P. Mills, solicitor, Victoria, gives notice of application to the B. C. Legislature for the incorporation of a Co. to construct a railway from Victoria, via Sooke, San Juan & Alberni, along the west coast of Vancouver Island, to the vicinity of Hardy or Nahwitti Bays, on the extreme north end of the Island.

The Ottawa & Gatineau Valley Ry. has a party of photographers going over the line taking views of the beautiful scenery which will be distributed to advertise the summer resorts along the line.

FOR SALE

Relaying Steel Rails.

About 1,500 tons, 65 pound, with splices, for delivery in Canada. Reply to **R. L. Ginsburg & Sons, Detroit, Mich., or Buffalo, New York.**

RAILWAY PROJECTS.

Amherst & Eastern.—In our July issue, pg. 129, it was stated that the surveying of a route for the proposed line from Amherst, N.S., to the North Shore via Truemanville & Chapman Settlement, had been decided on by this Co. Nothing definite has yet been done, & it is by no means certain that the survey will be started this year. (Official.)

Brandon & Southwestern.—It is said this charter is now controlled by D. H. Purdon, of Toronto, who was at one time Chief Despatcher of the C.P.R. at Winnipeg, afterwards Assistant to General Superintendent Whyte, of the Western Division, & still later Despatcher at Moose Jaw. Mr. Purdon is said to have been between Brandon & the International Boundary recently with a survey party, & is said to have stated that work will be gone on with at once. This line, if built, would compete with both the C.P.R. & Northern Pacific, & unless it made connection with the Great Northern (U.S.) south of the Boundary Line, would have no outlet for its wheat traffic. It has a land grant of \$6,400 a mile for 17 miles, but, of course, could not be financed on that, & we do not see how it is going to be built unless the promoter has got the Great Northern interested in it. (July, pg. 129.)

Cobourg, Northumberland & Pacific.—We are officially informed that the final location for this line is being completed & amended, & that it is expected grading will be completed very soon.

Musquodoboit.—A director of this company wrote us under date of Aug. 1:—"A survey is now being conducted jointly by the Nova Scotia Government & the Co, & it is expected the report of the Engineer will be handed in within the next fortnight. As everything depends on this report it is impossible to make any definite statement as to the future until it is fully discussed. I may, however, say that from what I hear there is every prospect of the road being constructed." (See our July issue, pg. 129.)

Spokane Falls & Northern.—It is very probable that the Corbin system, now that it has fallen under the control of the Great Northern (U.S.) will be extended at the

earliest possible date to Republic Camp, on the Colville Indian reservation, via Bossburg & the Kettle River valley & it is not improbable that it may be continued southward from Republic down the San Poil River, & across the Columbia to connect with the main line of the Great Northern in the Big Bend country, Washington. The completion of such a line would form a loop of railway that would monopolize the traffic of the northern portion of the State of Washington, a region as rich in agricultural, mineral & other resources as any tributary to the Great Northern east or west. —Rossland Miner.

Toronto & Hudson's Bay.—W. T. Jennings, C.E., who left Toronto July 7 on behalf of this Co. to examine the country to the north of the C.P.R. main line, returned to Toronto Aug. 10, after travelling some 700 miles by canoe. From North Bay he examined the country some 15 miles north, & then went via Mattawa to the head of Lake Temiscamingue, examining the district northward about 40 miles nearly to the watershed, after which he went along the Wabigoon River as far as possible. From Hailebury, on the west of the lake, he went on to Shark Lake, & reached Montreal River. From Bay Lake, an expansion of the rivers, he turned southward again, & followed in a general way the projected line of the old James' Bay Ry. to Lake Temogami, then on to Lakes Wickstrad & Morten, & got into a surveyed district. Then, directing his course westward, he reached the south shore of Lake Temogami. This district, about 25 miles north of the C.P.R., was examined for terminal purposes. Bending his way north, he reached the Montreal River again, passed the great Northwest bend, & crossed the height of land, arriving at the waters that empty into James' Bay. On the return journey he took in as much of the country as possible, & came out at Wahnapiatae on the C.P.R. Mr. Sankey, C.E., who accompanied him from Toronto, went on to James' Bay, by way of Lake Abitibi, to look over the ground for harbor purposes.

Woodstock & Brantford.—This "project," briefly mentioned in our July issue, has turned out to be a huge fake. R. L. Middleton, the self-appointed Chief Engineer, is under arrest, & the dailies are full of the details, which we need not repeat.

Established 1831.

Annual Capacity 1,000.

Baldwin Locomotive Works.

SINGLE EXPANSION AND COMPOUND LOCOMOTIVES.

Broad and Narrow Gauge Locomotives; Mine and Furnace Locomotives; Compressed Air Locomotives; Steam Cars and Tramway Locomotives; Plantation Locomotives; Oil Burning Locomotives.

Adapted to every variety of service, and built accurately to gauges and templates after standard designs or to railroad companies' drawings. Like parts of different engines of same class perfectly interchangeable.

Electric Locomotives and Electric Car Trucks with Approved Motors.

Burnham, Williams & Co., Philadelphia, Pa., U.S.A.

FREIGHT MATTERS.

Vanderbilt Fast Freight Lines.

Another important step in the general scheme of consolidation of the Vanderbilt railroad interests was determined upon at a meeting recently held of the presidents & managers of the several railways & fast freight lines. President Callaway of the New York Central Railroad announced on Aug. 6 that the 8 fast freight lines, which operate over the railways comprising the Vanderbilt system, will also be consolidated into 2 divisions with a general headquarters in Buffalo. This step, it is expected, will result in a large saving of expenses. It will reduce the working forces now employed by these freight lines more than one-half. The 8 fast freight lines connected with the Vanderbilt roads are now under the supervision of 5 managers as follows: The Red, White & Midland lines are managed by F. L. Pomeroy with headquarters at Buffalo, the Blue & Canada Southern lines by G. G. Street from Rochester, the West Shore line by W. F. Wilson from Buffalo, the North Shore Despatch by W. J. Mann from Detroit, & the Nickel Plate by D. F. Jennings from Chicago. These lines are to be so consolidated that all operating over the N.Y.C. Ry. & its connections will constitute one system, & all operating over the West Shore Ry. & its connections the other system. It is likely that each individual freight line will retain its name for the sake of convenience. The N.Y.C. system will include the Red, White, Midland, Blue & Canada Southern lines. The West Shore system will include the North Shore Despatch & the West Shore & Nickel Plate lines. The N.Y.C. system will be in charge of H. L. Pomeroy as General Manager & the West Shore System's General Manager will be W. F. Wilson. A reorganization of the accounting departments of the lines will also be made at the same time. A clearing house will be established at Buffalo, in charge of G. G. Street, now General Manager of the Blue Line, with the title of General Accountant, where the accounting of all the lines, which is now done separately, will be consolidated. Consolidations in the traveling & other outside agencies will also be made wherever it is found practicable to do so. Just how radical this will be will not be determined until after the managers of the roads have had a meeting & canvassed the situation. No official estimate of the saving to be effected is given, but the Railroad Gazette thinks it safe to say that the present force can be reduced one-third, effecting a saving of at least \$250,000 a year. At all events there is not a particle of doubt that the business could be just as efficiently conducted with two-thirds the present force of men.

Montreal's Elevator Facilities.

The elevator question is one that is now engaging the attention of the shipping interest of the port of Montreal & from the experience already this season of the shippers & the transportation companies ranks as one of the most important problems confronting those who have the interests of the port in their keeping. The G.T.R. has felt the need of greater accommodation for handling the large amount of business coming over its line, there having been considerable delay at times owing to the failure of the elevating facilities to keep up with the shipments as they arrive. From the General Manager's office it is learned that the facilities of the G.T.R. as at present constituted, consist of elevators of the Montreal Warehousing Co., which are in reality G. T. institutions. They are 2 in number, elevator A being situated on Wellington street, with a capacity of 400,000 bus. of grain & 60,000 barrels of flour, & C, located on Mill St., with a capacity of 600,000 bus. of grain.

The quantities handled through these elevators during 1897, was 6,374,204 bus. of grain, & 96,000 barrels of flour. Up to the end of June this year the following quantities have been handled: Grain, 3,579,735 bus.; flour 43,129 barrels. It will be seen that already this season more than half the quantity shipped last year has been handled, & the heaviest portion of the season—the harvest part—is yet to come. Matters at Windmill Point have been facilitated this year by the putting in of a carrier which can deliver grain direct from the elevator into the ocean steamers at that point. General Manager Hays says: "I believe that one or more large elevators of a capacity of at least 1,500,000 bus., should be constructed at Windmill Point, but the basin, of course, should be extended, & the depth of water made sufficient for ocean vessels, to come up right alongside the elevator. It is only by handling grain at a minimum cost that the port of Montreal can expect to hold its own. That alone increases its importance as an export grain port, as everything is now down to such a close margin that even one-eighth of a cent per bushel is many times looked upon as quite a profit."

C.P.R. Freight Differentials.

The C.P.R. was recently notified of a meeting of the executive officers of all railways doing a trans-continental freight business to be held in Denver, August 22. The C.P.R. was requested to send a representative to this convention, & R. Kerr, traffic manager of the C.P.R. lines west of Fort William, will represent it. It is generally understood that the officials of the western railways are preparing to register a formal protest against the continuance of the C.P.R. differential on freight business. The management of the Southern Pacific Ry., from whose offices the call for the Denver meeting was issued, states that the time has arrived when the different U. S. lines either should agree to allow the C.P.R. to do all the trans-continental freight business that is offering, or should deprive that line of the advantage it possesses in its present differentials on freight business across the continent. This is practically an extension of the much-discussed C.P.R. differential problem, in order to make the fight include both the freight & the passenger departments. The C.P.R., on account of its longer haul between U.S. cities in the east & U.S. cities in the west, has always been conceded a differential on transcontinental freight business. The U.S. lines claim that this existing concession permits the C.P.R. to name a rate at least 10% lower than rates over U.S. lines. Now that interlinear competition has led to a demoralization of tariffs, the U.S. lines, as usual, are attempting to shift the blame of that demoralization upon the shoulders of the C.P.R. It is not likely, however, that the C.P.R. will relinquish its claim to its authorized differential, whatever far-fetched charges may be brought against it by its disconcerted U.S. rivals.

Elevators in the Northwest.

From all indications 1898 will be the banner elevator building year in the history of the Northwest. There is not an elevator company in Manitoba that will not add to its storage facilities along every branch line in the province. Prominent among the new elevators will be those erected by the Northern Elevator Co. Already 10 are under construction at the following points: Oak River, Varcoc, Petty-piece, Cypress River, La Salle, Starbuck, Elm Creek, Somerset, Swan Lake & Union Point. Each of these will have a capacity of 30,000 bushels, & a few others will be erected later on in the season. When those mentioned are completed the Northern

Elevator Co. will have 102 elevators in Manitoba & the Territories. Besides the 5 to be built for the Lake of the Woods Milling Co., there is about completed an elevator for the Richardson Grain Co., of Kingston, Ont., at Sydney, to replace the one destroyed last winter. The Manitoba Grain Co. will also erect a number, & it is understood the Dominion Elevator Co. will add to its storage capacity. Bready, Love & Tyron will spend about \$50,000 in erecting elevators at 13 or 14 Manitoba & Territorial points.

Transcontinental Freight Rates.

A conference of considerable importance was held at the Great Northern headquarters in St. Paul, in July, at which were present traffic officials of the 4 great trans-continental lines. Freight rates to the Kootenay country, to Washington & the entire north Pacific coast & Puget sound country were discussed, & what is understood to be an amicable agreement was reached. The matter chiefly discussed was freight rates to Kootenay points. Those at the conference were Traffic Manager Kerr & Kootenay Agent Peters of the C.P.R.; Assistant General Freight Agent Garrett, of the Union Pacific; General Traffic Manager Clarke, & General Freight Agent Somers, of the Great Northern; General Traffic Manager Hannaford & General Freight Agent Moore, of the Northern Pacific. The St. Paul Pioneer Press says in speaking of the objects of the meeting: "There have been no material reductions requiring advances, but in many cases the rates have fallen down, & in many other cases they have become ill-proportioned. It was necessary to check them up & re-adjust them."

The Ottawa & New York has given its freight cartage at Ottawa to A. Thoburn, treasurer of the Russell Theatre.

A joint through tariff, C.P.R., New York & Ottawa Ry., & Ottawa & New York Ry has been issued between Cornwall & stations on the C.P.R., Smith's Falls & east to Montreal via Finch Jet.

An immense business is being done by the Ottawa, Arnprior & Parry Sound Ry. this season in grain & lumber. The activity is from the west, Arnprior, Whitney, Gilmour's Mills & Parry Sound. All the lumber is for Montreal for export.

The G.T.R. has decided to make a bid for a share of the oat carrying trade, & for that purpose has arranged for the erection of an oat clipping elevator in Chicago. Such a building is a necessary part of the business. Hitherto the G.T.R. has not handled any of that class of business for the reason that it had not the necessary facilities. That deficiency will soon be removed, & the road hopes to participate in the carrying of the immense quantities of oats which are shipped every year from western points to the east, for export as well as for local consumption.

All freight rates were restored to a normal tariff July 25 on the Western roads. In this way was brought to a close a long-continued & disastrous rate war. While it was in progress many millions of dollars were recklessly thrown away. For twelve months rates in all parts of the territory west of Chicago have been badly demoralized. No section escaped. It is difficult to determine where the ill results were most severely felt. From St. Paul to the Gulf, & from Chicago to the Pacific Coast, the ravages of the war were experienced. But for it earnings of the roads would have shown phenomenal & unprecedented increases, & stockholders would have been enriched by the enlargement of dividend payments. Railway World, Philadelphia.

THE DEVELOPMENT OF THE RAILWAYS OF CANADA.

By Walter E. Wier.

Much of the acrimonious discussion over the question of state versus private ownership of railroads might be averted, did the advocates of either system recognize the limitations of their own arguments. It is characteristic of such dialecticians that they apply the results of one nation's experience to the problems confronting another, without considering the modified circumstances by which such experience is conditioned.

It is especially necessary to take this national equation into account in comparing the railways of Canada with those of the United States. The experience of these nations presents a series of parallels & contrasts directly traceable to the similar or to the diverse conditions existing in the two countries. Both in Canada & in the U.S. railways have grown more rapidly than population; in both countries they have often preceded roads, & even settlement itself; in both, the lines have been cheaply & rapidly constructed, & have been extended into the most sparsely-settled districts. In Canada as well as in the U.S. the main arteries of railway communication run east & west; in both countries the policy of private construction, ownership, & management has prevailed; & generosity towards the railways, as exemplified by large grants of land or money, has been common to the governments of both. The contrasts in the policy adopted on either side of the boundary line are equally striking, if less important; but the underlying similarity in the railway history of the two countries can be shown to have its cause in the like economic conditions & tendencies prevailing.

The English, on the whole, have favored a policy of private ownership of home, & of governmental ownership of colonial railways, but to this rule the case of Canada furnishes an exception. While the railways of India, of Australia, of the Cape, of Natal, etc., have been largely constructed or managed by government, the development of the railways of Canada was at first left to individual initiative. This laissez-faire policy of the government may be attributed in part to the economic doctrine then supreme in England, but it was no less due to the discouraging outlook for railway enterprises in Canada. At the beginning of the railway era the total population of British North America scarcely exceeded half-a-million, & these were mainly clustered in what are now the provinces of Quebec & Ontario & within easy reach of the great lakes & the St. Lawrence. Separated from the unknown territories of the west & from the Maritime Provinces of the east, even these tracts were too thinly peopled to invite large outlays for railways, particularly in view of the exceptional advantages presented by cheap inland navigation.

These adverse conditions were as potent in checking private enterprise, however, as in discouraging governmental activity, & the result was that, for a considerable period, the development of Canadian railways was exceedingly slow. As late as 1845 an insignificant 16-mile road from La Prairie to Quebec was the only railway within British America. During the fifties, however, the construction of the Grand Trunk, the Great Western, the Northern, & other lines was begun, & the mileage quickly grew from 71, in 1850, to 2,087, in 1860. The increasing population, the expansion of the settled area, the opening up of new lands to agriculture, & the steady increase in wealth & industry were causes, as well as effects, of improved means of land transportation, & after Confederation in 1867, economic, political, & military considerations united to increase the extent of the railroad net. The Grand Trunk continued to grow in

length, the Intercolonial & Prince Edward Island railways were constructed, the Canadian Pacific was pushed forward to a speedy completion, & branch lines were everywhere thrust out to the margin of settlement. The length of the railways increased from 2,150 miles, in 1866, to 5,157, in 1876; to 10,697, in 1886; & to 16,270, in 1896, the length of road in operation during 1897 amounting to 16,550 miles. The present extent of Canadian railways is thus only one-eleventh of that of American lines, but, with an approximately equal area, Canada's population bears a still smaller proportion to that of the U.S., & despite the fact that the Dominion contains less than five million inhabitants, there are but 7 countries in the world that can boast of a railway mileage greater than that of Canada.

This rapid development is to be attributed, in no small degree, to the financial aid of the state. Grants of land & money have been made by the Dominion, by the several provincial governments, & by municipalities, & of a total paid-up capital of \$920,000,000, no less than \$197,000,000, or 21.4%, was thus contributed, the average subsidy amounting to about \$12,000 a mile.

Of the total amount thus granted, the Dominion contributed more than three-fourths, or about 76%, the municipalities 8%, & the provincial governments 16%. Among the latter the government of Quebec has been unusually lavish, furnishing almost half of the total provincial contributions, & with a railway mileage not half so great as that of Ontario, more than doubling the donation of that province.

This policy of fostering the growth of railways by government subsidies has been subjected in Canada to considerable adverse criticism. It has been argued that the taxpayers have made immense sacrifices; that the lavish donations of the state have resulted either in the destruction of national wealth, or in its conversion to the uses of private persons; that this generosity has had a demoralizing effect upon the railways themselves; & that it has tempted them to convert Ottawa into one great lobby. These views, however, are far too pessimistic. A government subsidy should always be in the nature of a sacrifice. The policy has its *raison d'être* in the desire to combine the advantages of private & of state construction of railways, to encourage the growth of useful, but unprofitable, lines, without sacrificing the impetus derived from individual initiative. In populous and highly-developed countries, such as France, this assistance of the state has been principally required for the construction of local lines (*réseau nouveau*), but in Canada the government subsidies have aided the extension of the net by the construction of long through lines.

The favorite child of the Dominion has been the Canadian Pacific. That Company has received a grant of \$25,000,000 in cash, 25,000,000 acres of land, & about 640 miles of completed track, the last item, including preliminary surveys, costing the government some \$33,000,000. The advantages accruing to the Dominion from these sacrifices have been very great. Canada, east of Lake Superior, has always had the advantage of water connection with the Atlantic ocean from the end of March until the end of November, but west of the lakes communication was almost nonexistent. Between Port Arthur & Winnipeg there was only "the old canoe route," which, moreover, could not be used to transport immigrants, & there was no connection at all with British Columbia. Half a century ago the necessity of an inter-oceanic line had already been felt, & in an open letter, in 1847, Major Carmichael Smith wrote as follows: "This great national highway from the Atlantic to the Pacific is the great link which is required to unite in one powerful chain the whole English race." But, while the U.S. rapidly completed several of these "great

links," the Canadians, with their smaller population, lagged behind. After Confederation, however, an extension of the railways towards the west became a necessity. At this time there were no railroads in Manitoba, in British Columbia, or in the northwest, & even ten years later the conditions were hardly changed. Without the iron road the consolidated was a union in name only, & therefore in 1871 the government commenced the extensive survey of the territory through which the Canadian Pacific was destined to pass. In 1877 the Dominion began the construction, but by 1881 it was decided to hand the enterprise over to a private company, on the condition that the road should be finished by 1891. This condition was more than fulfilled. By 1886 the railway was completed, with a mileage of 4,533, & since then it has rapidly grown by new construction & by buying, leasing, or operating other roads, until at present it represents the consolidation of 21 Canadian lines, & owns or operates about 7,251 miles, about a seventh of which is situated within the U.S.

The Canadian Pacific is neither the first nor the only railway in Canada which has grown by the absorption of other lines. Amalgamation has taken place much the same as in England, France & the U.S. Of the 144 railway companies in Canada in 1896 (including 8 electric railways & bridge & tunnel companies) 21 have been amalgamated into the Canadian Pacific system & 25 into the Grand Trunk system; the remainder are more or less combined. The public has frequently recommended the Sisyphean labor of forcing railroads to compete. The Ontario & Quebec was constructed at great expense to compete with the Grand Trunk, & the province of Manitoba spent fully \$600,000 to make the Northern Pacific enter into a competition with its northern rival. But war has ended in peace, competition has been short-lived, & the truce that invariably ensued led to an agreement of some sort, if not to actual consolidation.

The Grand Trunk is a notable example of this process of amalgamation. Lying within the fertile peninsula bounded by Georgian Bay & Lakes Huron, Erie & Ontario, it has successfully acquired, by lease or purchase, property after property, until its length has increased to 4,186 miles. It is becoming increasingly an American line, obtaining foothold in Michigan, Indiana, Illinois, Maine, Vermont, etc., & having recently obtained complete control of the ill-starred Vermont Central.

What the Canadian Pacific is to the western provinces & the Grand Trunk to Quebec & Ontario the government railways are to the Maritime Provinces, New Brunswick, Nova Scotia & Prince Edward Island. As political & military exigencies dictated its futile policy of building the Canadian Pacific, so the government ownership of the Intercolonial & Prince Edward Island railways was determined by similar conditions. As early as 1832 it had been proposed to build a line connecting Quebec with the sea-coast towns of Nova Scotia & New Brunswick, & after a survey in 1835-37, the opportunity of constructing this important line seemed to have come. But the course of the proposed railway would have led directly across territory then claimed by, & subsequently awarded to, the U.S., & the railways, as finally constructed in 1876, followed a circuitous route, in order to skirt the northern boundary of Maine.

In consequence of this wide detour, which was justified on military grounds, the Intercolonial Railway is a needlessly long & uselessly expensive line. Its present length is 1,189 miles, including a short line (Windsor Branch), which is operated, but not owned, by the government. While the government has already expended more than sixty millions of dollars upon this unfortunate railway, the road, since 1872, has been operated at an annual loss ranging from \$26,000 to \$954,000. The

financial failure of the Prince Edward Island Railway, the only remaining government railroad enterprise, has been perhaps even more disastrous, this road having been operated at a deficit from the beginning. These results, however, may not be used as arguments either for or against governmental management of railroads. Though financially a failure, the state railways of Canada have been in many ways a success. They have helped to join the eastern provinces in a strong political union, to create a traffic with Quebec & Ontario, to foster a feeling of solidarity, & to be serviceable to the country in the deplorable event of an American or Oriental war. The nation stepped into the breach where private capital hesitated, & the millions that have been spent have not necessarily been wasted.

The financial success of a railway, or of a system of railways, depends upon the relation that the excess of revenue over operating expenses bears to the total cost of the line. A railway may be successful because its gross receipts are large, or because its working expenses are small, or because its capitalization is low, or through a combination of some or all of these circumstances. The net income of a railway may be large, but where, as in the United Kingdom, the capitalization is very heavy, the net revenue per dollar of invested wealth is small.

In new & sparsely-settled countries, the railways are usually capitalized at a low figure. In the U.S. the capitalization is considerably heavier in the east than in the less populous west, & the same relation obtains between Western Europe & the more sparsely-settled countries of the east. The capitalization of Canadian railways is \$52,000 a mile, which is less than that of U.S. roads (\$9,610) & considerably less than that of roads in many European States. The capital account per mile of railway in England is about 5 times, in Scotland more than 3 times, in France & Belgium more than twice, & in Germany, Switzerland, Holland & Italy from once & a half to twice as great as in Canada. This low capitalization is due not only to the sparseness of the population, but to the comparative youth of the Canadian railways. The capital account of British railways increased from £24,630 in 1838 to more than £47,200 (\$235,000) in 1895, but this has been largely due, as in other countries, to the tendency of the railways to branch out into industries other than that of transportation.

The chief cause of the low capitalization of Canadian railways is the obvious one of low cost of construction, but cost & capitalization are not quite identical. In Canada, as elsewhere, the capital account has been swelled to larger proportions by the facile expedient of stock-working. When the Manitoba & North-Western went into receivership, it was bonded to from 50 to 100% above its cost of construction. The second issue of Canadian Pacific bonds was made at 25%, & a subsequent & still larger block was sold at 52. There is a natural tendency for the capital account of all corporations to approach, not the actual investment of capital, but the real value of franchise & other property; thus the inflation of railway property for the purpose of concealing profits, or from less laudable motives, has obscured the actual cost of constructing the railroads. In the absence of trustworthy statistics, however, we may still infer that the cost was not excessive. The right of way, which in thickly-settled districts is costly, & on which the English railways, according to a moderate estimate (that of Jean's), expended fully one-tenth of their total capital, was obtained in Canada cheaply, if not gratis. The vast sums often expended on palatial stations, on terminal facilities in great cities, in avoiding grade-crossings, etc., were not demanded by Canadian conditions. In the United Kingdom immense sums have been spent in promoting & combating parliamen-

tary legislation, & drains have been made upon the resources of the railways by all forms of legal & extra-legal extortion. On the other hand, many of the raw materials of construction have been dearer than in Europe, & the Canadians have only partially pursued the policy of substituting cheap alien for the dearer native labor.

A final cause of the low construction cost of Canadian railways is found in the character of the lines. In Canada, as in the U.S., there has been in the character of construction a wise adaption of means to ends, & cheap, light, single-track lines have been built, instead of the heavier & more durable track, in more populous districts. As traffic increased, the light structures have been perfected & supplemented; steel has taken the place of iron & even of wooden rails, & the permanent way & rolling stock have been generally improved. But the railways of Canada are still far more lightly constructed than those of the United Kingdom, or France or Belgium, owing to the smaller amount of traffic.

The bulk of this traffic is freight, the receipts from this source, amounting to 64 % of the total income in 1897, while only 9.4 % were derived from mail, express & miscellaneous sources, & but 26.6 % from the passenger business. The preponderance of the freight traffic, achieved in spite of water competition, is due to the sparse population & the large area, distance acting considerably less as a deterrent to freight transmission than to travel. The passenger traffic of Canada has grown very slowly. While the tonnage moved, per head of population, increased 194 % (from 1.60 to 4.73 tons) from 1876 to 1896, the number of travellers increased only 106 % (1.40 to 2.88) during the same period. While the Canadian thus averages only 2.9 trips a year, the average in the United States is 8.2, in France 9.1, in Germany 10.4, in Belgium 14.7, in the United Kingdom 24.4 (excluding season tickets), & an almost equal number in the New England States. If the length of the trip is taken into account, the statistics of travel are not so unfavorable to Canada, since in all rural, & particularly in thinly-settled, districts (Russia, Norway, Hungary, Roumania & the Western States) the average distance covered by a traveller is generally great. Like the English railways, those of Canada do not, as a rule, give statistics of passenger-mileage, but a rough calculation gives the average trip as about 40 miles. On the Canadian Pacific each traveller is carried 46.5 miles, & the rate per mile is 2.74c. If this fare obtained throughout the whole of Canada, the average distance travelled would not be far from 33 miles, but, despite the high fares in Manitoba & the Northwest, where 4c. & 5c. a mile are not unusual, the average receipts per passenger mile are probably less. On the assumption of forty miles per passenger, the average yearly travel per capita equals only 116 miles in Canada, as compared with 153 in Germany, 170 in France, 208 in the United States, & about 250 miles est.) in the British Isles. With three-fourths of Belgium's population, 300 times its area, and 6 times its railway mileage, Canada carries but fifteen million (14,810,407) passengers compared to little Belgium's hundred million—a difference only partially compensated for by the smaller parcours (about 13 miles) on the Belgian railroads.

Since 1885 the passenger traffic has increased more slowly than the railway mileage, & from 1890 to 1895 it has remained almost at a standstill, but an increase of 15.6 % in the traffic from 1895 to 1897 indicates a coming revival in the passenger business. The freight traffic has also recovered from the ill-effects of the business depression of recent years; but, despite the recent increase in traffic, the total earnings per mile of road have steadily declined. In 1875 the receipts per mile of road were \$4.033; in 1880 they had sunk to

\$3.418; in 1885, to \$3.175; in 1895, to less than \$3.000. This decline, which may be paralleled elsewhere, is due partly to the construction of new & temporarily unremunerative railways, & partly to the great decline in freight charges, which has been so striking a feature of American railway history. The receipts per ton-mile on the Canadian Pacific declined from 1.50 to 1.17c. from 1880 to 1896, & numerous other instances of cheapened transportation might be cited.

The result of comparatively low rates & sparse population has been diminished receipts per mile, the statistics for Canadian railways showing but \$3.107 in 1896, compared to about \$7.000 in the United States, \$11,000 in France & Germany, \$12,000 in Belgium, & almost \$24,000 in England & Wales.

Fortunately the operating expenses have declined still more rapidly. During the 20 years ending with 1895, the operating expenses declined from \$3,268 to \$2,049, & while the working expenses formed 82% of the total revenue in 1876, the proportion had sunk to 69 % in 1896. Despite this decline in the coefficient of exploitation, however, the net earnings \$15,500,000, furnish but a very moderate return, 1.72 % upon the total paid-up capital, including the government subsidies.

The Canadian railways have passed through a storm-&-stress period that has been accentuated & aggravated during the last few years. The slowly returning prosperity of both Canada & the U. S. promises to aid the railroads of Canada, & railway securities have risen, with increase in railroad profits. The suspicious decline in operating expenses within the last few years has occasioned a slight scepticism as to the actual extent of the increasing prosperity of the railways, & pessimistic views are held in London & elsewhere concerning the ability of such roads as the Grand Trunk to weather future storms. It seems probable, however, that the future progress of the Canadian railways will be continuous, if not rapid. The bright promises of 20 years ago have not been realized; population has increased slowly, & the great country to the south has robbed Canada of its immigrants. But the Canadians have built for the future, & the development of Manitoba & the west, & the increase of manufacturing in Quebec & Ontario, coupled with a conservative railway policy, doubtless will improve the railway conditions in Canada.—*Engineering Magazine.*

[In stating that the U.S. has robbed Canada of its immigrants, Mr. Weyl has, probably, spoken on hearsay. Of immigrants who came across the Atlantic, intending to settle in Canada, & then changed their minds & went to the U. S., the total number is very small. At one time there was a considerable movement from Quebec to the factory towns of the New England States, but the tide is now running the other way, & repatriation is the order of the day. From Ontario considerable numbers, principally farmers' sons, went to Minnesota, Dakota & other Northwestern States while those districts were being opened up by railways & before there was through-all-rail communication with Manitoba & the Northwest Territories by the north shore of Lake Superior. But that also is a matter of ancient history, & to-day there is a considerable movement of settlers from nearly every Western State into the Canadian Northwest. EDITOR RAILWAY & SHIPPING WORLD.]

At a meeting of the Ontario Lumbermen's Association in Toronto Aug. 2, it was agreed that the Board of the Association should see the G.T.R. & C.P.R. officials & endeavor to induce them to equalize the freight rates on soft & hard wood. To Toronto the rates now are 6½c. for soft wood & 7½ for hardwood; to Montreal 12½c. for soft wood & 15 for hard wood.

The St. Clair Tunnel.

The American Society of Civil Engineers met at Detroit, Mich., during the last week in July, & during the meeting paid a visit to the St. Clair Tunnel. The Grand Trunk provided a special train which took members to Port Huron, & there they were taken on a train of new gondola cars & pushed through the tunnel by one of the famous engines used for working the tunnel. Considering the stories that have recently gone about concerning the destructive action of engine gases, this visit to the tunnel was of special interest to some members of the party. It was learned from Chief Engineer Hobson, of the G. T. R., that the only corrosion that has been serious enough to be considered at all was that of the steel bolts through the flanges of the cast iron segments making up the tube. The tube itself has not been appreciably affected. These bolts have been renewed where corroded & the bolt heads & nuts covered by concrete, which has been put in to fill the angle made by the flange with the cylindrical surface of the tube. It will be remembered, doubtless, that the lower half of the tube was bricked up at the outset & faced with concrete, flush with the flanges. The return trip through the tunnel was made within 5 minutes or less after the first trip, & there was very little gas or smoke in the tunnel; it could not have been disagreeable except to an unusually sensitive nose. The engines burn anthracite. The scheme of working requires a minimum interval of 10 minutes between the passage of engines. There is no doubt that the loss of the lives of 2 men a year ago or so, because of the breaking-in-two of a freight train in the tunnel, was due to the carelessness of the engineman & his disregard of the definite instructions for working in the tunnel. Nevertheless, the consequences of an accident of any sort which should keep a trainload of passengers & an engine or two in the tunnel would be so terrible that some other motive power will probably be adopted, if it can be done with reasonable cost & efficiency of working. The Co. is now considering compressed air motors. Obviously, the problem is novel in some particulars, as there is no precedent for motors of the powers which must be used in this tunnel.—Railroad Gazette.

A Candid Railway President.

J. J. Hill, President of the Great Northern (U.S.), which recently acquired the Corbin system of lines running north from Spokane Falls, Wash., has no use for that city, if newspaper reports of a recent interview with him are to be depended on. This is what he is credited with saying: "As far as I am concerned, I do not care whether the road ever builds through Spokane or not. We come into the city now all right & get out all right. We have all the depot facilities in the city that we want, & we always expect to have all we want. The Great Northern cares nothing for Spokane. It handles the business it gets from here, but if Spokane did not exist the road would be just as well off. Spokane does not appreciate a railroad & never did. Spokane is the worst hole from the Atlantic to the Pacific. I would not care if the Great Northern did not come within 50 miles of Spokane. The road would be just as well off. When I come to the city I keep away from the business men. I have no desire to see them."

Collingwood Schreiber, Deputy Minister of Railways & Canals, will be the host next month to a party of pleasant people who will accompany him to the Pacific coast. Hon. Mr. Dobell, Mrs. Dobell, E. L. & Mrs. Newcombe, & L. K. & Mrs. Jones, of Ottawa, will be of the party,

SHIPPING.

Thousand Island Steamboat War.

The latest move on the part of the R. & O. Co. has been to put on the steamer Richelieu between Kingston & Cape Vincent, N.Y., & to reduce the fare to 25c. for the round trip, against \$1, which has been charged by the American Line. A Kingston correspondent says: The citizens have never had such cheap outings. They can have a 60-mile ride for 25c. & the distance covered in less than 5 hours. They can have an all-day sail to Ogdensburg for 50c. The R. & O. Co. has the steamers Caspian & Columbian on the Thousand Island route, & they secure great patronage. "I never had such terms," said an excursion manager, "as I have had this year. I can get half the receipts on the Columbian any time I want to put on an excursion. I have, of course, to pay for the advertising. Heretofore I got one-fifth the receipts. The opposition is a good thing for me." The boats have handled large crowds, & promise to do so as long as hot weather lasts. The American Line people are satisfied, so they say. Their business is not disturbed. What the R. & O. people do is an extra, & above their service. Meantime the people get better river opportunities than they have enjoyed for years. The schemes to secure passengers for the boats are novel & numerous. The American line has offered, in addition to a ride of 60 miles for 25c., to give its patrons a free ride on the electric belt line about Kingston, giving a view of the chief interesting points in the city. The R. & O. Co. will, it is expected, meet the new feature by giving free cab service.

At Cape Vincent, Aug. 16, the New York Central Ry. refused to allow the R. & O. steamer Richelieu to land at the railway dock. A person interested says this is the same kind of treatment accorded to it by the G. T. R., & the N.Y.C. is only giving tit for tat.

Hudson's Bay Company's Steamers.

On the Stikine River the Co. has 2 stern-wheel steamers of modern type, the Strathcona & the Caledonia, built at Vancouver this year. They are each 140 ft. long, & 34 ft. wide, with accommodation for 60 to 100 first-class passengers. They are lighted by electricity. Weekly trips are made between Wrangell & Glenora. During the season of navigation one of these boats is taken over to the Skeena River & several trips are made as far as Hazelton, the head of navigation, & the point where the pack-trails to the Stuart's Lake & Omenica countries start.

Upon the Athabasca River the Co. has 2 well-equipped stern-wheel steamers, somewhat similar to the above-mentioned. The one on the upper part of the river, the Athabasca, runs as far as the Grand Rapids, & the other, the Grahame, from below that point to Fort Smith on the Slave River, where connection with the Co.'s screw steamer, the Wrigley, is made. This boat runs as far as the mouth of the McKenzie River. These latter boats are intended for the service of the Co. only, but outside freight & passengers are taken as far as possible.

The Co.'s vessels going from London, Eng., to Hudson's Bay are the Erik & the Lady Head. These are both barque rigged, the former having auxiliary steam power, & both are specially built to contend with the difficulties of navigation through the ice in Hudson's Straits. The Erik goes to Ungava, Churchill & York Factory, & the Lady Head to Moose Factory, both vessels being fully required by the Co.'s own shipments. They leave London in the early part of June each year, returning there in September or October.

Realizing the Facts.

The American Elevator & Grain Trade, Chicago, says: "Buffalo, as the gateway of the grain movement from the Northwest, is no longer without rivals. The Canadian routes are numerous, & during thus far this season have not been without their share of patronage. From Duluth & Chicago, the Chicago, Duluth & Parry Sound line of boats are carrying corn & wheat to the elevator at Parry Sound. The upper lake boats running in connection with the G. T. Ry. carry wheat & corn to the elevator at Midland. By the C. P. Ry. Co.'s vessels grain is carried to Owen Sound. Other lake carriers, as the Georgian Bay & Lake Superior Steamboat Line, bring down wheat & corn from the Western ports to the various terminal elevators on Georgian & Lake Huron. But the three Georgian Bay ports—Midland, Parry Sound & Owen Sound—are the main gateways. From the first the G. T. Ry., from the second the O., A. & P. S. Ry., & from the third the C. P. Ry., carry the grain onward across Ontario to tidewater & the ocean steamers at Montreal, where, within a month after the opening of navigation this year, 8,000,000 bushels of grain had been loaded at her wharves."

The Galops Canal.

This canal extends from Iroquois, Ont., to the head of the Galops Rapids, a distance of about 6 miles. The work of enlargement now in progress is designed to raise the normal level of the existing canal 6 ft.—that is, to the height of the lowest known stage of water in the St. Lawrence River, above the guard lock at the head of the Galops Rapids. The prism of canal will have a width of 80 ft. on bottom, with slopes of 2 to 1 throughout, & a depth of 15 ft. at lowest water.

A lock will be built at Iroquois about 200 ft. south of the present one. The masonry will be of the best class of limestone, peck faced, laid in cement, & in courses varying from 18 to 30 ins. in height. The lock will have two chambers, the lower to be 530 ft. in the clear & the upper 270 ft. by 50 ft. in width, with a lift of 11½ ft. at normal water, which, at the lowest stage of the river, is increased to 17 ft. It is expected that one-half of the prism will be completed so that vessels with a draft of 15 ft. may pass through with the opening of navigation in 1899. About 1,200 men are now engaged in this work. This enlargement will cost the Government at least \$2,000,000.

Maritime Province Ports.

Wm. Thomson & Co., steamship brokers, St. John, N.B., supply the following information about ports in New Brunswick & Nova Scotia:

Loading Port.	Depth Water on Bar at High Tide.	Depth Water in Harbor.	How Cargo Delivered to Vessels.	Cost of Stowing per Standard in 1896.
St. John, N.B.	42 ft.	50 ft.	Lighters.	0 70
Musquash, N.B.	20 to 22 ft.	30 "	Rafts.	20
Herring Cove, N.B.	No Bar.	30 "	Lighters.	20
Grindstone Is., N.B.	No Bar.	30 "	Lighters.	20
Hopewell Cape, N.B.	No Bar.	30 "	Lighters.	20
West Bay, N.S.	No Bar.	30 "	Lighters.	20
Tusket, N.S.	No Bar.	30 "	Rafts.	20
Margarets Bay, N.S.	No Bar.	30 "	Rafts.	20
Halifax, N.S.	No Bar.	40 "	Wharf.	20
Sheet Harbor, N.S.	No Bar.	30 "	Rafts.	20
Liscomb, N.S.	No Bar.	40 "	Rafts.	20
Pictou, N.S.	22 ft.	30 "	Wharf.	1 00
Pugwash, N.S.	20 to 21 ft.	25 "	Whf & Rafts.	20
Baie Verte, N.S.	No Bar.	30 "	Rafts.	1 00
Shediac, N.B.	17 ft.	20 "	Whf & Rafts.	20
Miramichi, N.B.	18 to 22 ft.	30 "	Wharf.	1 50
Bathurst, N.B.	No Bar.	30 "	Lighters.	20
Campbellton, N.B.	20½ to 21 ft.	25 "	Whf & Lighters.	25

Pontooning on the St. Lawrence.

The operation of cutting in two large steel vessels like the U.S. revenue cutters Gresham & Algonquin, in order to permit of their passage through the St. Lawrence canals to the Atlantic seaboard, & the announcement that a similar method of procedure will be necessary in the case of the revenue cutter Onondaga, building at Cleveland, which will also be taken over by the U.S. Navy Department on reaching the Atlantic, has again directed attention to this class of work, & has emphasized the skill & care necessary for its satisfactory performance. When the steel steamers Mackinaw & Keweenaw, built at West Bay City, Mich., were taken through the St. Lawrence in this way, a few years ago, the success of the work & the simple manner in which it was performed, was surprising to some vessel men. Since that time a large number of vessels—whalebacks, light-ships, tugs built for ocean service, oil barges, etc.—all of them of greater draught than is found in 2 or 3 of the canals at present, & some of them of larger dimensions than the canal locks, have been successfully moved to the seaboard. In the case of vessels of dimensions larger than the locks, it has been necessary, of course, to cut them in two, but where depth of water was all that was to be taken into consideration, the vessels have been raised on pontoons.

There are 3 or 4 concerns that are equipped for this kind of work, & that undertake contracts in which they agree to deliver the vessels safely through the canals & below the shallow parts of the river. They usually act jointly with the ship builders when it is necessary to cut a vessel in two. The accompanying illustration shows the sea-going tug W. H. Brown while being pontooned through the canals from the lakes to the seaboard. She was built at West Bay City, & is now one of the auxiliary naval fleet. Another tug built at West Bay City, the Wilmot, was taken through the St. Lawrence in the same way. The same contractors also successfully conducted the work of cutting in two, pontooning through the canals & erecting at Montreal the steamer Campana, as well as a light-ship for the U.S. Government that was built on the lakes, but intended for Atlantic coast service. Few vessel men perhaps realize the extent of equipment necessary to cope with the various lines of work that may be required in undertaking contracts of this kind.—Marine Review.

When coming up the St. Lawrence Aug. 8 the steamer Myles took a sheer in the current at Farren's Point near Cornwall, & knocked her forefoot off. She was drydocked at Kingston.

In British Columbia Waters.

The Puget Sound steamer North Pacific has been fined \$100 for infringing the custom law by allowing smuggled cigars to be brought into B.C. by members of her crew.

The C.P.R. Co's. steamer Trail, which was laid up at Nakusp for repairs during June & July, was put in commission again early in August. She is plying between Arrowhead & the Trail smelter & tows car barges.

The B.C. Iron Works, Vancouver, closed down in July on account of financial embarrassment & the Co. is being wound up. It is said the Co. lost heavily on building steamboats for the Yukon trade. It is expected a new company will be organized to carry on the business.

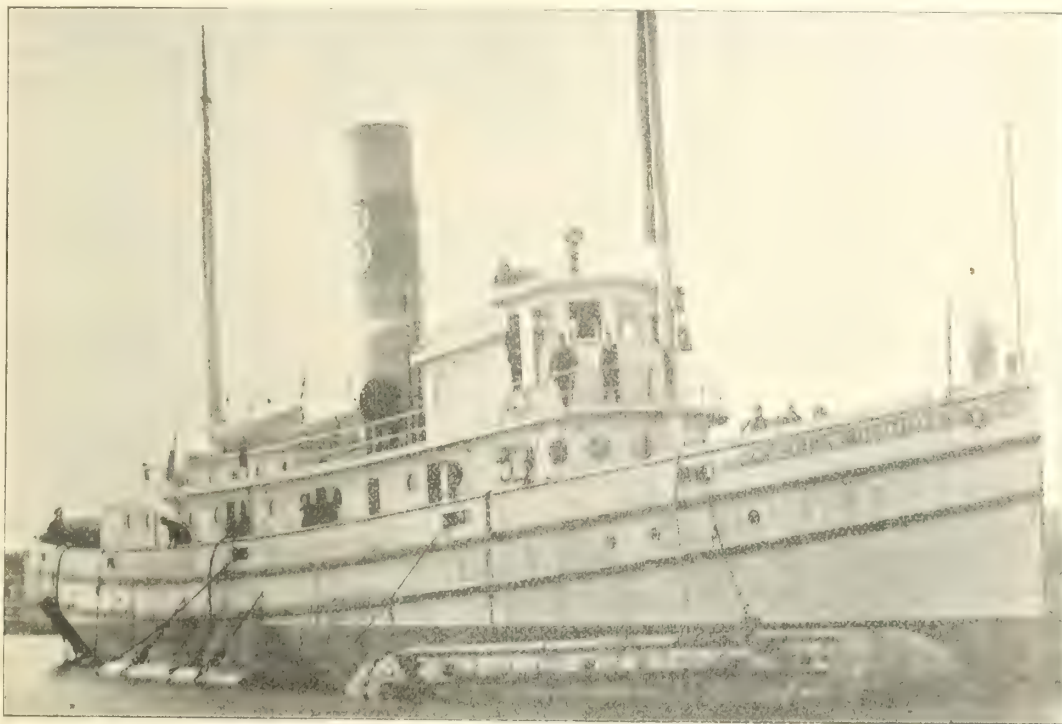
In reference to what we said in our July issue, pg. 134, the Canadian Pacific Navigation Co. informs us that it is its intention to put on a new steamer for the Victoria-Vancouver route, & that it hopes to have her running next season. The Co. has received a num-

As mentioned in our July issue, pg. 130, two out of the 3 steel-hull steamers built in Toronto for the C.P.R., & sent to Vancouver to be put together there for the Stikine trade, were sent back to the interior & are now being completed, one at Nakusp, for service on the Arrow Lakes, the other at Nelson, to ply between Lake Arrowhead & the Arrow Lakes, & Kuskanook, the temporary western terminus of the Crow's Nest Line. It is expected they will be finished by the end of September.

Several changes have been made in the officials of the C.P.R. inland steamer fleet. When Capt. Fraser was taken from the tug Columbia, & promoted to the steamer Trail, Capt. Estabrook, of the Hunter, on Slocan Lake, was given charge of the tug Columbia. Mate Griswold, of the Nelson, was given the same position on the Rossland. Mate Sutor, of the Slocan, has been transferred to a similar position on the Trail. Mate Allison, of the Rossland, has been promoted to be pilot of the Kootenay. Pilot McClellan of the Kootenay has been promoted to be Captain of the Hunter, on Slocan Lake. All these changes & trans-

fers are in the line of promotion.

A menace to navigation is drifting about the coast waters of the Pacific in the direct course of coasters. Last March the bark Forest Queen sailed from Puget Sound for San Pedro with lumber & has never since been heard of. The supposition is that she capsized in a gale, & is floating around somewhere buoyed up by her load of lumber. Recently a derelict that somewhat resembled the missing bark was sighted bottom up at lat. 43.19° N., long. 129° W., & a few days later the same derelict was sighted off Point



PONTOONS UNDER A LAKE-BUILT TUG IN THE ST. LAWRENCE.

ber of tenders, but at the date of our last advices on the subject (Aug. 1) neither of them had been accepted.

The plant & shipbuilding business of the Esquimalt Marine Ry. has been sold out to the British Columbia Marine Ry. Co., which assumed control July 27. Its intention is to enlarge the business & to supplement the large docking & repairing plant at Esquimalt with a smaller plant in Victoria Harbor, & also to equip a site in Vancouver already secured, with facilities for repairing & building craft of all sizes.

Nearly every C.P.R. inland steamer is doing a big business this summer in carrying the immense amount of railway construction now going on in the Kootenays, on both the Crow's Nest Pass Ry. & the Robson-Midway branch. This necessitates the transfer of great quantities of merchandise, grading outfits & supplies of all kinds, & the carrying of large numbers of passenger traffic, including the railway laborers constantly going in to work on the lines.

Reyes. The underwriters & insurance men of the Sound are indignant that the U. S. Government, notwithstanding that a number of their vessels are lying idle at San Francisco, has taken no steps to destroy this danger to coasting vessels.

Lake Superior to the Rockies.

The steamer D. L. Mather, owned by the Keewatin Lumber Co., & plying on the Lake of the Woods, was burned to the water's edge July 26. Loss, \$8,000; covered by insurance.

The Rainy River Navigation Co. has secured the rights to the City of Lake Superior, & is plying on Rainy Lake, & she will be taken into Rainy Lake service when the Keewatin in her Rat Portage trade & in running on the Rainy Lake line.

The steamer Mather, while running on the Lake of the Woods, was captured by the U. S. S. Albatross Aug. 9, got out of the channel & was crowded up on the shore & burned to the water's edge, & going for passenger & cargo.

light. Among those on board was D. D. Mann.

An impressive idea of Canada's greatness is afforded by an advertisement in a Winnipeg paper, illustrated by a picture of the 2 propellers of almost sea-going size which carry passengers from Selkirk to the mouth of the Saskatchewan & return, a distance of 700 miles. Quite a country Canada is, when almost hidden in its vast expanse is an inland lake on which propellers can steam for 350 miles straightaway. *Toronto Telegram.*

The Maritime Provinces.

The keel of a steam ferry boat to ply on the harbor of St. John, N.B., was laid in Carleton, Dec. 8, 1838.

One thousand & eighty-one vessels of all kinds entered the customs at Sydney harbor from the opening of navigation to July 31.

The view on pg. 163 shows the marine railway recently built at Lunenburg, N.S., a description of which appeared in our June issue, pg. 102. We are indebted to the publishers of Seaboard, New York, for the use of the cut.

In our July issue, pg. 131, we gave pretty full particulars of the specifications of the winter steamer for service between P. E. Island & the mainland, which is about to be built for the Dominion Government. We have since been informed that some alterations are being made in the details of the specifications, to secure more strength where it is considered necessary.

The steamer Express on a trip to Yarmouth from Halifax about the middle of August touched & met with a slight accident going through the Tusquets. She would have gone in dry dock or Dartmouth Marine Ry., but both were occupied. A survey showed she had not been damaged; the surveyors recommended that she be continued on her route, & she left as usual.

In recent issues (June, pg. 107, July, pg. 134) we have given particulars of a considerable number of vessel companies which have been incorporated, with G. W. Churchill & other members of the Churchill family of Hantsport, N.S., as shareholders. The firm of E. Churchill & Sons, the members of which are the principal parties interested, are wealthy vessel owners. They have been incorporating a separate joint stock company for each of their vessels, so that, it is said, in case of any one of their vessels getting involved by any cause, such as collision, etc., only the vessel implicated, or its value, would be liable.

The launch of the Dominion Atlantic Ry's. steamer Prince Arthur took place at Hull, Eng., July 19, W. R. Campbell, the Co's. General Manager being present. The launch was, as on the occasion of launching the Prince George, a perfect success. Crowds attended the event, which passed off without a hitch. She is 290 ft. in length & 38 ft. breadth of beam. The work of installing her boilers & engines & furnishing her interior will be hurried forward, & it is expected she will be in readiness to leave Hull by Sept. 1. The Co's. magnificent liner, Prince George, shortly to take her departure for her Boston & Maritime Province service, was dressed with all possible bunting, rainbow fashion, & presented a fine spectacle.

The graving dock at Halifax, owned by the Halifax Graving Dock Co., with headquarters in London, Eng., is excavated out of the solid rock & is built of granite & concrete. It is 601 ft. long, 102 ft. wide at coping & 70 ft. wide at bottom, with 30 ft. of water on sill. Width of entrance 85 ft. The dock can take any warship built with all guns and armament. The property is provided with machines, workshops, etc., so that any cargo can be handled & repairs effected. The Co. also

owns the property of the late Chebucto Marine Railway at Dartmouth, N.S., consisting of no. 1 railway 2700 tons capacity; no. 2 railway 900 tons capacity; no. 3 railway 2 cradles 250 & 150 tons capacity; no. 4 railway 2 cradles 200 & 100 tons capacity.

Ontario & the Great Lakes.

Lakes Superior, Huron, Erie, Ontario & Michigan have an aggregate area of 94,750 square miles, which is larger than the area of Great Britain.

The largest whaleback steamer ever built, the Alexander McDougall, recently left the barge works at West Superior, Wis., & went to the Mesabic ore docks to load with 6,000 tons of ore for her maiden trip down the Great Lakes.

While on her way from Toronto to Alexandria Bay Aug. 10, the steamer Cambria ran ashore opposite Presque Isle light. She had 300 or 400 passengers on board, all of whom were taken off safely. She was pulled off without much damage.

As a specimen of freight-carrying capacity in lake steamers, it may be mentioned that the John Fritz took a cargo of ore out of Duluth recently, which weighed 6,959 gross tons. Her draft of water was 17 ft., 1 in. Her consort, the S. F. B. Morse, launched at West Bay City, July 31, will probably carry 7,200 tons.

The Northern Transit Co., which is handling passengers twice a week from Toronto & transferring them to the American line for Montreal, is not the Canadian line of that name, but the line from Cleveland to Ogdensburg. The steamers employed are the Empire State & Badger State. They make weekly trips.

It is said a scheme is on foot to place a complete line of steamers on the chain of waters from Lindsay to Peterborough & from Cobocok to Peterborough. The project as put forth has been received with approval by the owners of the boats on Stony Lake. The object is to incorporate into a company the owners of all steamers now on the waters in order that a much better service may be arranged.

It is said the Hamilton Steamboat Co. has done very well this season, & that the receipts are ahead of last year, although the fare is much lower. It is considered unlikely that the Co. will go back to the old tariff even if the railways restore rates. It will probably advance fares something above the present price, but will not restore them to the old figures. The Co. has found that cheap fares by water attract business, & in future will make its own rates independently of what the other railways may do.

The surface level of Lake Superior at Duluth is a foot lower than at this date a year ago. This low water is a disadvantage to the big boats & helps the smaller ones, which are really out of the competition during high water. The two classes of boats are now about on an equality. An old vesselman says there is no way of explaining positively the variations in lake levels, but he believes they are lowering, though almost imperceptibly. This record is corroborated by G. K. Gilbert in the forthcoming report of the U. S. Geological Survey.

On Aug. 6 the C.P.R. began lake steamship service on Georgian Bay & Lake Huron. The new steamer City of Windsor was put on this service, & left Owen Sound for the following ports of call on the Bay & Lake Huron—Salt Ste Marie, Ont., Shequandiah, Blind River, Hanova Bay, Algoma Mills & other intermediate points. A tariff has been issued by the freight department of the C.P.R. governing business on this route. This tariff establishes rates identical with those of the

Great Northern Transit Co. & the North Shore Navigation Co.

The Ottawa River Navigation Co.'s new steamer Island Queen arrived at Ottawa about the middle of August, & was put on the line between Ottawa & Wendover, leaving Wendover every week day at 6 a.m., arriving at Ottawa about 10 a.m., & leaving on the return trip at 5 p.m. from Queen's wharf for Wendover & all intermediate points. The Island Queen is a swift passenger propeller making 13 miles an hour, & has a passenger license for 250. She is neatly fitted up with upper & lower cabins & shade decks, & will be a great acquisition to the Co.'s fleet.

The Hilda, the first of 2 steel grain barges that are being built for the Prescott Elevator Co., was launched in Toronto Aug. 9. The barge is 180 ft. long, 30 ft. beam, & 14 ft. deep, having a canal draft of 40,000 bushels of wheat. She is built entirely of steel, even the decks, & the bottom is sheathed with rock elm plank 5 ins. thick to shield it from rocks in the canals. It has 5 hatchways on the deck, a cabin aft for the accommodation of the officers' quarters, & an excellent place is fitted up in the fore-castle for the deck hands. The second one will be launched this month.

Capt. McDougall, the inventor of the whaleback, says:—"Next year the new Canadian canal will be opened, & it will offer a broader field for lake carriers. Boats carrying 2,000 or 2,200 tons will be able to go direct from Duluth to Montreal & Quebec, & thence to England & European ports. The new canal will permit of the passage of boats 270 ft. long & drawing 14 ft. of water. Vessels of this type can sail on the lakes during the season of navigation, & can then go to sea & remain there in commission all winter, when freight rates on the ocean will demand it. Within the next five years I expect to see a fleet of at least 100 boats of this class trading between Duluth & European ports."

Official reports to the Department of Railways & Canals indicate a considerable diminution in the volume of trade passing through the "Soo" Canal during July. Up to the end of June the number of vessels locked through the canal this season was 1,506, an increase of 400 as compared with the season of 1897 to that date, while the amount of freight passed through was 1,419,197 tons, an increase of nearly 400,000 tons as compared with the corresponding period of last year. The falling off during July, however, has been such as to reduce the total traffic for the present season thus far considerably below the total for the corresponding period of last year. Up to July 31, 2,056 vessels were locked through, carrying 1,786,477 tons of freight, against 2,003 vessels & 2,205,822 tons of freight locked through last year up to July 31. Comparing the traffic in freight there was a falling off of nearly 600,000 tons during July. This year the canal opened April 11, & last year April 21.

Province of Quebec.

The R. & O. steamers are to call at Cap a l'Aigle on the up as well as down trip.

It is said arrangements have been made for the steamer Admiral, which runs between Montreal & Gaspé, to call at Matane, on both up & down trips.

Application for incorporation has been made by the Chateauguay & Beauharnois Navigation Co., with a capital stock of \$50,000, headquarters at Chateauguay Basin, to acquire & operate steamboats & other vessels. The applicants are:—Capt. C. B. Bouthillier, R. Lang, D. W. Tully, A. McRobert, St. Joachim de Chateauguay; J. Brault, of Sainte Philomene; J. H. Reay, of Saint Clement de Beauharnois, & P. Parent, of Beauharnois.

Water Routes to Yukon.

A reliable correspondent, writing from Dawson City, Yukon, about the end of June, said: "The water in the Yukon River is about 6 ft. less than this time last year, & some of the people anticipate that most of the St. Michael's fleet will not be able to come up, though trading companies say the water will be higher in July, & that all their boats will arrive, & the first boats are expected about July 15. Several boats have arrived from St. Michael's which left there last fall & wintered at Circle City & lower down. The following steamers left for down the river: The Hamilton June 25, the P. B. Weare June 26, & the Bella June 27—all of these boats carrying in the neighborhood of \$1,000,000 each in gold. The first steamer to reach Dawson from Lake Bennett was the Bellingham, which came down in 7 days, & the A. J. Goddard was the next. She came down in 5 days, & is now on her way back to the White Horse Rapids with government mail & passengers. Above the White Horse she has a sister boat plying to Bennett, & if the trip from here to White Horse can be made against the stream, we figure it will make a wonderful difference to this country, as it is less than 600 miles from here to Skagway, while it is 1,700 miles to St. Michael's alone. There are at present steamers running on all the waters between here & Bennett, & it is figured that a person can come from Seattle & Vancouver in 10 days of actual travel—say 4 days from Vancouver or Seattle to Skagway or Dyea, 1 day to cross the pass & 5 days on boat—and it is expected that as soon as the steamers get into running shape this time will be cut into considerably."

Another correspondent writing from Dawson City, July 23, says:—"The first steamer from St. Michael's of this season's crop arrived here during the past week. She was drawing only 3 ft., yet got stuck for 4 days near Circle City. The river is yet very low, though not quite so bad as was anticipated a month ago. Anxiety still is felt as to the getting in of food. One of the best of the river steamers—the Hamilton—was badly injured on her down trip by getting on bars, & may be knocked out for the rest of the season. We have now 3 little steamers between here & White Horse Rapids, by which passengers can reach salt water in 8 days, & can get into Dawson in 5."

Faith Fenton sent the following to the Globe, dated McDougall Camp, Teslin Trail, 50 miles beyond Telegraph Creek, Aug. 9:—Col. Evans, with 80 of the Yukon force, including artificers, surveyors, & 2 ladies of the Victoria Order of Nurses, left Teslin July 21 direct for Selkirk by the steamer Anglian,

Capt. McDonald, owned by the Canadian Development Co. This is the first trip & the first steamer on the lake. It was expected they would reach Selkirk about Aug. 1. The steamer will continue her course to Dawson, & expects to make her return trip in 2 or 3 weeks, when the remainder of the force will be taken forward. The Anglian is a substantially-built boat, & carries 100 passengers & about 300 tons of freight."

The success of the steamers Ora & Goddard in making the trip down White Horse rapids to Dawson & return will revolutionize Klondike travel, says the Victoria Colonist. The steamers had no difficulty whatsoever on the down trip, making the run from White Horse to Dawson in 3 days, so that now a man should be able to make the through trip from Victoria in less than 10 days & the return trip in very little more. Mr. Macaulay, who came up on the Ora, making the trip from Dawson to White Horse in 5½ days, says this time can be greatly lessened now

stern-wheel steamer Iskoot, referred to in our June issue, pg. 106, as having been wrecked at West Inlet while on her way to the Stikine have been taken to Vancouver, where they will be utilized, by Mr. Read in a stern-wheel steamer he is building there.

The steamer Manauzeuse has taken the place of the C.P.R. steamers Athenian & Tartar, between Vancouver & Wrangel, Dyea & Skagway.

F. M. Rattenbury, Manager of the Bennett Lake & Klondike Navigation Co., was a passenger from Skagway by the steamer Tees, arriving at Vancouver early in August. He brought down \$15,000 in paper & about \$9,000 in gold—he had 600 ounces—the proceeds of the first two trips of the steamer Ora to Dawson City. He is assured that his Co. will reap a large harvest, for he is satisfied that the line is the best on the upper Yukon. At present the Co. has 2 stern-wheelers, the Ora & the Flora, running to Dawson, & arrange-

ments have been made with the Willie Irving, which practically gives 3 steamers on the route. The other vessel, the Nora, is running from Bennett to the White Horse, connecting with the other steamers. Mr. Rattenbury says scow after scow has been wrecked on the way down, & boatload after boatload of provisions lost in the swift-running river & lakes. Next summer his Co. will, in all probability, build 2, it not 3, other steamers for this service.

It is said a contract has been made with the Bennett Lake Navigation Co., of Victoria, B.C., for the carrying of Canadian & U.S. mails between Bennett & Dawson, Yukon, & that all classes of matter will be handled.

The upper river steamer, Joseph W. Clossett, was wrecked while shooting White Horse Rapids, Aug. 3. She was completed at Lake Bennett July 27, & started down river July 30. While trying to shoot the rapids the engineer failed to shut off steam at a critical point, & the steamer went on a rock. A gaping hole was torn in her side, & she sank in 18 feet of water. The passengers escaped to shore. The boat & freight will probably prove a total loss. The steamer was to connect with the Goddard & Kilbourne in the run to Dawson.

A Seattle dispatch, dated July 24, says:—"The steamer Kalamazoo, built by a party from Michigan, on Lake Bennett, last winter, was totally wrecked on Thirty-Mile River. The pilot ran her on a rock, & a great hole was torn in her bottom. The steamer & outfit on board will prove a total loss. This is the second steamer to come to grief on Thirty-Mile River after successfully running the dangerous White Horse Rapids."



MARINE RAILWAY AT LUNENBURG, N.S.

that the men know the river & the company is getting a supply of wood. On their trip, from 3 to 4 hours had to be spent every day gathering wood for the steamer, a delay that will not occur now that the Co. has sent men down to cut a lot & pile it on the banks. The only difficult place to navigate is Five Finger Rapids, through which the steamer had to be drawn by ropes attached to trees. Otherwise the trip was a pleasant one, the steamer a comfortable one. Capt. Ritchie, an old Mississippi navigator, was in charge on the first trip, but has given way to Capt. Bragg of Victoria. On leaving Dawson there were 62 passengers on board, but of these only 27 came through to Victoria, the others dropping off along the river to go prospecting.

Commissioner Ogilvie is taking to the Yukon an alco-vapor launch, 27 ft. long, & drawing 27 ins. of water. The engine is 7 h.p., & the boat can carry enough oil for 30 hours run at full speed, & it carries 15 people.

The machinery, boiler & equipment of the

Admiral S. S. Collector of Customs at St. Michael & Alaska, reports that only 2 of the recently constructed river boats, the *Lucas* & the *Leah*, are likely to reach Alaska this year. Besides the vessels already reported wrecked on the way to St. Michael, the *Leah* & the *Lucas* lost her river steamer overboard, the old tug *Governor Sturges* lost a barge with a large quantity of freight when the river broke up, & the 12 steamers sent out from Seattle on June 2, by Martin Bros. were counted among the missing on July 7. These vessels were all built & cost \$50,000. In length they were 170 ft., beam 35 ft., & depth 6.5 ft. These boats were intended for passenger & freight purposes, having a capacity of 250 passengers & 400 tons of freight. Their ocean convoys were the *Lucas* & *Richard Holyoke*, & the *South Coast* schooner *South Coast*. The *Richard Holyoke* had in tow 3 big river barges, each of which had 150 tons of coal aboard. The *South Coast* was loaded. At Dutch Harbor it was the intention to pick up the 4 boats that the Morans built there for the North American Transportation & Trading Co.

Recent reports from Unalaska say Dutch Harbor is crowded with a forlorn lot of steamers. Of the fleet of 20 which left Seattle to ply on the Yukon, 12 were wrecked at or near Dutch Harbor. Four of these are on the rocks, 2 are ashore & 6 others are laid up with broken backs. In each case the machinery is practically all that can be utilized.

NOTICES TO MARINERS.

By the Dominion Department of Marine.

All bearings, unless otherwise noted, are magnetic & are given from seaward, miles are nautical miles, heights are above high water, & all depths are at mean low water.

No. 35. July 15. —1. Red Spar Buoy South of Duck Islands.—A red spar buoy has been moored by the Government of Canada in 6 fathoms water off the south end of the southern shoal (Jeannie Graham shoal) extending southerly from Duck Islands, Lake Huron, Lat. N. $45^{\circ} 35' 45''$. Long. W. $82^{\circ} 53' 15''$. The buoy is $3\frac{1}{2}$ cables south of the shoalest spot, with 8 ft. water on it, is situated S. by E. $\frac{3}{4}$ E. $2\frac{1}{2}$ miles from Duck Island light, & S.W. by S. $1\frac{1}{2}$ miles from the most southerly point of the outer Duck Island. Vessels approaching it from the westward should not bring it to bear south of S.E.; if from the eastward, nothing south of W.S.W. This notice affects Admiralty charts 519 & 678.

2. Gas Buoys in Lake Erie.—Notice is given by the U. S. Lighthouse Board that on July 2 the following gas lighted buoys were established in the westerly end of Lake Erie: SANDUSKY BAY, OUTSIDE GAS BUOY No 2, painted red, numbered 2, & showing a fixed white light during periods of 4 seconds duration, separated by eclipses of 10 seconds, on the northerly side of the entrance to the dredged channel across the bar, & about $\frac{3}{4}$ mile N.E. $\frac{1}{2}$ E. from Cedar Point range front lighthouse, in place of the former red second-class buoy numbered 2.

GULL ISLAND SHOAL GAS BUOY No. 3, painted black, numbered 3, & showing a fixed white light, on the north-easterly point of Gull Island shoal & about $1\frac{1}{2}$ miles S. $\frac{3}{4}$ E. from Middle Island lighthouse, in place of the former black third-class can buoy numbered 3.

NI-GARA REEF GAS BUOY No. 5, painted black, numbered 5, & showing a fixed white light during periods of 10 seconds duration, separated by eclipses of 10 seconds, on the northerly side of a small reef & about 5 miles W.N.W. $\frac{1}{2}$ W. from Green Island lighthouse, in place of the former black second-class can buoy numbered 5. This notice affects Admiralty charts 332, 490 & 678.

No. 36. July 18.—Dangerous Rock in Halibut Channel, B. C.—Information has been received from Capt. Walbran, Master of the Dominion steamer *Quadra*, of the existence of a rock with 8 ft. on it at extreme low water in the fairway of Halibut channel, Barrier Islands, near Clan-ninich harbor, west coast of Vancouver Island, Lat. N. $50^{\circ} 0' 41''$, Long. W. $127^{\circ} 26' 8''$. The rock is of small extent, is slightly marked by kelp, & has deep water all around it. The following angles fix the position of the rock: N.E. tangent, Table Island 0° , S.W. tangent Table Island 74° , W tangent Lookout Island 48° , W. tangent, Granite Island 136° . This affects Admiralty charts 583, 716 & 1917, & B. C. Pilot, 1888, pg. 328.

No. 37 July 19, 1.—New Front Range Light Building at Bathurst, N.B.—The open-framed white wooden building from which the front range light on Caron point, entrance to Bathurst harbor, Chaleur bay, on the east coast of N.B., was shown, has been taken down & replaced by a new lighthouse tower, Lat. N. $47^{\circ} 39' 20''$, Long. W. $65^{\circ} 36' 40''$. The new front range building is an enclosed wooden tower, square in plan, with sloping sides, surmounted by a square wooden lantern, the whole painted white. The height from the ground to the vane on the building is 33 ft. The new tower stands $21\frac{1}{2}$ ft. south-east of the old front range building & 360 ft. N. $51\frac{1}{2}^{\circ}$ E. from the back range tower. The light shown from the new building is, as previously fixed, white. It is elevated 31 ft. above high water mark, & should be visible 10 miles from all points of approach outside the harbor. The illuminating apparatus is dioptric of the 7th order. The two lights in one, bearing S. $51\frac{1}{2}^{\circ}$ W., lead vessels to the buoys on the bar at the entrance to Bathurst harbour. After passing the black buoy the lights must be left on the port hand. Local knowledge is required to enter the harbor. This affects Admiralty charts 1715 & 2516 & Canadian list of lights & fog signals 481 & 482.

2. New Buoy at Entrance to St. Andrews, N.B.—A black steel can buoy has been moored by the Government in Passamaquoddy Bay, in 6 fathoms of water, two cables length S.E. of the beacon on the eastern bar of Navy Island, at the entrance to St. Andrews harbor, Lat. N. $45^{\circ} 3' 25''$, Long. W. $67^{\circ} 1' 56''$. From the buoy St. Andrews light bears N.W. by N. $\frac{3}{4}$ N., 1 mile; S.E. end of Navy Island W. $\frac{1}{4}$ N., $\frac{1}{2}$ mile; St. Andrews outer light on Tongue shoal E. $\frac{1}{2}$ N., $\frac{2}{3}$ mile. This affects Admiralty charts 464, 1743 & 2013.

By the U. S. Hydrographic Office.

St. Marys River—Middle Neebish cut.—On July 2, 1898, the 4 black spar buoys & 2 white float lights in that part of Middle Neebish being deepened will be moved to the centre line of the channel. Until further notice the north half of the channel, 150 ft. in width, will alone be available for navigation. The upper & lower of the buoys that have been moved mark, respectively, the upper & lower limits of the part being dredged. To assist navigation 2 white float lights will be placed near the upper & lower black spar buoys. Masters of vessels are requested not to attempt to pass each other within these limits & to give the right of way to down-bound vessels.

St. Marys River.—Steamer City of Berlin aground Between Iroquois Point & Round Island.—Capt. Jos. Rouleau & the Thompson Towing & Wrecking Association furnish the following information: The steamer *City of Berlin*, drawing 17 ft. of water, went aground June 22, in St Marys River, between Iroquois Point & Round Island. At the time of

grounding she was on the St. Marys River (upper) range, nearly opposite the Mission, about $1\frac{1}{2}$ statute miles above the red can buoy on Mission shoal. The shoal, which has 15 ft. of water on it, has been marked by the U.S. Engineers with a floating staff carrying a red flag. The city of Berlin was towed off the same day. The steamer *Iron King* grounded on the same shoal during May.

St. Marys River.—St. Marys Falls Canal.—The (old) Weitzel lock, St Marys Falls Canal, was reopened for June 15. Boats intending to pass through the canals at Sault Ste Marie are loading 6 in. deeper, the rise giving that much greater depth of water on the sills.

St. Marys River—St. Marys Falls Canal.—W. H. Garvey, pilot, maintains a set of range lights for the use of vessels at Point aux Pins above the St. Marys Falls Canal. They are white lights, the rear one being 35 ft. above the river level, & the front one 15 ft. Triangular slat targets mark the range in daytime.

Richelieu & Ontario Navigation Co.

Authority has been given by Order-in-Council to change the name of the steamer *Passport* to *Caspian*.

It is rumored that the Co. will build a \$50,000 summer hotel at Kingston if sufficient encouragement is given, the hotel to be operated in connection with the Co's steamers.

On Aug. 2 the steamer *Columbian*, with a big excursion party on board made up at Morrisburg, Iroquois & Cardinal, arrived at Prescott & took on nearly 200 people, making her load about 1,000. The boat, which was under charter by private parties in Morrisburg & Cardinal, was bound for Kingston. After leaving Prescott, & when about 3 miles up stream, the inspirator, or air pump, gave out, so that there was nothing else for it but let the fires down & return for repairs. The Captain brought his boat about & again gained the dock at Prescott, where the passengers waited until the arrival of the *Caspian*, which had been telegraphed for, when as many as possible were transferred & returned to their homes.

The earnings of the Co. from the opening of navigation to Aug. 1 were \$323,512.05, against \$323,835.66 in the corresponding period of last year, a decrease of \$322.61. The receipts from Aug. 2 to 9 were \$44,772, against \$38,797 in the same week last year, an increase of \$5,975. The Co. this year has not only the cheap rates of the railways to contend with, but has also the opposition of the new American line. Despite this the receipts on the western section of the line, between Toronto & Montreal, are said to be considerably ahead of last year, there having been gains in every month since the opening of navigation. It is said the decreases in earnings have occurred below Montreal, principally in the Saguenay service, where the Co. is running only 4 boats weekly instead of 6 as in previous seasons. The want of the 2 new large boats that are building has been very much felt by the Co. this year, as the present boats leaving Toronto have not sufficient accommodation for the business offering. Many tourists have had to take sofa beds on the boats, the stateroom accommodation being entirely inadequate.

* The Great Northern Ry. (U.S.A.) has contracted with the Kanawha Coal Trust, of West Virginia, for 500,000 tons of coal, to be used for the road's next annual supply. This is a hard blow for the Pittsburgh coal district, which was unable to compete for the order owing to the cheapness of West Virginia production.

WIND-BAROMETER TABLE FOR THE GREAT LAKES.

By Prof. E. B. Garriott, U.S. Weather Bureau, Chicago.

Height of Barometer Lake Level.	Direction of Wind.	Character of Weather & Wind Indicated.
29.40 to 29.60, and steady.	West.	Fair, slight changes in temperature, gentle to fresh winds.
29.40 to 29.60, rising.	West.	Fair, cooler, fresh west to northwest winds.
29.40 to 29.60, falling.	South.	Warmer, increasing southerly winds.
29.60, or above, falling rapidly.	East to South.	Warmer, rain or snow within 36 hours, increasing east to southeast winds.
29.60, or above, rising rapidly.	West to North.	Cool & clear, quickly followed by warmer, variable winds.
29.60, or above, steady.	Variable.	No immediate change, but winds will go to south inside of 36 hours.
29.40, or below, falling slowly.	South to East.	Rain or snow, increasing easterly winds.
29.40, or below, falling rapidly.	South to West.	Rain or snow, high easterly winds, followed within 48 hours by clearing, cooler, west to northwest winds.
29.40, or below, rising slowly.	South to East.	Clearing, colder, fresh to brisk, west to northwest winds.
29.20, or below, falling rapidly.	South to East.	Severe storm of wind & rain, & wind shifting to northwest within 36 hours.
29.20, or below, falling rapidly.	East to North.	Severe northeaster, with heavy rain or snow, & winds backing to northwest.
29.20, or below, rising rapidly.	Going to West.	Clearing & cooler, probably cold wave in winter.

Application is to be made for the incorporation of the Roberval Que., Telephone Co.

The Hawaiian Government have given the Pacific Cable Co. the right to lay a cable between Hawaii, the U. S., Japan, & the Pacific Islands for 25 years. This Co. is incorporated under the laws of New York State, has a strong financial backing with ten million dollars capital. It is said work will begin at once; a bill is now before Congress asking for a \$100,000 a year contract between the Co. and the Postmaster-General for the transmission of official messages of the U. S. for 20 years.

ELECTRIC RAILWAYS.

Ontario Street Railway Taxes.

The question of the assessment of the rails, poles & wires of street railways as land is still before the Courts. It will be remembered that the Ontario Court of Appeal, a few months ago decided that the rails, poles & wires laid & erected upon the streets were assessable as land. The Privy Council has recently refused leave to appeal from this decision. The basis upon which the assessment is to be made is now the important question. The Assessment Act provides that an assessment should be made in each ward in the municipality, & that the property is to be valued at its actual cash value as it would be appraised in payment of a just debt from a solvent debtor.

A recent decision of the Court of Appeal on the method of assessing telephone wires & poles is of importance upon this point. It is therein held that the property in each ward must be valued as just so much dead material, & that the cost of construction or the value as part of the going concern is not the test. The assessment of the Toronto Ry. Co. was at the rate of \$6,300 a mile, such figures being based on the cost of construction, with an allowance for depreciation. The Co. appealed against this assessment, & the appeal came before County Judges Morgan, McGibbon & Dartnell, at Toronto, July 30. Only 2 witnesses were heard. K. W. Blackwell, of Montreal, valued the rails as scrap steel, at \$3.50 a ton. J. J. Gartshore, of Toronto, valued them at \$3. It was shown that the only market for the rails was at New Glasgow, N.S., where the rails would be worth \$10 a ton, but the freight & cost of taking up would reduce the value to the amount sworn to. The wires, etc., were valued by the witnesses at \$5.20 a mile. Ultimately the appeal was adjourned, to be taken up by the same Judges Sept. 6. The assessment of the power-house of the Co. was reduced from \$329,000 to \$300,000. Messrs. Fullerton & Drayton appeared for the City, & Messrs. Laidlaw & Bicknell for the Co.

The Maritime Provinces.

Halifax Electric Tramway.—In our July issue, pg. 138, this was spoken of as a 5% stock. It was last year, but this year the Co. has been paying 1½% quarterly, or at the rate of 6% per year.

Following is the Co.'s financial statement to Dec. 31, 1897, as presented at the last annual meeting:—

ASSETS.	
Property.....	\$1,377,039.82
Accounts receivable	16,830.83
Supplies on hand	8,129.77
Construction (in process).....	1,520.27
Suspense accounts (as insurance, etc.).....	3,993.09
Deposit with City on snow account.....	500.00
81 shares stock in treasury....	8,100.00
Cash on hand	76,845.10
	<u>\$1,492,958.88</u>
LIABILITIES.	
Bonds	\$ 600,000.00
Capital stock	800,000.00
Accounts payable.....	23,776.21
Suspense accounts as advertising.....	183.32
Bond interest due Jan. 1, 1898.	15,000.00
Quarterly dividend payable Jan. 1, 1898.....	10,000.00
Surplus Jan. 1, 1897.....	16 690.58
Surplus for 1897 after paying \$32,500.00 in dividends.....	27,308.77
	<u>\$1,492,958.88</u>

The stock was listed on the Toronto Stock Exchange July 23. There were no transactions in the stock, however, which was offered at 134, with 132 bid. The company has an exclusive franchise for 21 years, but at the expiration of the term it has the option of saying whether it desires to continue the exclusive privileges, & if so it may make a new arrangement. If it decides to forego exclusive privileges, the City cannot prevent the Co. from carrying on its business as at present. For exclusive privileges the Co. now pays \$1,000 a year & 4% of the gross receipts from the tramway department only. In 1895 the present Co. was incorporated to take over the business of the Halifax Street Ry. Co., the N. S. Power Co., the Halifax Illuminating & Motor Co., & the Chandler Electric Co. During 1897 the Co. purchased the electric plant of the Halifax Gas Light Co. The Co. now has exclusive rights in the tramway business, & also does a large business in furnishing incandescent & arc lighting, power, etc. It also has the contract for lighting the city streets.

Ontario Lines.

Ayr & Paris.—A Toronto deputation recently interviewed Paris Town Council respecting a proposal to build an electric line between there & Ayr. It is said a charter will be applied for.

Brantford & Port Dover.—From Brantford comes a report that a Co. is being formed to operate an electric line between that city & Port Dover. It is proposed to use the T.H. & B. Ry. tracks between Brantford & Waterford, making that portion of the line electric as well as steam, & to build an electric line from Waterford to Port Dover.

Cornwall.—On Sunday, Aug. 14, a large party of Roman Catholic Foresters went from Montreal by G.T.R. to Cornwall, where they were conveyed by the street railway, to St. Lawrence Park, where they spent the day. It is said the electric cars continued running through the day, & carried ordinary passengers as well. The Lord's Day Alliance is contemplating legal steps in the matter.

Hamilton, Grimsby & Beamsville.—At the quarterly meeting July 25 the statement presented is said to have been most satisfactory, the business being 12% greater than for the corresponding period of 1897. It was decided to abolish quarterly meetings & to hold an annual meeting on the 4th Monday in January.

Owing to the heavy fruit trade another freight car has been added to the equipment.

It is said there are not many transactions in the Co.'s stock. T. Carpenter, Winona, recently sold his holding to Dr. Woolverton.

The biggest Sunday business in the history of the line was done July 24, when about 1,500 people went from Hamilton to Grimsby Park to hear Evangelist Sam Jones.

Hamilton Radial.—The Co. began to run its cars on Birch avenue Aug. 6, & abandoned the Sherman avenue line. The new portion of track runs under the G.T. & Northern railway tracks, & thus dangerous level crossings have been done away with.

Hamilton Street.—On July 27 the Hamilton ratepayers voted on two questions. The 1st, "Shall the City purchase & operate the H. St. Ry.?" was answered in the negative by 1,867 to 263. The 2nd question, "If the City do not purchase the H. St. Ry. should the Council extend the franchise of the Co. for 15 years, that is until 1928?" was answered in the affirmative by 1,618 to 823. The Council has since been asked to extend the franchise for 15 years.

Lanark County.—Interest in this proposed electric line has been revived & the ratepayers of Perth are to vote on a bonus by-law.

London.—The Mayor has been notified that the London St. Ry. Co. will enter suit against the City to recover the amount of taxes, \$5,775, paid under protest. The taxes were levied on the Co.'s rails, poles, wires & rolling stock, according to the assessment as fixed last year by the Board of County Judges. By paying the taxes & bringing a suit to recover, the Co. will be in a position to appeal until it takes the matter to the Privy Council, if it chooses.

Metropolitan Street.—A special general meeting of shareholders was held in Toronto, July 28, to consider the issue of bonds to the extent authorized by the statutes relating to the Co. for each mile of single track of the railway, & authorizing the execution of a mortgage or mortgages upon all the property, tolls & income of the Co. for securing the payment of such bonds, such bonds to replace the existing issue of bonds, which are to be cancelled, & to authorize the increase of the capital stock of the Co. from \$100,000.00 to \$450,000.00. The meeting authorized the issue of 1st mortgage bonds to the extent of \$450,000.00, the capital stock to be increased to the same amount. (Official.)

Ottawa.—The City Council has decided to submit the Sunday street car question to the popular vote next January. There are two obstacles in the way of the operation of street cars in Ottawa on Sunday, the prohibitive act of the Ontario Legislature & a clause in the Street Railway Co.'s charter forbidding Sunday cars.

The men are asking for a 9 hour day at the present rate of pay, \$1.50. The Co. has offered \$1.43 for a 10 hours day, which the men refuse. It is not known whether they will strike or continue the 11 hour day.

Preston & Berlin.—A deputation recently waited upon the Ontario Government in the interests of this Co., & asked for a modification of the requirements of the statutory provisions respecting the granting of bonus by municipalities to railways. The law at present requires that the petition to a municipal council in favor of granting aid to any railway shall bear the signatures of a majority of the ratepayers & two-thirds of the real estate owners before the council can act upon it.

Toronto Ry. Co.—The gross earnings of this Co. are as follows:—

	1897	1898	Increase.	Decrease
Jan.	\$74,545.55	\$86,562.36	\$12,016.81	
Feb.	69,744.61	82,402.19	12,657.58	
Mar.	78,891.45	92,818.12	13,926.67	
April.	73,759.38	86,848.83	13,142.45	
May.	82,461.51	92,670.35	10,208.84	
June.	91,533.44	94,119.32	2,585.88	
July.	105,381.64	104,392.92		\$1,078.72

The decrease in July is explained by the Epworth League convention having been held in July, 1897, & the increase for that month was \$18,800 over July, 1896, or more than \$10,000 above the normal increase. July this year more than maintained the normal monthly increase.

Toronto Suburban.—Owing to a dispute between the Co. & the Weston village authorities, the Co has ceased to run into the village & now stops its cars at the eastern boundary. The contention between the Council & the Co. has been, according to the former, the neglect of the latter to build the track as agreed to, to the upper end of the village. When the line was first established, about 4 years ago, it ran only to the outside limits of the village. The Co. then obtained a franchise from the Council, one of the conditions of which was that it was to build its line as far as the Methodist church, & subsequently to the farther limits of the village. The Co. built its line to the Methodist church, but all proceedings on the part of the Council has failed to induce it to carry out the other part of the contract. The case came up at Osgoode

hall in March, when it was judicially stated that the Co. should carry out its agreement under the franchise, or suffer the consequences.

Manager Close, in an interview, said: "The village Council had the law on its side, but no common sense. Weston was one of those villages a few yards wide & 2 miles long. The cars stopping on the village limit, instead of running half-way to the other end, would be of great inconvenience to the citizens, & he thought that after they had been without the cars for a couple of weeks the Council would come to its senses. In the meantime, the Co. would regard the law."

Province of Quebec.

Montreal Belt.—The traffic in July was very heavy, no less than 92,000 passengers being carried. In July, 1897, 62,000 passengers were carried, an increase for July of the present year of 30,000.

It is expected that this Co's stock will be listed in the near future. Last year the Co. paid interest on its \$300,000 issue of bonds, & this year, with the constantly increasing traffic, it expects to pay a dividend on the ordinary shares, amounting to \$500,000. If it is able to do this, it will be the most eloquent testimony to the future success of the road. The Montreal Witness says there is a great sparsity of good investments on the local stock exchange at present, & the stock of an electric road so favorably placed as the Belt Line would be welcomed on the list. Of course the success or non-success of the issue will resolve itself into a question of earnings or expenses; if these are satisfactory success is assured.

Montreal Park & Island.—This Co. has been refused the right to appeal to the Privy Council from the judgment of the Quebec Court of Appeal confirming that of the Superior Court. The Co. entered into a contract with the town of St. Louis du Mile End some years ago, by which it was to supply the town with a first-class electric car service on the leading streets, with transfers to the Montreal St. Ry. & tickets at the same rates as prevail on the latter line. The Co. failed to carry out its contract, & the corporation took out an action against it. After considerable delay the case finally came up for hearing before Judge Charland, who held the action to be well taken, but granted the Co. a delay of 2 months in which to carry out its contract. This did not suit the Co., & it took the case to the Court of Appeal. The latter Court confirmed the first judgment. Then the Co. took the case to the Privy Council, where it was represented by E. Blake, Q.C. L. O. Taillon went over for the corporation, & succeeded in having the Co's application for appeal thrown out.

On Aug. 17 the safe & office furniture of the Co. was sold by bailiff's sale at the head office of the Co., Place d'Armes Hill, at the instance of the Collector of Provincial Revenue, for taxes due. The same day the bailiff went out to the office at St. Pierre aux Liens to sell the effects of the Co's office there. The furniture was purchased back by the trustees, Messrs. Thibadeau & Morrice.

Montreal Street.—The gross earnings are as follows:—

	1897.	1896.	Increase.
Oct.	\$116,292.09	\$109,110.38	\$7,182.71
Nov.	110,929.60	100,818.57	10,111.03
Dec.	113,128.91	103,116.02	10,012.89
	1898.		
Jan.	110,140.83	89,620.55	10,520.28
Feb.	102,625.49	89,051.68	12,673.81
Mar.	114,677.91	99,441.87	15,236.04
April.	110,819.37	103,045.93	7,773.44
May.	123,308.09	116,337.03	7,171.06
June.	133,164.61	130,076.78	2,487.83
July.	129,245.92	143,986.62	14,740.70
	\$1,164,533.82	\$1,096,105.43	\$6,790.979

The Montreal Star says:—"The average daily earnings of the road for the past 10 months were \$3,879.23, & the average daily increase over last year has been \$322.11. The excellent showing has, of late, created increased interest in the stock on the Exchange, & in the last couple of weeks it has advanced several points. The earnings have also led to talk of an increased dividend, but whether the directors will make the change remains to be seen. They will hold their annual meeting in a few weeks from now, & it is quite possible that the matter will be discussed. At present the stock pays 2½% quarterly, or 10% annually."

On Aug. 2 the Bank of Montreal paid in London, Eng., the coupons due Aug. 1 on the M. S. Ry.'s 4½% loan for £140,000.

The Co. is laying a 60 ft. rail along its whole route on Craig St. With the fewer points the cars will run much more smoothly than where rails are shorter.

Montreal to St. Bruno.—A number of Montrealers have purchased a mountain at St. Bruno, Chambly district, about 10 miles from Montreal, & purpose expending considerable in improvements. An electric railway from Montreal to St. Bruno is included in the scheme.

Quebec, Montmorency & Charlevoix.—It has been decided not to extend the electric railway system of Quebec to Montmorency this year by electrifying the Q. M. & C. Ry., but everything will be got in readiness during the winter to change the motive power of the entire railway from Quebec to Cap Tourment from steam to electricity next spring.

Rimouski & Gaspé.—The people of the parishes in Rimouski & Gaspé counties want Ahearn & Soper of Ottawa to establish an electric railway along the St. Lawrence in the districts named. Mr. Soper states that he has replied that his firm's interests in Ottawa preclude them from going into the proposed line.

Jurisdiction of Railway Committee.

In the case of the G.T.R. Co. v. Hamilton Radial Electric Ry. Co., Judge Street, Toronto, recently held that under certain sections of the Dominion Railway Act, enacting that the plaintiff's & other railways, & any railways whatever crossing them, are works for the general advantage of Canada, & are to be subject thereafter to the legislative authority of Parliament & the further enactment that no railway shall be crossed by any electric railway whatever, unless with the approval of the Railway Committee of the Privy Council, are within the powers of that Committee, & therefore the Committee could empower the defendant's railway, contrary to the provisions of its Provincial Act of Incorporation, to cross the plaintiff's railway at grade, against the will of the latter. (An appeal was entered in this case, but subsequently abandoned.)

The Ontario Divisional Court has held that it is the duty of a motorman in charge of an electric street railway car to specially see that the car is sufficiently under his control, so he may take special care to avoid collision with aged & infirm persons on foot whose ailments are plainly evident, & who cross the road at a street crossing.

Saturday Evening Bulletin. New Glasgow, N.S.: "THE RAILWAY AND SHIPPING WORLD is a publication of special interest to steam & electric railways, shipping, express, telegraph & telephone interests. Each issue generally has illustrations or maps. It is only \$1 a year. Published in Toronto."

TELEGRAPHS & CABLES.

The Telegraph in British Columbia.

At the recent meeting or the Canadian Electrical Association in Montreal the following paper was contributed by R. B. McMicking, Manager of the Victoria & Esquimalt Telephone Co.:

Since that excellent paper on the "Early Construction of Telegraph Lines in the Dominion" was submitted at the fifth convention by C. P. Dwight, I have had in mind the need of a supplementary clause concerning the introduction of the telegraph into British Columbia in the early sixties, & which was to constitute a section of the somewhat formidable undertaking of connecting the New with the Old World by means of about 18,000 miles of land line.

It may be—it doubtless is—within the recollection of some of our members that, on the failure of the first Atlantic cable in 1858, there was set in motion as a means of attaining the same end—i.e., telegraphic communication between the two hemispheres—a gigantic enterprise, known as the "Collins Overland Telegraph (Russian Extension) Co.," having in view the stretching of a wire from the telegraphic system of the Pacific States, through British Columbia, & via Behring Strait to Russia & Europe.

With marvellous energy & enterprise, the work of construction was commenced in 1863, the line entering B.C. from the south in longitude 122 W in 1864, being carried thence to New Westminster, from which point it followed the valley of the Fraser River & the Cariboo waggon road northward to Quesnelle, a distance of about 450 miles, which point was reached in 1865. Offices were established along the way, & from Quesnelle southward the line was soon opened for commercial business. The enterprise proved a great boon to the early colonists, both by reason of the large expenditure necessary in its construction & operation, as well as by the facilities offered thereby to the widely-separated settlements for speedy communication.

In 1865, also, a branch line was run across the San Juan Archipelago to Vancouver Island, connecting Victoria, the capital of B.C., with the main line at Swinomish, Washington Territory. This branch was about 74 miles long, including 5 submarine cables of a combined length of about 16 miles.

From Quesnelle the main line crossed the Fraser River to the westward, & following a north-westerly course, with Behring Strait as its next objective point, reached the Naas River about 400 miles distant from Quesnelle—when the second Atlantic cable was successfully laid, & operated July 29, 1866.

The construction party of about 250 men—and which included explorers, surveyors, choppers, line builders, operators & transport gangs—on receiving the news of the completion of the cable, remained in camp 2 or 3 days, awaiting developments. At the end of this time, finding the cable continued to work well, they set out for civilization, leaving their tools, stores & material to the tender mercies (in great part) of the Hudson's Bay trappers & the native red man, as their transport out would have cost more than the new article.

During the winter of 1866-7 a station was maintained at Fort Stager, on the Skeena River, where an operator named McCartney & a companion domiciled until the following spring, & where oftentimes during those—to him—dreary winter months, I held converse with him by wire from Yale.

In addition to the construction party the Co. owned & had in service a fleet of vessels, steam & sail, plying upon ocean & river, some in the transportation of material, supplies & line equipment, others in preparing for the placing of a cable across Behring Strait, a dis-

tance of about 60 miles—quite an undertaking at that date.

Of the fleet, I now recall the ocean steamer George S. Wright, the river steamer Mumford, barques Onward, Clara Bell, H. L. Rudgers; ship Nightingale, schooner Milton G. Badger. The Onward made a trip to Siberia with material and supplies, was caught in the ice—where she remained all winter—& became a wreck when the ice moved in the spring.

The Behring Strait cable was to stretch from Cape Prince of Wales, on this side, to Plover Bay, on the Siberian shore, from which latter point inland about 350 miles of line had been erected, while southward from Cape Prince of Wales, in Russian America, about 300 miles of land line had also been constructed.

The course of this contemplated line through the British possessions & down the great waterways of Russian America would doubtless have brought it into close proximity to the present Klondike gold fields, & near Dawson City, in which event it is not improbable that the hole-digging necessary would have developed the riches of that section at least 30 years earlier, & have given to the former generation an additional important mining epoch.

The history of the building of this line, & the causes which led to a work having for its object the encircling of the world by wire at so early a date, is likely always to be read with interest.

The Co.—which subsequently merged into the Western Union Telegraph Co.—maintained the line northward as far as Quesnelle until purchased in 1870 by the B.C. Government, which in turn handed it over to the Dominion Government on B.C. entering Confederation in 1871. Later still the C.P.R. assumed control south from Ashcroft. While under Government control, & previous to the influx of population consequent upon the building of the C.P.R., the revenue fell far short of the expenditure yearly.

In 1867, Buie Bros., merchants, built a branch line from Quesnelle to Barkerville, in the Cariboo gold region, a distance of 60 miles. This branch, together with the main line between Quesnelle & Ashcroft, is still operated by the Federal Government.

The original expenditure in the construction of the B.C. section of the Intercontinental line reached the large sum, roundly, of three million dollars.

I have written from memory, yet, doubtless, with comparative accuracy, through having been in the Co.'s service during construction & for some years afterward, & while in charge of Quesnelle office in 1866 becoming the medium by which the news of the successful laying of the Atlantic cable, July 29, 1866, reached the construction party 400 miles north-west of that point on July 30, 1866.

Canadian Pacific Telegraphs.

The Co. is stringing another wire between Canso, N.S., & Halifax, to provide the necessary facilities for the increased business between Europe & the West Indies consequent on the opening of the Halifax & Bermuda cable.

The land lines connecting with the cable across the Straits of San Juan de Fuca between Beecher Bay B.C. & Crescent Bay Wash., were completed July 28, giving the C.P.R. Telegraphs direct connection between Victoria B.C., Seattle, Port Townsend, Port Angeles, Wash., & other Puget Sound ports.

The C.P.R. has announced a large reduction in rates from the Kootenay District, taking effect August 1, the maximum rate now being \$1 from any point in the Kootenay to any telegraph office in North America. Local rates from the same district have been reduced from 25% to 50%. The Co. was able to

make these reductions on account of the advance made in the construction of its copper wire across the continent, & other local construction in British Columbia, which enables it to handle business with B.C. to better advantage.

The Co. has built a line between Nelson & Kuskanook B.C., 65 miles, which will form a part of the Crow's Nest line, & has been built ahead of construction so as to place Kuskanook, the supply depot on Kootenay Lake, in connection with telegraphic points in West Kootenay. For the present but one wire has been strung.

The Co. is repoling its line between Victoria & Nanaimo, B.C., along the Esquimalt & Nanaimo Ry., & stringing an additional wire through to Departure Bay, 82 miles, to connect with the new Gulf cable. This when completed, about Sep. 1, will give Victoria 3 direct wires to Vancouver.

Telegraph Office Changes.

GREAT NORTHWESTERN.

OPENED.—St. Leon Springs, Q.; Glanworth, Ont.; Bluevale, Ont.; Caledonia Springs, Ont.; Cacouna, Q.; Grimsby Park, Ont.; Port Sandfield, Ont.; St. Placode, Q.

CLOSED.—Lowville, Ont.; Odessa, Ont.; South Finch, Ont.; Cedars, Q.; Etchemin Mills, Q.

CANADIAN PACIFIC.

OPENED.—Departure Bay, B.C.; Amyot, Ont.; Brule Lake, Ont.; Grand Hotel, Caledonia Springs, Ont., summer office; Helderleigh, Ont.; Otter Lake, Ont.; Parry Wood, Ont.; Pembroke Station, Ont.; Pendleton, Ont.; Ray Side, Ont.; Rock Lake, Ont.; Ravensworth, Ont.; South March, Ont.; Seaguin Lake, Ont.; St. Lazare, Que.

CLOSED.—Claresholm, N.W.T.; Dereham Centre, Ont.; Sulford, Ont.

Telegraph and Cable Items.

The Western Union is putting in new poles between Frederickton Jct. & Fairville, N.B.

The Lake Manitoba Ry. & Canal Co. is stringing a wire between Winnipeg & Portage la Prairie, Man., to connect with the wires on its railway line.

The Western Union has its poles up to Vancouver, B.C., & it is said wire will be strung by the end of August. The line will run from Vancouver to New Westminster, thence by way of Blaine & Fairhaven, Wash., where connection will be made with existing W.U. lines. (See June issue, pg. 111, July, pg. 140.)

A 4-masted twin-screw steamship, said to be the largest cable steamer afloat, has been launched for an English telegraph construction company. The craft is 440 ft. long between perpendiculars, fitted with vertical cable drums, & in 4 of the holds are circular cable tanks about 45 ft. in diameter & from 17 to 32 ft. in depth.

On the Philadelphia, Wilmington & Baltimore Ry., 42 telegraph poles have been set for a test of the life of different woods. The poles are divided as follows: 6 chestnut poles, creosoted; 6 pine poles, creosoted; 6 chestnut poles, woodline; 6 set in broken rock, 6 in clay, 6 in the ordinary manner, & 6 to have a hole bored near the ground so they can be saturated with oil.

The Charlottetown Board of Trade has complained to the management of the Anglo-American Telegraph Co., in England, in reference to the rates charged on business to & from Prince Edward Island & in regard to the offices being closed at 8 p.m. It is said that unless the Board's representations are effective steps will be taken to secure competition, it being claimed that the Co. has no right to a monopoly of the Island business.

TELEPHONES.

The Maritime Province Companies.

The Nova Scotia Telephone Co. has an exchange in Halifax with about 1,200 subscribers and one in Dartmouth with about 100. Its trunk lines have between 50 & 90 offices, the rates for 5 minutes conversation being minimum 15c., maximum 30c. At Sackville, N.B. connection is made with the New Brunswick Telephone Co., & at various Nova Scotia points connections are made with local companies as follows:

At Windsor, with Cheverie Telephone Co.

At Hantsport, with The Valley Telephone Co., operating in Kings & Annapolis counties.

At Chelsea, with Queen's County Telephone Co., operating in Queens & Shelburne counties.

At Bridgewater, with the Central Telephone Co., operating in the New Germany district.

At Great Village, with the Union Furniture & Merchandise Co., operating in the Bass River district.

At Windsor, with the Rawdon Co's. lines, operating in the gold mining district, Hants county.

At Great Village, with the Economy Co's. lines, operating in the Economy & Five Island district.

At Maitland with the Noel Co's. lines, operating along the Noel & Walton shore.

At Elmsdale, with the West Gore & Nine Mile River Co's. line, operating in Hants.

This Co., as mentioned in our June issue, pg. 112, has been planning an extension between Pictou & Wallace, particularly to serve the lobster factory district. The matter is at present in abeyance; work may be gone on with this fall, but if not it is said that there is no doubt whatever the line will be built next season.

At the recent annual meeting the directors were re-elected as follows: President, B. W. Chipman; Vice-Presidents, R. Uniacke, C. F. Fraser, R. L. Borden, Dr. A. C. Cogswell, Dr. A. Haley, Windsor; C. F. Sise, Montreal; C. E. Harris, Secretary & General Manager. The accounts made up to Jan. 31 last were as follows:

ASSETS.	
Exchanges & plant.....	\$267,688 32
Stocks.....	5,741 28
Stock in other companies.....	12,640 00
Real estate, buildings, etc.....	16,365 64
Accounts due company.....	5,595 27
Due by agencies, including Halifax.....	6,820 10
Cash on hand & in bank.....	4,590 38
	\$319,421 04
LIABILITIES.	
Capital stock.....	\$200,000 00
Bonds.....	20,000 00
Bills payable.....	14,045 29
undry amounts due.....	12,533 34
Depreciation Account.....	3,000 00
Dividend no. 15, payable March 1, 1898.....	6,000 00
Accident Reserve Account.....	5,902 50
Insurance Reserve Account.....	6,000 00
Contingent Account and Sinking Fund.....	30,000 00
Profit & Loss Account.....	21,939 91
	\$319,421 04
PROFIT AND LOSS.	
Cr.	
Balance, 1897.....	\$ 20,204 89
Jan. 1, 1898, net earnings.....	16,735 02
	\$36,939 91
Dr.	
Jan. 1, 1898, Dividend 14 paid Sep. 1, 1897.....	\$6,000 00
Jan. 1, 1898, Dividend 15, payable Mar. 1, 1898.....	6,000 00
Jan. 31, transferred to Sinking Fund.....	3,000 00
	\$15,000 00
Balance forward.....	\$ 21,939 91

On Aug. 8 the usual 1/2-yearly dividend of 3% was declared.

In addition to the companies named above, the Yarmouth Amalgamated Telephone Co. operates in Yarmouth.

The New Brunswick Telephone Co., with headquarters at Fredericton, has an exchange

in St. John & 28 trunk line toll offices. In addition to the connection with the Nova Scotia Telephone Co. above mentioned, the N.B. connects as follows:

At St. John with the St. Martin's Telephone Co., of which the N. B. Co.'s Local Manager at St. John is Manager. This line has four offices, the furthest being some 50 miles from St. John.

At Norton with the Chipman Line, which is owned by the Central Ry. Co. This railway has no telegraph & operates its trains by telephone instead of telegraph orders.

The directors of the N. B. Co. are: Hon. A. G. Blair, President; A. A. Stockton, St. John; J. L. Black, Vice-President; C. Fawcett, Sackville; W. T. Whitehead, Fredericton; C. F. Sise, Montreal. The managing Director & Treasurer is F. A. Thompson, Fredericton.

On the trunk line between St. John & Moncton, 90 miles, iron wire is being replaced by copper, the intention being to extend the copper wire to Sackville, where connection is made with the Nova Scotia Telephone Co. In St. John the Co. uses silicium bronze wire, 17 gauge, entirely, finding the life of no. 12 iron for exchange work to be only about 4 or 5 years.

The Telephone Co. of Prince Edward Island, with headquarters at Charlottetown, has exchanges in Charlottetown & Summerside & pretty well covers the Island with its trunk lines, having 76 stations & about 200 miles of line outside the exchanges. Its charges for the trunk lines are: 5 miles for 5 minutes conversation, 10c.; 5 to 10 miles, 20c.; over 10 miles, 25c.; with 1/2 rates for each additional 5 minutes or fraction thereof.

Bell Telephone Co.

At a meeting of directors, July 29, acting upon the power conferred upon them by the shareholders at the annual meeting in Feb., 1892, it was decided to increase the capital of the Co. from \$3,168,000 to \$3,960,000. Each stockholder of record on July 29 is entitled to take, at par, shares of the new stock in the proportion of 1 share for every 4 shares then held. Subscriptions will only be accepted for full shares. Holdings that are not multiples of 4 shares can be adjusted by the purchase or sale of rights. The Co. will neither buy nor sell rights. The right to subscribe will expire on August 20, at 1 p.m. All stock not taken by subscriptions then on file at the Secretary-Treasurer's office will be disposed of as the directors shall determine. Stockholders who take new stock must file their subscriptions, & subscribers under purchased rights must file the assignment under which such rights are acquired with their subscriptions, at the Secretary-Treasurer's office, before August 20, at 1 p.m. Sellers of rights will not subscribe therefor. Payment at the rate of \$100 for each share must be made as follows: 50% on Sep. 1, 1898, 25% on Jan. 2, 1899, & 25% on April 1, 1899. Receipts for the amounts paid, bearing interest at the current rate of dividend, will be issued in exchange for each payment, & stock certificates will be issued at the date of the final payment.

After the publication of the notice there was an immediate demand for rights, which brought 60, while the regular stock ex-rights sold was bid 165. The price offered for rights shows the confidence which the public has in this security.

The Co.'s property in Barrie, Ont., was this year assessed for \$3,750. The Co. appealed against this decision to County Judge Ardagh, who gave judgment reducing the assessment to \$933.85, & stated that the property should have been assessed in the several wards & not in bulk. He held that telephone instruments & income are not accessible, but switchboards are.

In London, Ont., the Co. has lowered rates as follows: Telephones in residences from \$25 & \$30 to \$20 a year, unlimited, & for doctors' & dentists' offices from \$35 to \$25.

A new system of numbering telephones has been adopted in Montreal, under which it is necessary in all cases while asking for the number of the telephone required to add the exchange to which it belongs, that is, either main, east, up (uptown), Westmount or south, as the numbers are to run from 1 upwards on each exchange. This has necessitated re-numbering a large majority of the telephones. It is the custom in Montreal for operators to use the letter O instead of the word "naught," as, for example, in numbers like 2030, which is called "two-O-three-O," instead of "two-naught-three-naught," as this is thought, after years of experience in the U.S., to be less confusing & causes fewer mistakes.

The Co. met with a good deal of opposition in Quebec on Aug. 10, in regard to its scheme to put its wires underground. Local Manager Dauphin & Mr. Tower, of Montreal, appeared before the Civic Road Committee to explain their project, but as it did not provide for the removal of all street poles, a hot argument ensued. Mr. Tower claimed that it was necessary to leave some poles standing for distribution purposes. The committee wanted them all down. The Co. claims that by its charter it can put the wires underground, whether the corporation assents or not, & they propose to do so. Montreal had a similar case which the Privy Council decided against the city. The committee finally decided to send the City Engineer, with Mr. Tower, to look over the ground & report.

Telephone Items.

The Vancouver, B.C., Telephone Co. has started a nickel-in-the-slot machine at English Bay, which has been found a great convenience to business men & others camping out.

A telephone company has been established at St. Valier, P.Q., & is giving communication between the parishes of St. Raphael, St. Cay-jetan d'Armagh & St. Philemon de Belle-chasse.

Dr. Shaw, Lucan, Ont., is said to be making arrangements to construct telephone lines to some of the neighboring villages. It is said a line is to be built first to Southgate, in London township, & after to Saintbury & Mooresville.

The People's Telephone Co., of London, Ont., which recently secured a 15 years' franchise from the city, is said to be going to withdraw from the field, the City Council having declined to guarantee an extension of the franchise at the end of that term.

A telephone line has been completed by a private company to Welwood, Man., 15 miles north of Carberry, with an intermediate station at Petrel, 8 miles out. It is said the Bell Co. will put in a service between Carberry & Neepawa, 30 miles, with stations at Brookdale, Montrose & Petrel.

The Ontario Telephone & Switchboard Construction Co. has been incorporated by Ontario Letters Patent, with a capital of \$75,000. It is composed of R. Fox, T. H. Smallman, F. B. Leys, T. H. Purdon, R. A. Bayly, J. Labatt, M. Masuret, J. Milne, Dr. J. D. Wilson & J. R. Minihinnick of London, Ont., & R. H. Evans & H. C. Walters, of Detroit, Mich.

The New Westminster & Burrard Inlet Telephone Co. has toll lines in operation between Steveston, New Westminster, Vancouver, Port Moody, Ladner's Landing & Chilliwack, a total length of 106 miles of toll lines tributary to the cities of Vancouver & New Westminster. There are, also, 18 offices where the general public can communicate to or from, on payment of tolls. The Co. also operates the systems at Nanaimo, Kamloops, Vernon & Nelson.

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VOL. I. No. 7.

TORONTO, CANADA, SEPTEMBER, 1898.

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Devoted to Steam & Electric Railway, Shipping, Express, Telegraph & Telephone Interests.

VOL. I., No. 7.

TORONTO, CANADA, SEPTEMBER, 1898.

\$1 A YEAR.

The Canada Atlantic President.

John Rodolphus Booth was born at White Lake, Que., 1826. He settled in Ottawa in 1837, & seeing the great possibilities of the Chaudiere, with its vast water power, built a small shingle mill on the same site as was afterwards used for his mammoth lumber mill. In time he became one of the largest limit owners in Canada, as well as one of the most extensive manufacturers of lumber, controlling 640,000 acres of timber, & cutting annually at his mills from 25,000,000 to 30,000,000 ft. of lumber. It is mentioned as an illustration of his foresight that during the prevalence of hard times in 1874-76, when other lumber merchants, thinking the bottom had dropped out of the market, & that things were going to remain in that condition, were disposing of their limits by auction, Mr. Booth was always on hand to bid for them. As an Ottawa paper remarked:—"He had faith in the country, while they had not, & now these limits are worth 5 times the amount he paid for them, & this, too, after he has cut all the logs from them he required for his business." Owing to fires in his mills, Mr. Booth has now almost entirely closed his lumber business in Ottawa & is devoting much of his time to railway matters. One of his first works in this direction was the building of a short line in the Temiscamingue region, where he was also a promoter of the Temiscamingue Steamboat Co. In 1881 he threw himself into the work of building the Canada Atlantic Ry., connecting Ottawa directly with Montreal & the New England States. Later he took up the Ottawa, Arnprior & Parry Sound scheme & carried it to completion as far as Georgian Bay. Of this scheme a contemporary says:—"It is a part of one of the biggest enterprises which any private individual ever undertook on this continent. Mr. Booth aims at no less than making the O., A. & P. S. Ry. the greatest avenue to the sea, of the north-western states & northwestern Canada. To this end the mere laying of the iron between Ottawa & the Georgian Bay, gigantic as the task was, is but a beginning. There are elevators to be built, there are steamships to be put on the lakes, agencies have to be established to divert trade into the new route. In short, Mr. Booth has to reach out all over the great lakes to make their business tributary to the Parry Sound route. He is aiming at that & will accomplish it if he lives long enough."

Mr. Booth is President of both the C. A. & the O., A. & P. S. Ry. Co's. In Jan., 1897, he received from the Ottawa Board of Trade an expression of the appreciation & gratitude of his fellow townsmen for the enterprise & surprise displayed by him in the construction of the latter road. Mr. Booth is a Presbyterian & was formerly a trustee of the Ottawa Ladies College. He was one of the founders of St. Luke's Hospital, Ottawa, 1897, & has been

elected President of the Board of Governors. He has been opposed to free trade & favored the national policy. He married early in life Miss Rosalinda Cook, who died in 1886. He resides in Ottawa. We are indebted for the foregoing particulars to H. J. Morgan's "Canadian Men & Women of the Time."

Railway Rolling Stock Immovable.

An important decision was rendered by Judge Loranger in the Superior Court at Montreal Sept. 12, defining the class of property to which the rolling stock of a railway company belongs, whether movable or immov-

the property of the railway company, but of the Circuit Court of the district of Vermont, which tribunal had taken possession of the property & appointed Mr. Hays its receiver for the benefit of creditors; that Barker was only a prete nom for the Ducey Lumber Co., which had transferred to him its claim, based upon a note made & payable at St. Albans for no consideration.

The Court held that the locomotives & rolling stock formed a portion of the immovable property of the railway. It had been urged by counsel for contestant that the locomotives & cars when seized had not been on C. V. tracks, but that did not make any difference. They were being used for the service of the C. V., & that was sufficient. Another point raised by the opposants was also well founded. The property of the C.V.R. was now in the hands of the Vermont Court, & disposal of it could only be made through that tribunal. The last point was also held good & the seizure was quashed with costs.

Back Numbers Wanted.

We are anxious to obtain a few copies of the May & June issues of THE RAILWAY AND SHIPPING WORLD, the supply of both issues of which at our office has been exhausted, & through an oversight insufficient copies were retained for our files. If any of our readers who have copies of either or both of the numbers mentioned will mail them to the publication office, 33 Melinda St., Toronto, we shall esteem it a favor & will endeavor to return the obligation in some way.

Progress in the West.—Manitoba will have 32,000,000 bushels of wheat, & the Territories 6,000,000. Who was it that said it was folly to open up the West, & that a railway would not pay for the grease for its wheels? The yield is a splendid tribute to the statesmanship that added an Empire to Canada. — *Mail Empire.*

H. P. Dwight, President & General Manager, Great Northwestern Telegraph Co., Toronto, writes:—"You are making a very interesting paper of THE RAILWAY AND SHIPPING WORLD."

On Sept. 2, the New Brunswick Telephone Co. started stringing a copper wire between Moncton, N.B., & Amherst, N.S., to replace the iron wire. On the completion of this link the line will connect Moncton, N.B., with Fredericton, N.B., & Halifax, N.S.

The Irondale, Bancroft & Ottawa Ry. has established a telephone line connecting with the N.W. Telephone Co. at Bancroft, Ont. Telephone stations have been established at G.T.R. Jct., Irondale, Gooderham, Wilberforce, Deer Lake, Baptiste & Bancroft Station.



J. R. BOOTH

able. The importance of the point lies in the fact that whereas any quantity of movable property is subject to seizure for a debt, the immovable cannot be divided, but must be sold either altogether or not at all. The case was that of H. Barker against the Central Vermont Ry. Co., in which the seizure of 2 locomotives & 7 cars, the property of the C. V., had been made in execution of a judgment obtained by Barker against the railway company. C. M. Hays, Receiver of the C. V., filed an opposition to the seizure on the following principal grounds:—That the locomotives & cars formed a portion of the real & immovable property of the C. V. railway, with its equipment, was no longer

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ADVERTISING RATES furnished on application to the publishers.

TORONTO, CANADA, SEPTEMBER, 1898.

C.P.R. DIFFERENTIALS.

Decision of Interstate Commerce Commission.

Following is the full text of the report & opinion of the Commission in the matter of the alleged disturbance in passenger rates by the C.P.R. Co. heard at Chicago, Aug. 1, decided Aug. 31, the report & opinion being prepared by Commissioner Prouty:

Previous to Feb. 19, 1898, the published passenger rates via C.P.R. from Boston to Seattle & points upon the Pacific Coast taking the Seattle rate, & from St. Paul to the same points, had been: From Boston, 1st class, \$71.75, 2nd class, \$62.40; from St. Paul, 1st class, \$60, 2nd class, \$40. By tariffs effective Feb. 19 & 21, these rates were reduced as follows: From Boston, 1st class, \$40, 2nd class, \$30; from St. Paul, 1st class, \$25, 2nd class, \$20. The Boston rate was made applicable to all New England, the State of New York, & to certain portions of the States of Pennsylvania & New Jersey.

Upon the filing of this tariff various American lines interested in trans-continental business applied to this Commission for leave to meet the above rates of the C.P., & any other rates of the same kind, under the proviso of the 4th sec., & upon hearing such relief was granted. That proceeding is entitled, In the matter of the application of the Atchison, Topeka & Santa Fe Ry., et al., for a suspension of the 4th sec., 7 I.C.C. Rep. 593, & the report & opinion in that proceeding may be referred to for a statement of the situation in view of which, & the grounds upon which, that relief was granted.

Upon the issuance of the order in that case the American lines put in force tariffs which met the above rates of the C.P., & thereupon the latter Co., by a tariff effective Mar. 10, 1898, made a further reduction, so that the rates of that Company to Seattle & other points taking the same rate were: From Boston, \$35 1st class, \$25 2nd class; from St. Paul, \$20 1st class, \$10 2nd class. The Boston rate was made applicable to the territory previously described. The Seattle rate applied to all Pacific Coast points north of Portland. The Portland rate was \$5 higher on both 1st & 2nd class, & this rate was subsequently extended to San Francisco. At the same time large reductions were made in the rates between Eastern territory & St. Paul, & the same rates were established between the West & the East. These rates have continued in effect ever since, & are still in force.

The order of the Commission in the proceeding above referred to was made Feb. 24, 1898, & was to expire of its own limitation June 30 following. The petitioners at the hearing had represented, & without doubt had expected, that the difficulties which led to the reduction made by the C.P. would be adjusted, & the rates restored to a normal condition before the time limited for the expiration of the order. Such did not, however, prove to be the case, & on June 22, 1898, the same petitioners moved for an extension of that order. In pursuance of this application the Commis-

sion on that date granted a further suspension of the 4th sec. upon the terms of the original order until Jan. 1, 1899, unless sooner revoked.

At or about the time of the making of this last application, the passenger agents of the American lines interested requested a conference with the Commission in reference to this rate situation, & such a conference was had at Washington July 12 & 13. The committee which then appeared in behalf of the western roads stated that they represented more than 70,000 miles of American railway; that the present rate difficulties had already involved passenger rates over a considerable portion of the U.S., & that further, most serious disturbances must ensue unless some adjustment was agreed upon; that incalculable damage had already resulted to the revenues of the American lines, & that much greater damage was likely to result in addition to the many deplorable consequences which are involved in a long-continued contest of this kind. They stated that in this matter the C.P.R. was an unwarranted aggressor, & stood as a disturber of rates & rate conditions; & they insisted that it was the duty of the Commission to find some means, if possible, to compel that foreign corporation to desist from its unjustifiable attack upon American railroads. Among other things, it was suggested that we put in force that portion of the 6th sec. of the Act to Regulate Commerce, which refers to foreign carriers, & that we make such representations to Congress as might result in legislation to prevent in the future a repetition of similar conditions.

The C.P.R. Co. was also informally heard by us in this connection, & that Company earnestly insisted that the American lines had by their own unlawful conduct forced upon it its present course; & further alleged that in many instances the American lines had exceeded both in spirit & in fact the relief granted by the suspension of the 4th sec., in that they had not only met the rates made by the C.P., but had established lower rates than those of that Co.

It did not seem suitable to take any action in the premises without further investigation of the facts, & it was deemed best, for the purpose of obtaining authentic information in reference to the existing rate disturbances, to institute an inquiry into this whole subject. Such an investigation was accordingly ordered, & set for hearing at Chicago Aug. 1, 1898, & upon that day, & succeeding days, was had. The American lines were very generally represented by their passenger agents. Their case was presented by a committee selected for that purpose, for whom P. S. Eustis acted as spokesman. The C.P.R. Co. was represented by its Passenger Traffic Manager, D. McNicoll, & by its Attorney, A. C. Raymond. The parties were fully heard, the testimony being taken under oath. While many details were undoubtedly omitted, it seems probable that the general situation was fairly well developed. The record is voluminous, covering nearly 1,000 pages, but the essential facts can be briefly stated, & are these:

In 1886 the C.P.R. was completed from Montreal to Vancouver & opened as a trans-continental route. At that time the St. P., M. & M. R. extended from St. Paul to the International Boundary, where it connected with the C.P. for Winnipeg. In connection with this line the C.P. therefore had 2 routes between the East & the Pacific Coast, one by its main line, which runs along the northern shore of Lake Superior to Winnipeg, & the other by its American connection from St. Paul to Winnipeg, & so on to Vancouver. Traffic over the 1st line is said to pass through the Port Arthur gateway, that by the 2nd line through the St. Paul gateway. Through its Port Arthur gateway the C.P. competes for Pacific Coast traffic from the Provinces of

Quebec & Ontario in Canada, & from New England & New York in the U.S., while through the St. Paul gateway it is a competitor for the traffic from the middle west. The N.P. & the G. N. Rys. handle traffic both from the east & middle west through the St. Paul gateway.

It does not appear what rate was at first made by the C.P. through its Port Arthur gateway. It does appear from the testimony that the C.P. at first adopted from St. Paul via Winnipeg the rates then in force upon the American trans-continental lines. Within 30 days, however, from the opening of this route a rate was made \$10 below that established by such other through lines upon both 1st & 2nd class business. The American lines strenuously objected to this action upon the part of the C.P. & its connection; & the St. P., M. & M. road in consequence was expelled from the passenger association of which it had previously been a member. Nevertheless, the C. P. in connection with this line continued to make, against the protest of the American lines, a lower rate by about the amount above indicated, claiming that its line could obtain no part of the Pacific Coast business upon equal rates with the American lines.

The first Trans-Continental Association was formed in 1888. Although the evidence is not very clear, it seems probable that the C.P. was from the first a member of that Association. Mr. Eustis, who was at that time the General Passenger Agent of the C.B. & Q.R., & who in that capacity participated in the discussions which led to the formation of that Association, was of the opinion that the C.P. only came into it upon condition that it should be allowed the differential which it then had upon Pacific coast business. The parties who represented the C.P. in those negotiations were not before us, but we are inclined to think that the recollection of Mr. Eustis is substantially correct. The C.P. was insisting that it was entitled to this differential; it had apparently for 3 years actually enjoyed it; it may be doubted whether it could have obtained by that route & at that time any considerable part of the business without it; & it is hardly probable that it would consent to become a member of an association with power to fix its rates, every other member of which would be opposed to a differential, unless it was understood, either expressly or tacitly, that it should continue to enjoy one. This was, however, against the earnest protest of the American lines, which have always insisted that the differential was unjust, & have only consented to it as a matter of expediency.

The Trans-Continental Association seems to have continued in existence until 1892, when for some unexplained reason it was dissolved. In 1893 the G.N.R. was opened for business between St. Paul & Seattle, & became thereby a trans-continental line. Up to this time the C.P. seems to have enjoyed a differential of \$10 1st class, & \$5 2nd class upon business through both its Port Arthur & St. Paul gateways. The St. P.M. & M.R. had become a part of the G.N. System, & when that road became a trans-continental line upon its own account the C.P. of course lost that connection from St. Paul to Winnipeg. At present the Minneapolis, St. Paul & Sault Ste. Marie road, extending from St. Paul to the International Boundary at Portal, N.D., where it connects with a branch of the C.P. running from the main line at Moose Jaw, & which is controlled by the C.P., gives that Co. a line from St. Paul; but this road does not seem to have been completed when the G.N. was first opened for Pacific coast business.

One of the first acts of the G.N. was a reduction in trans-continental rates. Mr. Whitney, who was then & still is the General Passenger Agent of that Co., testified that the purpose of that reduction was to equalize cer-

tain rates, or, more properly, to abolish the wide difference between 1st & 2nd class fares. It was suggested by the C.P. that the real object was to advertise the new route. However that may have been, it is certain that the G.N. signaled its advent into the trans-continental family by a reduction of fares from St. Paul to Puget Sound points to \$25 1st class & \$18 2nd class, the regular tariff rates then being \$60 1st class & \$40 2nd class.

Just how long the condition of things thus induced continued & just how it was finally adjusted does not very clearly appear from the testimony. Up to this time the only connection of the C.P. to Seattle, Tacoma & points south had been by water from Vancouver. That Company was anxious to secure an all-rail connection to these points. By an agreement dated Feb. 1, 1894, between the G.N. & the C.P., it was stipulated, in consideration that the C.P. be given train service into Seattle & thence to Tacoma & Portland, that it should waive its claim to a differential as against the G.N. through the St. Paul gateway, & that it should also give the G.N. certain facilities in the way of train service to Vancouver. This agreement was to continue in force for a year & until 90 days' notice thereafter. It did not appear that either party had given the required notice. We were of the impression that a similar agreement was executed about the same time between the N.P. & the C.P., but a hurried examination of the record does not disclose this.

In the latter part of 1895, the 2nd Trans-Continental Association was formed, to which the 3 trans-continental lines above named were parties. In connection with this Association, carrying out the provision in the G.N. agreement, it was provided that the C.P. differential through the St. Paul gateway should be abolished, & that it should be allowed a differential only upon business through its Port Arthur gateway. The amount of this differential seems also to have been adjusted, being reduced from \$10 to \$7.50, 1st class, & continued at \$5, 2nd class.

In consequence of the decision of the Supreme Court of the U.S. in what is known as the Trans-Missouri case, the Trans-Continental Association was dissolved in 1897. At this time the differential rates of the C.P. were in force, as above stated, with the consent of the American lines. The American lines insist that with the dissolution of that Association all agreements growing out of it fell; & that the agreement granting the C.P. a differential thereby terminated. This is probably in no wise material. All these agreements may have been in violation of law from the first. However this may be, the published rates by the different lines allowed the C.P. this differential. The testimony before us showed that not long after the dissolution of the Trans-Continental Association the G.N. & N.P. companies determined that they would no longer submit to it. In this view they made some effort to induce their eastern connections to put in rates ignoring that differential. Those lines, fearing evidently the rate disturbances which would result, declined to do so. It is equally evident that the G.N. & N.P. did not care to assume the entire burden of the contest by openly reducing rates west from St. Paul themselves. Instead of making an open reduction in their published tariffs, therefore, they effected a reduction in their actual fares by selling tickets for less than the published rate. To use the phrase of the General Passenger Agent of the G.N., the rates of the C.P. were met "in our own office." The method by which it was done in the office seems to have been by the payment of excessive commissions. Trans-Continental tickets are largely sold by agents of the western lines in the East, the compensation of the agent being in the form of commission upon

the ticket sold. These commissions were very much increased with the expectation that the agent would divide his commission with the purchaser; that is, the railway expected & understood that this ticket would be sold by its agent for less than the published rate.

About this time, the latter part of 1897, mining operations in the Klondike began to attract a considerable volume of traffic to Puget Sound points. The C.P., claiming that it was not obtaining a fair share of this traffic, at once proceeded to inquire into the cause of it. It caused to be bought in various parts of the territory in question tickets via the American lines & their connection, the G.T.R. of Canada, not only of agents, but over the counters of some of the Eastern connections of these roads. These tickets were bought at from \$10 to \$15 below the tariff rate, & in some instances even more.

Mr. McNicoll testified that the C.P.R. in this contest for business did not depart from the published rate to his knowledge, & further testified that the reduction in the open rate by his Co. was induced solely by the secret acts of his competitors. Upon the other hand, the American lines, while claiming that the C.P. had not uniformly observed tariff rates, asserted that the insistence of that line upon the differential in question was the real cause of the controversy, & that specific instances of rate-cutting were immaterial for the purposes of this investigation.

This reduction was, of course, made with a view to finally obtaining a restoration of normal conditions, & efforts were at once begun, & seem to have been continued by all parties interested, to bring about some adjustment. The C.P. at first refused to consider the question with the American lines until rates had been restored to what they were before the reduction. This the American lines declined to do, for the reason that the C.P. would thereby enjoy the benefit of this differential, & would obtain an undue share of the heavy Klondike business which was then moving. Subsequently, the C.P. Co. expressed a willingness to submit to disinterested arbitration all matters at variance between the parties. To this all the American lines seem to have assented at first, except the G.N.R. Co. That Co. insists that the C.P. is not entitled to a differential, & declines to submit that question to arbitration or to consider any compromise of these differences which involve the granting of a differential. The other American lines seem for the most part to have come to the same way of thinking.

A good deal of bitterness was exhibited between the parties upon the hearing. The conduct of the C.P. was characterized by the American lines in the strongest terms as unreasonable & unjustifiable. It was alleged that this foreign road, having in its power to inflict almost untold damage upon its American rivals, had extorted without reason the allowance of this differential.

We are unable to find in the testimony anything outrageous in the conduct of the Canadian road in this matter. It may have originally used its power to inflict injury as a means of obtaining the allowance of this differential, & if it did, that is precisely what, in a greater or less degree, every road which obtains a differential, or an advantage in the shape of a differential, does. Possibly its power to inflict injury without corresponding injury to itself may have been exceptional.

(1) There may be reasons why this particular differential ought never to have been granted, but if the differential principle is to be admitted at all, it can hardly be said that the claim to one when originally made by the C.P. was utterly without foundation. In insisting upon it, that Company was simply claiming what numerous American lines had claimed, & what many of them were enjoying. We find nothing in the negotiations which led

to the re-adjustment of that differential in 1895, which savors of undue constraint upon the part of the C.P. Coming down to last Feb., whatever motive may have influenced this road in openly reducing its rates, it is difficult to see what better course it could take in view of existing conditions. The G.N. & N.P., its chief competitors, in wilful violation of the law which they are required to obey, had not only abolished the differential, but were taking, in some instances at least, a substantial differential for themselves. The C.P. claims that as a result of these practices, business was unduly diverted from its route. Ought that Co. to have indulged in similar practices? Obviously not. If the American lines deemed the differential unwarranted they should have published a rate which ignored it.

(2) Neither do we see anything radically unfair in the present attitude of the C. P. to this question. A recognized method of settling differences between competing lines is by arbitration, & the articles of many railway associations provide for such arbitration. When, therefore, the Canadian road proposes to submit to the final determination of one or more disinterested persons the adjustment of these matters in difference with its American competitors its position is instinctively felt to be a fair one. It may be wrong in its contention, but it can hardly be said to use the methods of the highwayman in enforcing that contention.

This is not intended & must not be taken as a criticism upon the attitude of the G.N. road in refusing to arbitrate. Whether a particular controversy shall or shall not be submitted to arbitration is a question for the parties interested. The G.N. Co. insists that there is at the bottom of this controversy a principle which, in justice, to itself, it ought not to sacrifice, & which it will not sacrifice. It declares that the granting of this differential to this foreign corporation under the circumstances is wrong, & it prefers to establish that principle once for all, no matter how great the cost may be.

The relation of the Commission to the controversy would seem, therefore, to be this: Since both parties refuse to yield the contest may be indefinitely prolonged. In this contest we were asked to render substantial aid to the American lines by granting a suspension of the 4th section. Whether such aid shall continue to be granted is an important question. Ordinarily a suspension of the 4th section applies to comparatively limited territory. In this case it of necessity covers a vast extent of country. By granting it we suspend as to a considerable portion of the U.S. an essential feature of the Interstate Commerce Law, & we permit the very discriminations which that law was intended to prevent. We have no hesitation as to the propriety of what has already been done, but when it becomes evident that this condition of things may be indefinitely prolonged, we feel that we ought to rest our action upon substantial ground. If we are of the opinion that the C.P. is wrong in its demand for a differential, however fair in its enforcement of that demand, it will probably be our duty to continue this relief to the American lines. Upon the other hand, if we believe that the G.N. and its American supporters are clearly wrong in their position, this will have an immediate bearing upon our action. We are brought, therefore, to consider this claim of the C.P. to the differential, & it should be observed that this is, & all along has been, the real source of contention between these parties. While it is probably true that a desire to obtain a share of the Klondike business may have led to much of the rate cutting, which in its turn produced the present demoralization, it is also true that the underlying question is the differential, & that if this were finally disposed of, there would be no serious difficulty in the immediate restoration of rates.

This question was referred to by the Com-

mission in stating its reasons for the suspension of the differential in the first instance, but was not formally considered at that time, since but one party was heard. Upon the present hearing the C.P. was asked to fully state the grounds upon which it based its claim, & it has presumably done so.

The American lines assert that no foreign railroad company should be allowed a differential as against its American competitor with respect to American business. This is affirmed not only as a matter of fact in this particular case, but, so to speak, as a general proposition applicable to every case.

To this contention we are not disposed to agree. It is open to grave doubt whether from the standpoint of the American railroad the position is a tenable one. The geographical relation of Canada to the U.S. is such that in several marked instances Canadian lines form a part of important through American lines. This is true of the G.T.R., which in the matter under advisement is the ally of the American roads. Many of these lines formed by a combination of American with Canadian roads enjoy differentials. To deny a differential might seriously cripple the entire line, & might injure American much more than Canadian interests.

But this question is to be disposed of not from the standpoint of the railway alone, but in the interest of the public as a whole, of which the railway is but a part. According to the present theory of interstate railway regulation the protection of the public lies in the competition of the carriers. That competition has unquestionably reduced rates enormously in the past, & many persons believe that the competition of Canadian roads, & especially of the C.P. road, has had an important influence in the reduction of rates in certain sections of the U.S. Now, to say that a Canadian road shall not under any circumstances enjoy a differential is to say in effect that it shall in no case charge less than the American line. It may carry traffic between points in the U.S., but it must do so at the rate fixed by the U.S. railroad. The application of such a rule might go far towards des-

troying the benefits of Canadian competition.

Whether or not Canadian roads should be allowed to participate at all in the carrying trade of the U.S. is a much broader & an altogether different question. The will of this nation as expressed in the acts of Congress does admit them to such participation, & whether or not this is wise or the reverse is for the consideration of Congress, or of the treaty making power. This is one of the subjects which come before the Commission already appointed & about to begin its sessions, for the purpose of considering various matters at issue between this country & Canada.

We are brought then to the question of fact whether at the present time the C.P. ought to enjoy a differential upon the business involved. It was stated upon the hearing that the purpose of a differential was to equalize disadvantages & the representative of the C.P. earnestly contended that what his Co. asked for was not an advantage over the American lines, but simply equality with those lines. However it may be expressed, the purpose of a differential is undoubtedly to enable a line to participate in traffic which it could not obtain if it were compelled to compete at the same rate as its rivals. It is in essence a device for the distribution of traffic. At the basis of every inquiry into the reasonableness of a differential lies, therefore, the question whether the line claiming it is "entitled" to participate in the traffic involved. To take an illustration from the present discussion: The C.P. claims & has been allowed a differential on passenger rates between New York & San Francisco. The passenger by that route must go from New York to Montreal, from Montreal to Vancouver, from Vancouver by boat to San Francisco, or from Mission Junction all rail to San Francisco. The distance, roughly speaking, is 4,000 miles by this route as against 3,000 miles by the ordinary direct routes. Now it does not seem to us that the C.P. has any business with that traffic, & its claim to a differential as between those points should be denied upon that ground. If it is allowed to make the same rate that is the limit to which it ought to go.

That inquiry, however, is not of much importance in the present instance. The C. P. itself does not seriously contend that this differential should now be extended to San Francisco. As we understand the claim of that Co. it is that the differential should be applied to Portland & points north upon the Pacific coast & upon the Atlantic coast to Eastern Canada, New England & the State of New York. A glance at the map or an examination of relative distances shows that the C.P. between these sections is a natural and feasible route, & that it should clearly be treated as a competing line. Should it be allowed a differential upon passenger traffic as claimed?

Assuming for a moment that if this Co. does in fact labor under disadvantages as compared with its competitors, those disadvantages should be equalized by the granting of a differential, let us inquire what these disadvantages are. Mr. McNicoll was asked precisely that question. In reply he pointed to several minor circumstances, but the principal consideration was that the time by his line was longer. The serious controversy in this case is mainly between the G. N. & the N. P. companies upon the one hand & the C. P. upon the other. Therefore, in considering the propriety of this differential it is sufficient to consider the time & distances by the St. Paul gateway alone as compared with those upon the C. P. So considered the time from Boston to Seattle is via the American lines 115 hours, via the C. P., Port Arthur gateway, 144 hours. From Boston to Vancouver, via American lines, 125 hours, via C. P., Port Arthur gateway, 140 hours.

From this it appears that the difference in time from Boston is 15 hours in favor of the American lines to Vancouver & 29 hours in their favor to Seattle. The time from New York would be still more in favor of the American routes, & from Montreal less. Boston may perhaps be fairly selected as representing the entire territory.

If we turn now to the distances by these various lines we do not find the same discrepancy. That from Boston to Seattle by the American lines is 3,240 miles, by the C. P.



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3,323 miles. From Boston to Vancouver via American lines 3,346 miles, via C. P. 2,935 miles. It appears therefore that the distance is not substantially against the Canadian line.

It is urged by the C. P. that relative distance is of no account. This is not exactly true. The public is apt to associate the quickest time with the shortest route & it is worth something to be able to advertise the advantage of distance. Still, what the passenger looks at most is the time occupied. Twenty-nine hours longer between Boston & Seattle means both the loss of an additional day & the expenditure of additional money. It cannot be denied that such a difference in time as that exhibited is a serious handicap.

A railroad must not, however, create a disability for the sake of obtaining a differential. If the C. P. fairly can & fairly ought to make substantially the same time as is made by the American lines, then the fact that it does elect at the present to use more time ought not to weigh so heavily in its favor. That Co. would not probably admit that its road-bed or equipment is inferior to that of any trans-continental line. Why is it then that the time occupied is so much longer? This inquiry was put to Mr. McNicoll, & his answer was: Owing to the fact that it has comparatively little intermediate business over the first half of the journey from the East to the Pacific Coast as against much intermediate business upon the American routes. For this reason it cannot, over the corresponding part of the journey, run trains with the same rapidity as do the American lines. Thus the passenger who starts from Boston to Seattle by way of Chicago & St. Paul, rides for the first 1,500 miles upon an express train which is provided not for him but for business independent of trans-continental business, while the passenger who sets out for the same destination by the C. P. passes for the first 1,500 miles through a country where there is for the most part little or no intermediate business, where a train must be run for through passenger mainly, where the travel during a considerable portion of the distance justifies the running of but a single train a day which must do a local as well as through business.

Just how far this may be justified by actual conditions we cannot accurately determine. The local business between Montreal & Winnipeg certainly does not much embarrass the speed of its trains. One circumstance may be here referred to which casts great doubt upon the validity of this claim.

As already said, the main line of the C. P. runs west from Montreal along the northern shore of Lake Superior through Port Arthur, Winnipeg, & so on to Vancouver. From Sudbury, distant from Montreal about 450 miles, a branch line runs down to Sault Ste. Marie, where it connects with the M., St. P. & S. Ste. M. R. This latter railroad, which is controlled & virtually operated by the C. P., extends from Sault Ste. Marie to St. Paul, & from St. Paul to the International Boundary line at Portal, where it connects with another branch of the C. P., joining the main line again at Pasqua Jet. The C. P. has therefore 2 lines from Montreal to the Pacific Coast, one by its main line through Port Arthur & the other by what is called the Soo line through St. Paul. By the latter route the passenger leaves the main line at Sudbury, passes through St. Paul, & returns to the main line again at Pasqua. The distance from Sudbury to Pasqua is a trifle greater by the Soo line than by the main line.

Now the actual running time from Boston to Vancouver by the way of the Soo line to-day is 1.7 hours, as against 140 hours by the main line; & the actual running time from Boston to Seattle by the Soo line is 131 hours, as against 141 hours by the main line. This makes the time from Boston to Vancouver but 2 hours longer & from Boston to Seattle

but 16 hours longer by the Soo line than by the shortest American line.

In making the foregoing comparisons of time & distance the American line selected has been the Boston & Albany, New York Central, & Lake Shore to Chicago. But this strictly ought not to be. As against that line the C. P. has enjoyed a differential of \$11.75 1st class, & \$7.35 2nd class. This arises from the differential between Boston & Chicago. The differential of \$7.50 1st class & \$5 2nd class which the C. P. demands is, from New England, as against the G. T. R. & its connections, & the comparison, in order to be of value in determining the justice of that claim, should be with the G. T. as the initial line between Boston & Chicago. This comparison would reduce the difference in time & give the C. P. an advantage in the matter of distance. Comparing the time by this route with the time actually made by the C. P. over its Soo Pacific route there would be but little if any difference against the latter Co.

Now it will hardly be claimed that the road-bed or equipment from Sudbury via St. Paul to Pasqua is better than via the main line between those points, nor that the intermediate business is materially greater, & if the C. P. is now actually running its trains upon this time by the Soo line, it is difficult to believe that it could not by a proper adjustment of its schedules & the reasonable operation of its trains make the same time by its main line; in other words, that it could, if it saw fit, do away with the greater part of the difference in time which now exists. Every other consideration except that of time is against the granting of this differential.

(3) This is clearly apparent by comparing conditions now with those when the differential was first allowed. In 1886 the C. P. R. was a newly-completed route. Its road-bed was imperfect; its name but little known. It had no communication with Seattle or Tacoma except by boat from Vancouver. Under these circumstances it might very well happen that it could not at the same rate obtain a fair portion of the business. To-day all this is reversed. Of all these competing lines the tracks of the C. P. alone extend from ocean to ocean. Its road-bed & equipment are equal to any. It has railroad connection with Seattle, Tacoma & Portland. It runs through cars on certain days each week from Boston to Seattle & from Boston to Vancouver, & through cars every day from Montreal to Vancouver. It has steamship connection with Asia by its own steamers. It may be doubted if the name of any of its rivals, perhaps of any American railroad, is more generally known throughout the civilized world than is that of the C. P.

Nor is this all. When this differential was first granted business to Pacific Coast points went largely to San Francisco; practically none of it went north of Vancouver. It was largely in consideration of that fact that the differential was then allowed. To-day this is not so. The great volume of traffic by these north trans-continental lines is to Puget Sound, or through Puget Sound to points beyond. Ten years ago the C. P. was out of the direct line of travel between the East & the Pacific Coast; to-day it is the direct line for a large portion of that traffic.

It has already been said that the real contest is between the N. P., the G. N. & the C. P., & it has been further said that for the purpose of a just comparison the G. T. & its connections should be treated as the initial line between Chicago & New England & between Chicago & Eastern Canada. If, upon this basis, these 3 lines are placed side by side as competing routes between the territory in question east & west what is the result? In location, distance, construction, equipment, through car service, reputation, facilities for obtaining business, secure attachments, the C. P. would not for a moment admit its inferiority to either

of the others. We do not think that the mere fact that that Co. elects to take more time than its competitors by its best line, while it actually makes substantially the same time by its inferior line, entitles it under all the circumstances to a differential.

There is still another consideration which is entitled to great weight. While the differential is firmly grounded in the railroad policy of certain portions of the U. S., & is approved by many of the greatest railroad authorities, its application is by no means universal. The testimony in this case shows that there are no differentials west of Chicago. It is understood that none prevail in the South. The use of the differential is almost exclusively confined to trunk line territory or to rates made by combinations of those in that territory which carry the trunk line differential. The conditions there are such perhaps as to emphasize more strongly than elsewhere the necessity for some expedient of this kind.

It is evident that in all the great extent of country where there is no differential there must be at many competitive points & between many competing lines disadvantages & disabilities which are not equalized. This must be true between the trans-continental lines themselves. Both the General Passenger Agent of the N. P. & Mr. McNicoll of the C. P. stated that in their opinion the G. N. could not, under present conditions, obtain an equal proportion of passenger travel with the N. P. at the same rate, & yet the G. N. asks for no differential. The same thing must be true of other lines at other points, yet all these lines have agreed not to ask a differential.

Now, under these circumstances, we do not think that a single line, whether it be American or Canadian, ought to insist upon the introduction of the differential into this territory, unless it plainly appears that under the application of the present rule that line is at a clear & manifest disadvantage.

This we think should be true of an American line, & all the more is it true of the C. P. That road is eminently a Canadian institution. It was built largely by government aid & for government purposes. It operates, to be sure, many hundreds of miles in the U. S., but the traffic in question passes throughout almost the entire distance over the Canadian line. We are satisfied that, if this Canadian corporation comes into the U. S. to compete for traffic between points in the U. S., it should be content to operate upon the same terms with its American competitors, unless those terms are clearly unjust & unreasonable. It ought not to come into this territory & insist upon a different order of things than it finds here, unless it makes its title to that demand clear beyond all question. By so doing it becomes a disturber of rates & of the railroad situation.

In considering this differential question we have necessarily relied upon the testimony, which is not altogether satisfactory. It is quite possible that some material fact may have been omitted from that testimony & not therefore considered by us. Once conceding the principle of the differential, probably the only satisfactory test of its justice is its actual results, & nothing material of that kind appeared in the present case. It seemed to us, however, upon the case as made, that no differential whatever ought to be introduced into this territory in favor of the C. P., & upon that point we have felt very fully satisfied.

It would seem, however, that it should be entitled to make as low a rate as is made by any American line, & that attention is called to the fact that under the operation of the trunk line differentials this would not be true of fares from New York to the coast & differential of the C. P. west of Chicago.

The New York Central is what is called a standard road, & under the rules of the Joint Traffic Association a standard rate is fixed between New York & Chicago \$10.00. This

certain other of the lines between those points. This enters into the rate beyond Chicago which is made by certain additions to the Chicago rate. No lower rate can be made than by the way of Chicago. The C.P. forms its connection between New York & Montreal via the N.Y.C., & while there are other possible routes by differential lines between these points, there is no other practical route. The result is that the fare by this line between New York & Seattle would apparently be \$3 more than by some other lines, although the passenger only passes over the N.Y.C. as far as Albany, & the fact that he leaves New York by that line would probably be of very little consequence in determining the trans-continental route. It seems to us that this apparent inequality should be corrected.

The idea above suggested that the Canadian road should not ask a differential in competing for traffic between points in the U.S. applies with equal force to the converse of the proposition.

On Feb. 16, 1898, upon the petition of the G.T.R. of Canada & certain of its American connections, we granted a suspension of the 4th sec. for the purpose of allowing these lines to meet the competition of the C.P. between the Provinces of Ontario & Quebec upon the one hand & Manitoba upon the other. The distance from Montreal to Winnipeg by the C.P. is more than 300 miles shorter than by the American lines & the business which moves between those points is almost wholly that originating & ending in Canada. While the American line should have the same right to compete for this business that the C.P. has to compete for American business, it is doubtful whether they should be granted anything in the way of an immunity to enable them to do so. The suspension of the 4th sec. would seem to be of this nature. The American lines allege that they have a large intermediate business, whereas the C.P. has very little. But the existence of this intermediate business can hardly be termed a disability. The reason for the slower time of the C.P. is alleged to be the want of intermediate business. If that Co. is denied any benefit in one case from the want of it, it certainly should be put under no disadvantage in the other case from the same source. It is perhaps fair, so long as the C.P. observes in the making of its rates the rules of the 4th sec., that its American competitors shall be obliged to do the same. This, of course, refers to a real observance of that rule, not to its observance in particular cases where circumstances render it desirable, & to normal conditions & compensation rates, not a state of warfare.

Substantially the same observation applies

to the suspension of the fourth section in respect to the Kootenay District. That traffic moves largely, although not entirely, between points in Canada, & if the American lines are to compete for it they should perhaps compete under whatever limitations the law imposes.

The order of Feb. 24, 1898, suspending the operation of the 4th sec. was put partly upon the ground that the C.P. was in violation of the provisions of the Interstate Commerce law in making rates without the consent of the initial line. The tariff then filed by the C.P. quoted rates from all New England, from New York & from some other territory in the U.S. The testimony before us then showed that the method of the C.P. was to purchase local tickets to junction points with its own line, as described in that opinion, & this was said to be illegal.

Upon the present hearing it developed that from New England points the rate is now quoted by the initial line so that the objection with reference to that section has been removed. The representative of the C.P. testified that his Co. handled practically no business in New York & contiguous territory save from points upon the N.Y.C. That line has declined to file a reduced tariff, but apparently the operations of the C.P. are conducted with its full knowledge & assent. Under the normal rate it appeared that the N.Y.C. received for its division a less sum than its full local fare from New York to Montreal. It now furnishes the C.P. with its local tickets to be used in ticketing passengers from New York to Montreal, & thence via the C.P. to destination. Upon this ticket & the ticket of the C.P. it checks baggage through from New York to destination. It does not receive for its local ticket the price of its full local fare between New York & Montreal, but receives now the same sum which it had formerly received by way of its division. This seems to constitute a joint arrangement between the 2 companies for transportation by that line. Just what the legal quality of that arrangement may be we do not attempt to decide, but clearly it is not a case where the C.P. invades the territory of the initial road without its consent & purchases business in the manner detailed in the original case.

The action of the C.P. in ticketing to & from Pacific Coast points appears to have been with the consent of the lines interested there, under the arrangements existing before the reduction in rates. It would seem, therefore, that at the present time the actual violations of law in that respect are very much less extensive than it was supposed they were then. While this does not lead to any reconsideration of the conclusions formerly reached, it

has an important bearing upon the suggestion of the American lines, that, in view of the contumacy of the Canadian road in this respect, certain retaliatory measures ought to be adopted.

Both the representatives of the American lines & of the C.P. have applied to this Commission with the request & in the hope that some measures might be taken by it which would relieve the unfortunate situation. Apparently the Commission has no power to afford such relief. It cannot allow or disallow the differential in dispute. It has investigated this question for the reasons indicated in the foregoing opinion, & would deem it extremely fortunate if the conclusions reached might be made the basis of an early adjustment of the matters in difference.

It must be distinctly understood, however, that we do not recommend the settlement of this controversy by the making of any agreement, involving arbitration or otherwise, which is in violation of the Anti-Trust Law, as interpreted by the Supreme Court of the U.S.

Such features of the past or future history of this controversy as may in our judgment render appropriate any statement or recommendation to Congress will be presented in our annual report to that body. So far as our official action can affect the matter, we conclude that we ought not at present to rescind the suspension orders heretofore made; but if the C.P. should waive its claim to the differential, in accordance with the views above expressed, it might become our duty to revoke the permission granted by those orders.

The Canadian Pacific's Prompt Action.

On Sept. 6, Vice-President Shaughnessy issued the following circular to the executive officers of competing & connecting lines:

The complete opinion of the Interstate Commerce Commission in the matter of certain differences about passenger rates between the C.P. & a number of railway companies in the U.S. has just come to hand.

The commissioners recite the circumstances under which the C.P. was, by agreement with the other lines, first accorded a differential, & in this connection they say:

(Here follow the paragraphs in the I.C.C. opinion given above to which the nos. 1 & 2 are prefixed.)

It was not understood by this Co. that the commissioners would express an opinion on the merits of the claim for a differential, & therefore, the Co. had no opportunity to submit in full its evidence & argument, but the commissioners have dealt with the subject in

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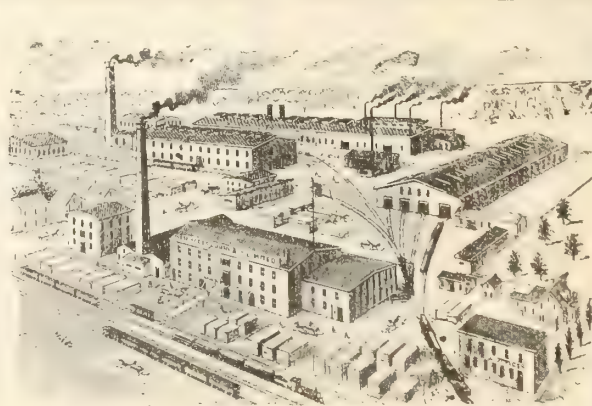
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their report, & they give it as their opinion that the C.P. is not now entitled to a differential on Pacific Coast passenger business. In giving their reasons, they say:

(Here follows the paragraph in the I.C.C. opinion given above to which the no. 3 is prefixed.)

With reference to passenger traffic between New York & San Francisco, the commissioners are of opinion that the C.P. has no right to that traffic because of the greater length of its route. In expressing this opinion the commissioners evidently lost sight of the fact that with nearly the same proportionate difference in distance between points in Eastern Canada & Manitoba, they had already suspended the operation of the 4th sec. of the Interstate Commerce Act, known as "The long & short haul clause," to enable the American lines via Chicago & St. Paul to compete with the C.P. for purely Canadian business to & from Manitoba, without disturbing their intermediate rates, but no doubt this will receive the further consideration of the commissioners.

The findings of the commissioners justify every step taken by the C.P. for the protection of its interests from the very beginning, & while we regret that an opportunity was not given us to fully present our case as regards the specific question of a differential, we cannot help recognizing the marked spirit of fairness with which the whole subject is handled, particularly in view of the fact that on the one side was the C.P.R. Co., "a foreign corporation," while on the other was a combination of companies in the U.S., representing 70,000 miles of railway, before an American tribunal.

Throughout their very able analysis of the question the commissioners seem to have entirely lost sight of the fact that while this Co. is competing with the U.S. railways for interstate traffic, several of the more important lines in the U.S. are active competitors of the C.P. for Canadian traffic, & it may not be out of place to say here that if such an arrangement were practicable, & in the public interest, the C.P. could very well afford, & would be glad to forego, all claims to interstate traffic of every description if its U.S. competitors made no inroads on the business tributary to its lines in Canada.

However, in this case, as in all previous cases involving U.S. traffic, the Co. accepts without question, & will be governed by the decision of the Commission, taking care, of course, that its rates will be on the basis of those which prevail by any other route, & tariffs covering traffic affected by the decision, to take effect on the 25th inst., restoring ante bellum rates as far as practicable in existing conditions will be filed by this Co. in accordance with the Interstate Commerce Law.

TRANSCONTINENTAL RATES RESTORED.

Following up Mr. Shaughnessy's announcement the C.P.R. gave notice that on Sep. 25 transcontinental rates would be restored as indicated. In illustration of the new rates effective Sep. 25, it may be stated that the ante bellum rate from Toronto to North Pacific Coast points via C.P.R., 1st class was \$61.80. The new rate is \$66.30. The 2nd class ante bellum rate was \$55.80. The new rate is \$56.30. The figures during the cutting period were, 1st class, \$35, 2nd, \$25. The Grand Trunk & its U.S. connections' ante bellum rates were, 1st class, \$73.90, 2nd class, \$62.50. Now it is presumed they are the same as the C.P.R. The western U.S. lines now have to maintain tariff rates, or run the risk of having the C.P.R. discover their cuts & adjust its tariff to suit them. To keep tariff rates is something the U.S. western lines have never been able to do for any considerable period.

There appears to have been a general impression that the restoration of transcontinent-

al rates would be accompanied by a restoration of local rates in Ontario & Quebec, but the cutting continues, with no present sign of a speedy cessation. Meanwhile the people are luxuriating in cheap travelling & the G.T.R. & C.P.R. are losing money that might just as well be going into their treasuries. It is a great pity the two managements cannot get together & settle their differences.

Country retailers would hail with delight a restoration of local rates, which have for many months been operating against the leading stores at country centres. Their customers, by reason of the low railway rates, are able to visit Toronto quite frequently & make purchases at the large stores, diverting the regular trade of the country establishments to the city. The restoration of railway rates would, it is thought, result in giving back much of this trade to country merchants. Quite a few cases have been reported of country merchants reducing their purchases on account of the loss of trade in the way stated, & a change in the policy of the railways would be a good thing for the wholesale trade, as it is confidently expected it would lead to larger buying for the country trade than if present conditions were to continue indefinitely.

U.S. Railway Papers' Opinions.

The Railway Age says:—"At the hearing before the Interstate Commerce Commission there was considerable sparring between the representatives of the Canadian Pacific & of the American lines, respectively, on the question as to whether or not the Canadian road was subject to the jurisdiction of the Commission. The C.P. challenged anybody to cite a case wherein it had failed to comply with the commission's rulings. It even went so far as to intimate that in this respect its example might be copied to advantage by companies on this side of the border. American railway men smiled at what was regarded—in language which may or may not be slang—as an admirable 'bluff' on the part of Mr. McNicoll. Whether it was a 'bluff' or not, the C.P. has made its protestations good in somewhat startling fashion by the promptitude with which it has deferred to the wishes of the commission in this particular case. The Commission says that if the C.P. comes into the U.S. to compete for traffic between U.S. points, it should be content to operate upon the same terms as its American competitors, unless those terms are clearly unjust & unreasonable. The C.P. immediately announces that tariffs covering all traffic affected by the decision will be filed with the Commission, to take effect Sep. 25, restoring rates to the ante-bellum basis 'as far as practicable in existing conditions.'

"This is admirable. The only question is as to how far it will be 'practicable under existing conditions.' The C.P., of course, reserves to itself the right to meet any rates made by any other transcontinental route. It may be said without much fear of contradiction that certain of the American transcontinental lines are feeling at the present moment very much more bitterly toward each other than any of them feels toward the C.P. There is a not remote possibility that some of the American lines may find it difficult to maintain rates with entire good faith among themselves, in which case the Canadian road will be in a position to say uncomfortable things.

"Moreover, the deference of the C.P. to the wishes of the Commission does not affect the Ontario-Manitoba-Kootenay business. This traffic is not 'between points in the U.S.' It has been understood for some time that the C.P. would gladly abandon coast differentials, if it could obtain a satisfactory settlement of the Ontario-Manitoba difficulty, or if the American lines would withdraw their support

from the G.T.R. The passenger business to the coast is, in the view of the C.P., a matter of comparative indifference as compared to the business from Ontario points & Eastern Canada to places along its own western lines. When the C.P. files its new tariffs, what position will the American lines be in toward the G.T.R.? We have no expectation that the C.P. is prepared to abandon its differentials to Pacific Coast points unless it is assured of retaining its Manitoba colonist business.

"We would not detract one iota from the admirable docility of spirit of the C.P. as shown by its complying with such alacrity with the views of the Commission. But when the smoke clears away we imagine that its complaisance will be found to have had diplomatic advantages. For the war is not over yet."

The Railroad Gazette says:—"Evidently the very lucid explanation of the facts underlying the controversy between the Canadian Pacific & its American competitors, which Commissioner Prouty gave in his report on the subject, convinced our Canadian friends that if their contention was to be based on grounds of reason, which would appeal to non-railroaders, it might as well be abandoned. So far as American traffic managers are concerned the C.P. might have kept up the contest forever; for, according to the barbarous philosophy prevailing among passenger men, a road which demands a differential need present no argument to justify itself, other than the facts that its cars are running and that it is willing to carry people at the rates which it gets. But Mr. Prouty's showing that the C.P. had no disadvantage but time, & probably could easily remedy that, really exposed the whole controversy as one of the old-fashioned, blood-letting kind, where the only principle is to carry for cost, or less, until the other fellow gives in—or until you become faint yourself. The showing that Vancouver is, for some traffic, as important as San Francisco, and that, therefore, the C.P. is not, as in former years, at a great disadvantage in the matter of distance, was the most important fact underlying Commissioner Prouty's argument.

"Mr. Shaughnessy asserts that 'the C.P. would be glad to forego all claims to interstate traffic of every description if its U.S. competitors made no inroads on the business tributary to its lines in Canada.' The precise meaning of these last half-dozen words is not exactly apparent, but the clause is, no doubt, sufficiently elastic to include cotton cloth from New England bound for Asia by the way of Vancouver, a kind of traffic which the American roads might not be willing to exclude from the term 'interstate traffic.'

"While it will be a decided relief to have this hitherto perennial quarrel out of the way, it is in order to remind our Wall Street friends who have been looking for great changes in earnings whenever peace should be declared, that the earnings on the traffic which has been affected by the low rates are but a trifling fraction of the total income of any or all of the roads. The space-writers have, indeed, had a very prolific controversy over an unimportant matter."

The West Shore Ry. dropped a bombshell in the railroad camp the 1st week in September in the shape of an announcement that thereafter its round trip rate from Buffalo to New York would be an even \$10. This cut of \$6 was immediately met by the Lehigh, Erie & Lackawanna, & it is said the New York Central will follow. The cut is the culmination of secret slashing that has been going on in Buffalo for months past. Ticket agents in New York have been on sale to brokers on some of the lines at as low a rate as \$4.

RAILWAY APPOINTMENTS, &c.

Central Ontario.—H. S. Johnson has been elected Vice-President, vice H. P. McIntosh, of Cleveland, O.

Erie & Huron. The following appointments have been made, with offices at Walkerville, Ont.: E. C. Walker, Managing Director; W. Woolfart, General Superintendent & Traffic Manager; A. Leslie, Accountant & Auditor; J. H. Coburn, Solicitor; Owen McKay, Engineer; S. Austin, Mechanical Superintendent; H. Morris, Roadmaster. All these officials occupy precisely similar positions on the Lake Erie & Detroit River Ry., to which the E. & H. has been sold. The only E. & H. official whose services have been retained, is the Secretary, J. E. Foreman.

Grand Trunk. The following changes & appointments took effect Sept. 1: J. Piper, Roadmaster, Toronto, transferred to 20th District (Brantford & Tilsonburg Branch), 21st District, & 22nd District Harrisburg to Guelph, vice P. Earle; headquarters at Brantford. Chas. O'Dell, appointed Roadmaster of 16th District & Toronto terminals, vice J. Piper, transferred; headquarters at Toronto.

The following changes & appointments are effective October 1st: H. E. Whittenberger, Trainmaster, 15th, 16th (Hamilton to Port Dover), 20th (Buffalo to Goderich) 21st Districts; vice A. S. Begg, transferred. Office at Stratford, Ont. P. J. Lynch, Trainmaster, 22nd, 23rd & 24th Districts. Office at Stratford, Ont.

Lake Manitoba Ry. & Canal Co.—The staff of this line, which is controlled by Mackenzie, Mann & Co., will also operate the Manitoba & Southeastern, now under construction from Winnipeg southeasterly. The head offices are in Winnipeg, the chief official being D. B. Hanna, who ranks as Superintendent.

Spokane Falls & Northern.—The following officials have been appointed, in addition to those mentioned in our July issue, pg. 147: Auditor, A. M. Thomas; Master Mechanic, C. H. Prescott.

White Pass & Yukon.—The Chief Engineer of this company is E. C. Hawkins. The officials of the operating department, with headquarters at Skagway, Alaska, are as follows: Division Engineer, F. H. Whiting; Master Mechanic, W. H. Garlock; Purchasing Agent, W. L. Wilson; General Storekeeper, J. W. Young; Freight & Passenger Agent, E. H. Birks.

The Late Sir Casimir Gzowski.

This distinguished man, who died at Toronto Aug. 24, occupied an important part in the railway & canal history of Canada. Passing over the details of his earlier life, which have been very fully referred to in the daily press, it may be mentioned that when he came to Canada in 1841, the project of deepening & widening the Welland Canal was on foot, & Sir Charles Bagot, who formed a very high regard for his abilities & character, very heartily sanctioned his appointment to an office in the Department of Public Works. For the next 6 years he was actively engaged in this Department, & his report of the works in connection with harbors, bridges & highways is voluminous. He supervised every important provincial improvement, & nearly every county in Upper Canada bears upon its surface the impress of his great industry & engineering skill. He became successively Superintending Engineer of Roads & Harbors in Western Ontario in 1842-48; Engineer of Harbor Works at Montreal, 1850-53; & Consulting Engineer, ship channel improvement between Montreal & Quebec, 1850-53. Later

he became Chief Engineer of the St. Lawrence & Atlantic Ry. Co.

In 1853 he formed a famous partnership with the late Sir A. T. Galt, L. H. Holton & Sir David Macpherson—the greatest firm Canada ever saw—formed of four of Canada's biggest men. For several years he devoted himself exclusively to railway construction. His firm had the contract for building the G. T. R. from Toronto to Sarnia. The firm was dissolved when this work was finished, & the partnership thereafter comprised only Gzowski & Macpherson, & did an extensive contracting business, including the G. T. R. from Port Huron to Detroit. In 1857 the firm established the Toronto Rolling Mills at the Don, for the purpose of producing iron rails & other railway materials. These mills ran for 12 years. Mr. Gzowski's Pittsfield friends were considerable shareholders in this venture. The firm also assisted in building the Toronto Esplanade.

Personal Mention.

H. B. Stuart has been appointed General Agent of the Erie & Huron Ry. at Sarnia.

Archer Baker, European Traffic Agent of the C.P.R., is visiting Canada with his family.

W. McKenzie, President of the Toronto Ry. Co., has been made an honorary lieutenant-colonel.

General Manager Frank Grundy, of the Quebec Central, returned about the latter end of Aug. from a visit to England.

Collingwood Schrieber, Deputy Minister of Railways, leaves Ottawa Sept. 27 for the Pacific Coast. He will inspect the Crow's Nest Ry.

W. H. Langridge, C. P. R. local auditor at St. John, N. B., has been promoted to the Pacific Division, with headquarters at Revelstoke, B. C.

Geo. Olds, C.P.R. representative on the Joint Traffic Association, recently returned to Montreal with Mrs. Olds, after a delightful holiday abroad.

The position of Canadian Passenger Agent of the Michigan Central, heretofore held by J. G. Laven, with headquarters at Toronto, has been abolished.

"Jimmy" French, for 16 years porter of Sir Wm. Van Horne's private car, has left the Co.'s service & gone to Chicago, to enter the employ of E. F. Austen.

Captain Cook, a graduate of Kingston Royal Military College, & son of W. Cook, of the I.C.R. service at Moncton, N.B., has been shot dead in South Africa.

The Duchess of Albany & her children, Princess Alice & the Duke of Albany, have been on a visit to Lord & Lady Mountstephen at Brockett Hall, Hatfield, Eng.

The title of H. B. Ledyard, President & General Manager of the Michigan Central, has been changed to President, the title of General Manager having been dropped.

G. H. Pick, formerly Assistant General Freight Agent I.C.R., has been appointed Weighing Inspector on the I.C.R. J. F. Nelles will be Assistant Weighing Inspector.

W. C. Tomkins, of the G. T. R. General Manager's office, Montreal, was recently presented with a clock and pair of statuettes, on the eve of his marriage to Miss F. Deverall.

The M.C.R. has made some changes at St. Thomas, doing away with the positions of day & night trainmaster. T. E. Scott, Trainmaster, has been given a position as passenger conductor.

Mrs. C. R. Hosmer, wife of the Manager of the C.P.R. Telegraphs, has returned to Montreal from a pleasant visit at St. Andrew's, N.B., where she has spent some weeks at the Algonquin.

Mrs. A. D. McTier, wife of the C.P.R. General Baggage Agent, has returned to Montreal with her youthful family from a very pleasant visit to England, accompanied by her mother, Mrs. Waddell.

W. Mackenzie, President of the Toronto Ry., F. Nicholls, of the General Electric Co., & H. M. Pellatt, have gone to B.C. They intend making a careful examination of Rossland & the surrounding country.

Alonzo Lucas, for 15 years Bridge-master for the G.T.R., & for 30 years in the employ of the road, died at London, Ont., Sep. 20, after a lingering illness. He retired from the service about a year ago owing to ill health.

G. R. Joughins, the recently appointed Mechanical Superintendent of the I. C. R., has removed his family from Roanoke, Va., to Moncton, N. B., where they occupy one of the official residences near the head offices.

Thos. Newman, senr., late C.P.R. Roadmaster at Schrieber, Ont., died in Montreal Sept. 13, aged 58. The body was taken to his daughter-in-law's residence in Toronto & was interred at Mount Pleasant Cemetery there.

Lord & Lady Strathcona recently left Knebworth, Herts, Eng., to spend a few weeks at Glencoe, Scotland, accompanied by Alex. Stewart of Montreal. The Hon. Mrs. Howard & family remain at Knebworth during their absence.

F. P. Macdonald, Assistant Superintendent of the C.S. division of the M.C.R. at St. Thomas, has been appointed Superintendent Middle Division, with headquarters at Jackson, Mich. The Assistant Superintendency at St. Thomas has been abolished.

Co-partnership of the firm of McDonald, Stewart & Ferguson, railway contractors, has been registered at Windsor, N.S. The members are J. K. McDonald, New Glasgow; W. C. McDonald, Halifax; J. Stewart, New Glasgow, & D. Ferguson, Londonderry.

H. K. Prior, for many years General Freight & Passenger Agent of the Esquimalt & Nanaimo Ry., has resigned, & is succeeded by G. L. Courtney, for sometime local agent for the C.P.R. in Victoria. G. W. Greer has taken Mr. Courtney's place in the C.P.R. service.

It is said that the G.T.R. directors have expressed their appreciation of General Manager Hays' service in an extremely practical way, by increasing his salary from \$25,000 to \$35,000 a year. It is said he also gets \$10,000 a year as Receiver of the Central Vermont.

President Callaway, of the New York Central, accompanied by President Beckley, Superintendent Fisher & General Passenger Agent Backus, of the T., H. & B., made an inspection of the latter line recently. It is officially denied that any change of management of the T., H. & B. is contemplated.

D. B. Worthington, Freight & Passenger Agent of the C. P. R. at Buffalo, has been appointed Travelling Passenger Agent of the C., M. & St. P., with headquarters in Buffalo, succeeding Wm. Kelley, Jr., promoted. Mr. Worthington is succeeded in the C. P. R. service by A. J. Shulman, heretofore his assistant.

G. F. Evans, Manager of the Westinghouse Mfg. Co., Hamilton, Ont., has been appointed Manager of the works which the parent U.S. Co. is establishing in Russia. P. J. Myler, Assistant Treasurer, who has been at Hamilton since the establishment of the works there, is Acting-Manager & will likely be appointed Manager.

G.T.R. Trainmaster Begg, of Stratford, has been transferred to Sarnia, where he will act as Trainmaster for the Chicago & Grand Trunk Ry. at Port Huron & for the G. T. at Sarnia. He will assume charge of his new duties

about Oct. 1. Mr. Whittenberger, of the Northern Division, will succeed Mr. Begg, & Conductor P. G. Lynch, of Toronto, has been appointed to Mr. Whittenberger's place.

The rumor that J. E. Price, Superintendent of the I.C.R. at Truro, is to be appointed Assistant General Manager of the line has been revived by Maritime Province papers. Mr. Price is undoubtedly a thoroughly competent man for the position & the appointment would be a good one. Mr. Pottinger certainly requires an assistant to relieve him of some of his detail work, & should the oft-repeated rumor turn out to be true we think it will be a good thing for the I.C.R. Another rumor says Mr. Price will be made General Superintendent of the line.

Jas. McQueen, jun., Manager of the Reading Despatch, Grand Trunk Freight Line, died of heart failure in Detroit recently. He was born in Dunfermline, Scotland, in 1854, coming out with his parents when a boy. His father, Jas. McQueen, was for many years Freight Agent of the G.T. in Detroit, & was retired a few years ago. Young McQueen followed in his father's footsteps & entered the employ of the old Great Western road as a clerk in the freight office. In time he became Chief Clerk, & was later appointed Assistant General Freight Agent of the Detroit & Milwaukee road. When the West Shore Freight Line was established in 1891 he was made Manager, & when this line was made the Reading Despatch he became Manager of the latter. He leaves a widow & 4 children.

E. M. Herr has resigned as Superintendent of Motive Power of the Northern Pacific to become Assistant General Manager of the Westinghouse Air Brake Co. He has had an unusually wide experience. He started as a messenger boy for the Western Union Telegraph Co., & entered railway work on the Kansas Pacific in 1878, since which he has been busy with promotions, but still has had time to secure a good technical education. He has devoted most of his attention to the mechanical department, & is specially well equipped for that work by intimate knowledge of operating matters obtained when he was Superintendent of Telegraph & Division Superintendent on the Burlington. The higher positions which he has held in mechanical departments are Master Mechanic of the Chicago, Milwaukee & St. Paul, Superintendent of the Grant Locomotive Works & Assistant Superintendent of Motive Power of the Chicago & Northwestern. By this change the railway service loses one of its best men, & the Westinghouse Air Brake Co. acquires one whose qualifications are altogether exceptional.—American Engineer.

Superintendent Price.

Alfred Price, recently appointed C. P. R. Superintendent at Toronto, with jurisdiction over the Toronto terminals, Hamilton & Owen Sound sections, & Orangeville, Teeswater & Elora branches, was born in Toronto in 1861. On Sept. 3, 1879, he entered the service of the Credit Valley Ry. at Toronto as operator & clerk. The line was then just about to be opened for passenger and freight traffic between Parkdale & Brock Road, now called Schaw. In 1881 he was given charge of the car records, which he kept until the absorption of the road by the C. P. R. At the same time he did more or less telegraphing & train dispatching. He was appointed C. P. R. Train Despatcher in 1883, Car Distributor of the Ontario Division in 1888, and Chief Dispatcher, in addition to Car Distributor, in 1896.

The branch stores department of the G.T.R. located at Port Huron, Mich., for several years, is being moved to Battle Creek.

FINANCE, MEETINGS, &c.

Salisbury & Harvey Railway.

The New Brunswick Equity Court recently granted an application of the People's Trust Co. & appointed J. R. Abney, a New York lawyer, as Receiver for this line, which was formerly known as the Albert Ry., the Ry. Co. consenting. The Receiver was ordered to file his accounts every 6 months, no security to be given.

This line runs from Salisbury, on the Moncton & St. John branch of the Intercolonial, 13 miles from Moncton, through the small fishing & ship-building villages of Albert County, a distance of 45 miles, to Albert, on Shepody Bay, an inlet of the Bay of Fundy. Hillsboro is an important village on the line, having a heavy plaster trade. At Albert Mines was once produced the most valuable species of coal which the world has known. This mineral, called Albertite, fetched enormous prices, but the supply is now exhausted & the village is falling to decay. The coast villages of Albert County are largely engrossed in the shad fisheries.

The following statistics of the line are up to June 30, 1897: Ordinary share capital author-



ALFRED PRICE.

ized & paid up, \$150,000; bonded debt authorized & issued \$250,000; Dominion Government aid authorized as loan, \$29,665.45; paid \$29,391.01; Provincial Government bonus authorized and paid \$455,000; municipal bonus paid \$70,000; total capital subscribed \$954,665.45; paid up \$704,391.01; floating debt \$3,000 at 7%; total theoretical cost of railway & rolling stock \$1,784,073.33. Forty miles of the line are laid with 60 lb. iron rails & 5 miles with 56 lb. steel. The radius of the sharpest curve is 717, & the number of feet per mile of the heaviest grade is 80. The equipment consists of 2 locomotives, 1 first-class car, 1 baggage, mail & express car, 7 freight cars & 22 flats. The total gross earnings for the year ended June 30, 1897, were \$3,485.53 & the operating expenses \$24,012.92. The foregoing figures are taken from the report of the Department of Railways. There is evidently a considerable error in the figures given as cost of road & rolling stock.

The officers of the line are: President, C. H. Hardman, New York; Secretary, F. B. Treiber, Charlottesville, Va.; Manager, A. Sherwood, Hillsboro, N.B. We are officially advised there will be no change in the management

of the road & that Mr. Sherwood will continue the management as heretofore.

Grand Trunk Finances.

In Aug. issue, pg. 146, we published a brief cable respecting the accounts for the 1st half of the year. The official notification issued by the Secretary says: "I am instructed to inform you that, subject to audit, the results of the accounts for the ½ year to June 30, 1898, are cabled as follows: Gross receipts £1,871,700; working expenses, £1,243,900; net receipts, £627,800; net revenue charges for the ½ year, less credits, £490,500—£137,300. Deduct Chicago & Grand Trunk deficiency for the ½ year payable by the G. T. Co. under traffic agreements, £8,400; Detroit, Grand Haven & Milwaukee deficiency for the ½ year, £22,300—£30,700; surplus for the ½ year, £106,600; revenue credit balance from previous ½ year £10,300, less appropriated as the contribution for the ½ year ending December 31, 1897, towards the revenue proportion of the expenditure for the reconstruction of the Victoria Jubilee Bridge, £10,000—£300; balance available for dividend, £106,900. The above balance admits of the payment of the full dividend for the ½ year of £2 per cent. on the 4% guaranteed stock, leaving an amount of about £2,500 to be carried forward."

Commenting on the foregoing, the Canadian Gazette, London, Eng., says: "In view of the great activity of the stocks during the last few months, more than usual interest attached to the statement of the G.T.R. Co. for the ½ year to June 30, &, although comparing very satisfactorily with the figures for the first ½ of 1897, the notification was received in the Stock Exchange with considerable disappointment. After meeting the fixed charges for the entire system, the surplus for the first half of 1897 was £2,700, while this year it was £106,600, & the payment of the full dividend at the rate of 4% per annum on the guaranteed stock is recommended, leaving about £2,500 (including £300 brought over) to be carried forward. As a surplus, after meeting the guaranteed dividend, of at least £25,000 had been looked for, there was on the publication of the figures a sharp drop in the prices of the stocks, but some portion of this has since been recovered."

The annual meeting will be held in London, Eng., Oct. 13.

The Spokane & Northern Purchase.

A Spokane, Wash., paper gives the following as the facts in connection with this recent transaction. The version may or not be correct, & we simply reproduce it for what it is worth:

Some time ago the Chemical National Bank of New York began buying in the stock of the Spokane & Northern, & this operation coming to the knowledge of President Mellen of the Northern Pacific he concluded that the real purchaser was the Canadian Pacific. Just before this Mr. Hill proposed to Mr. Mellen that the Great Northern & Northern Pacific should buy the Corbin roads jointly, & operate them for their joint account, but Mr. Mellen did not like the idea of owning the property in partnership with Mr. Hill, & declined to go into the deal. The buying of the stock by the Chemical National was brought to the notice of J. Pierpont Morgan, & he also was disposed to think it a C.P.R. move, & determined to checkmate it. He did not want to have another invasion of N.P. territory by the big Canadian corporation. So he gave orders that his own house should buy all the S. & N. stock offered on the market. Morgan's purchases soon exceeded those of the Chemical, & had amounted to a controlling interest, when it was discovered that the real buyer behind the Chemical was not the C.P.R., but

J. J. Hill, who made loud complaint when he discovered that he had been playing against the powerful trend Morgan. At about the same time reports came in from two prominent N.P. officials who had been sent out to inspect the Corbin system, & they threw cold water on it as a traffic proposition. They did not think the melon was a juicy one. Mr. Morgan concluded that he did not want the system for the N.P. & wired Mr. Hill in St. Paul that he could have it for just what it had cost Morgan & Co. Hill promptly replied he would take it, & in a few days the transfer of stock was made & the deal completed. And this is how the S. & N. becomes a branch of the G.N. instead of the N.P.

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases over 1897 from Jan. 1, 1898, are as under:

	Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan.	\$1,074,374.04	\$4,156,744.45	\$515,627.59	\$142,284.49+
Feb.	1,494,596.08	1,070,929.62	423,667.36	38,844.28+
Mar.	2,079,479.06	1,326,245.55	753,233.51	233,020.67+
April	1,558,461.88	1,041,371.19	517,090.69	89,973.35+
May	1,258,000.10	1,326,336.85	926,662.31	51,092.47+
June	2,138,110.04	1,320,714.67	817,395.37	68,731.93+
July	2,051,363.27	1,300,674.48	750,688.79	183,070.08+

\$1,347,382.43 \$8,763,016.81 \$4,392,996.23 \$440,276.92+
+ Increase. - Decrease.

The approximate traffic earnings for August, 1898, were \$2,161,000, against \$2,175,000 in August, 1897, a decrease of \$14,000.

AUXILIARY LINES.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—The approximate earnings for August were \$326,219, as compared with \$309,561 in August, 1897, an increase of \$16,658. For the 8 months ended Aug. 31, they were \$2,442,581.24, as compared with \$2,232,280.49 in 1897, an increase of \$210,300.75.

DULUTH, SOUTH SHORE & ATLANTIC RY.—The approximate earnings for Aug. were \$181,572, as compared with \$170,122 in Aug., 1897, an increase of \$11,450. For the 8 months ended Aug. 31 they were \$1,205,361.26, as compared with \$1,032,124.27 in 1897, an increase of \$173,236.99.

MINERAL RANGE, HANCOCK & CALUMET.—The approximate earnings for Aug. were \$37,076, as compared with \$28,796 in Aug., 1897, an increase of \$8,280. For the 8 months ended Aug. 31 they were \$229,637.57, as compared with \$186,398.05 in 1897, an increase of \$43,239.52.

Canadian Pacific Railway Land Sales.

	Acres.		Amount.	
	1898	1897	1898	1897
Jan.	22,044	9,443	\$7,924.00	\$33,872.00
Feb.	20,630	8,103	66,399.00	27,573.00
Mar.	33,421	8,727	109,010.00	29,080.00
April	13,145	10,725	140,275.00	37,145.00
May	43,148	15,802	137,835.00	51,508.00
June	49,203	18,964	160,199.00	63,160.00
July	36,512	17,083	123,011.00	55,949.00
Aug.	19,449	9,460	63,911.00	30,209.00
Totals	270,572	98,427	\$873,564.00	\$328,496.00

Grand Trunk Earnings.

These figures include the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.

	1898	1897	Increase.	Decrease.
Jan.	\$1,916,332	\$1,639,614	\$276,718	
Feb.	1,674,453	1,522,246	152,207	
Mar.	2,048,970	1,803,279	245,691	
April	1,777,477	1,777,841	131.67	
May	1,940,980	1,774,802	166,178	
June	1,880,402	1,912,185		\$31,783
July	1,920,584	1,920,584		\$31,714
Aug.	1,922,502	2,091,435		68,433
Totals	\$14,512,529	\$982,443	\$2,000,000	

Financial Notes, &c.

Atlantic & Lake Superior.—A Montreal despatch of Aug. 24 said: "The promoters of the A. & L. S. Ry. scheme have met with success in the London market, & three-fourths of the entire issue, amounting to several million dollars, has been already underwritten. The immediate intentions of the Co. will be confined to completing the line of railway from Sorel, on the South Shore, to Point Levis, & extending the road already built to New Carlisle, to Paspébiac & Port Daniel. When the Company had been informed of C. N. Armstrong's success in London, Jas. Shanley, C.E., began at once the construction of deep water terminal facilities at Paspébiac, a port on the Baie des Chaleurs, which the promoters of the A. & L. S. contend will be open all the year round, & will thus contribute to the solution of the winter port question within the old provinces of Canada. The operations of the Co. are not, however, confined to the railway scheme, for word has been received here from London to the effect that steamers have been chartered to go on the route between Paspébiac & a British port, the service to be inaugurated in October. A gentleman interested in the Co. states that the boats in question will have a speed of 17 knots an hour."

In response to an enquiry as to the accuracy of the foregoing, the Acting-Secretary of the Co. writes us:—"I am pleased to be able to confirm the rumor that you spoke of with regard to the underwriting of our bonds, & the issue of the same, which will take place early in Oct., & of the success of which we have no doubt."

The Financial News, London, Eng., recently made a strong attack on these bonds.

Calgary & Edmonton.—The net loss in operating for July was \$1,190.06, as against net earnings of \$6,260.09 for the corresponding period. This decrease is caused by the large increase in expenses, \$17,144.59, being spent in maintenance of way & structure. The total expenses for July 1897, were \$11,704.91, as compared with \$22,683.45 for July, 1898.

The annual meeting of this Co. will be held in Toronto Oct. 5.

Canada Atlantic.—The annual meeting will be held in Ottawa Sep. 27. The annual meeting of the allied company, the Ottawa, Arnprior & Parry Sound, will be held at the same place an hour later.

Dominion Atlantic.—The receipts for the 7 months to July 31 were \$271,368, against \$255,399 for corresponding period.

Guelph Junction.—The earnings for April, May & June were \$3,652.43, of which the C.P.R. paid the city of Guelph \$1,460.98 under the terms of the lease.

Kaslo & Lardo-Duncan.—A meeting of shareholders was held at Kaslo early in Sep. It is said the charter has been sold to people in London, Eng.

Manitoba & Northwestern.—There is nothing to report in regard to the sale of this road in addition to what appeared in our July issue, pg. 126. W. Hendrie, of Hamilton, Ont., is in the syndicate headed by E. B. Osler, M.P., which bought the bonds & the Allan interests. At present there are 2 receivers for the road, H. M. Allan, of Montreal, for one portion, & Mr. Osler's partner, A. M. Nanton, of Winnipeg, for the other. It is expected Mr. Allan will soon retire, leaving Mr. Nanton sole Receiver. It is understood a financial scheme in connection with the road's future is now being prepared, but details are not obtainable. We adhere to the opinion expressed in our July issue, that the road will be either sold or leased to the C.P.R. Pending this there is not likely to be any change in the officials now in charge.

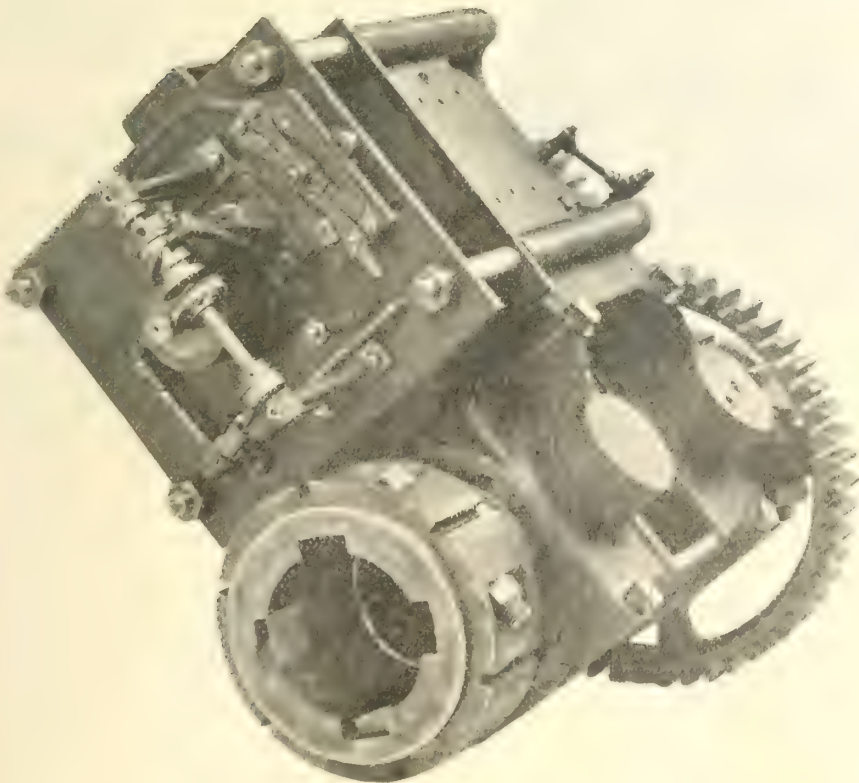
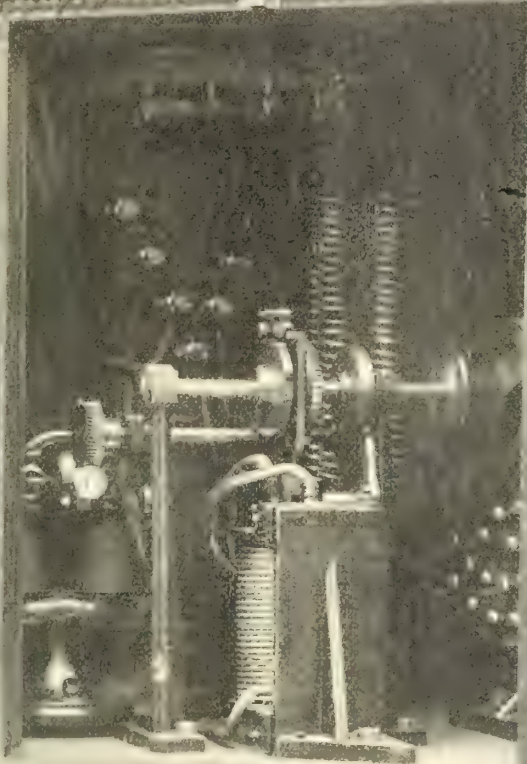
New York & Ottawa.—The State Board of Railway Commissioners at Albany, N.Y., has granted authority to this Co. to increase its capital stock from \$1,480,000 to \$3,000,000, to enable it to acquire the stock of the Ottawa & New York Ry. of Canada, & of the Cornwall Bridge Co. (See June issue, pg. 118.) The N.Y. & O. Ry. is said to be the link by which the Delaware & Hudson will find a new entrance into Canada by way of the Adirondack Ry., now operated by the Delaware & Hudson, as far as North Creek. The N.Y. & O. has the right to construct from the St. Lawrence river opposite Cornwall, Ont., to Moira, N.Y., & from there to Tupper Lake via the Northern New York, which the N.Y. & O. controls. From there to Long Lake connection will be made by the Racquette River & Long Lake Ry. The Adirondack Ry. runs from Saratoga to North Creek, and claims it has the right of way from there to Long Lake, which disputed question is now before the courts. A bridge company, the New York & Ottawa, has been incorporated to build a bridge over the St. Lawrence River at the terminus of the N.Y. & O.R., & on the Canadian side of the river connection will be made with the Ottawa & New York Ry. from Cornwall, Ont., to Ottawa. It is claimed that the route, if connection be made from North Creek to Tupper Lake, will shorten the distance between New York & Ottawa by 58 miles.

Ottawa & Gatineau Valley.—Early in August it was persistently rumored in Ottawa that the Street Ry. Co. of that city had bought this line, with the intention of converting it into an electric road & extending it into Ottawa by way of the Nepean Point bridge now being built. Genl. Supt. Resseman said there was no truth in the rumor. President MacRae, of the St. Ry. Co., would say nothing one way or the other, & this rather strengthened the rumor, but nothing has yet transpired to verify it. The O. & G. V. runs from Ottawa to Gracefield, 60 miles, through a very picturesque district, rich in fishing preserves. The summer travel is already good. On Sundays during the summer a train averaging 12 cars leaves Ottawa at 9.30 a. m., going the whole length of the line & returning in the evening.

Quebec Central.—The net earnings for the 7 months to July were \$76,594 as against \$100,365 for corresponding period. The falling off in earnings this year is entirely attributable to the duty of \$2 a thousand feet on lumber which the U. S. has levied since July 1, 1897, & which puts Canadian dealers out of the market. (Official.)

Quebec, Montmorency & Charlevoix.—The annual meeting was held Sept. 13. We are officially informed as follows: "The annual report of the steam railway from Quebec to Cap Tourmente, together with a report of the result of the operations of the electric railway system in Quebec City for the 2 months since its purchase from the Quebec District Ry. Co., were read & adopted, the result of the operations being very satisfactory. The shareholders ratified the arrangements which had been made for the purchase of the Montmorency Electric Power Co., & the purchase of that Co. has been completed. The amalgamation of the Quebec District Ry. Co. (electric system) & the Montmorency Electric Power Co., which has all the lighting contracts in the City of Quebec, with the existing steam railway company, will have the effect of considerably reducing the operating expenses & also of considerably improving the service. It is proposed next year to operate the steam railway electrically. The election of officers resulted as follows: H. J. Beemer, President; A. Thomson, Vice-President; E. E. Webb, F. Ross, W. Hanson, Hon. S. N. Parent, Judge E. Chauveau, Directors; E. A. Evans, Manager & Chief Engineer; E. F. Wurtele, Secretary-Treasurer; W. R. Russell, Superintendent.

*Both call del C. & Can. & Lee. Hunt
Screens by order of American Ry. Co.*



Qu'Appelle, Long Lake & Saskatchewan.—The net loss in operating for July was \$4,676.59, as compared with a net loss of \$2,704.74 for the corresponding period.

St. Catharines & Niagara Central.—This line, particulars of the troubles in connection with which will be found in our July issue (pg. 118), has been sold to Haines Bros., New York. Particulars of the purchasers' intentions to electrify the road will be found on pg. 193 of this issue. From the purchase money it is conceded that about \$11,000 may be controlled by the City Council, & this the Council is asked to forego. It is said G. M. Neelon was paid \$1,000 over his purchase price for the road, & that the purchasers have offered him a position.

White Pass & Yukon.—This Company recently asked the English public to subscribe for debentures amounting to \$750,000, for construction purposes. The American representative of the Co. informs us that the issue was quite successful.

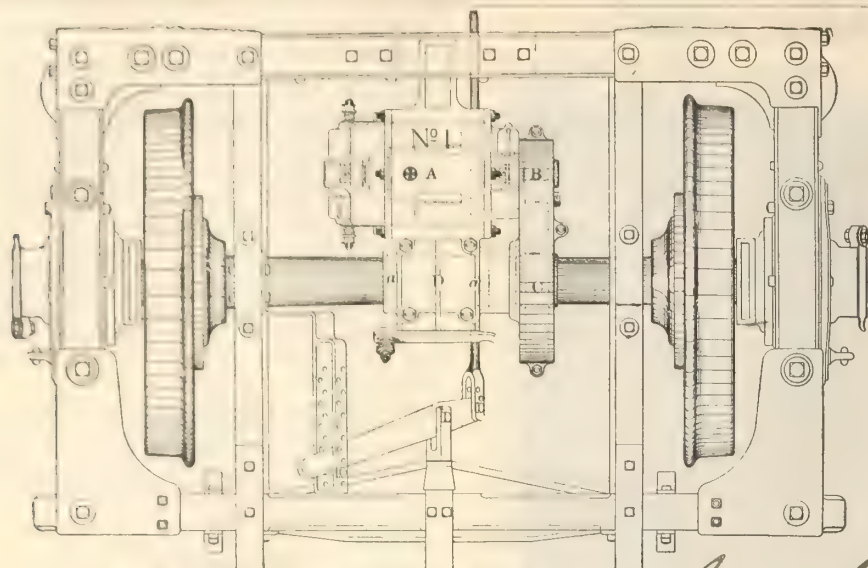
EQUIPMENT.

Electrical Lighting of Cars.

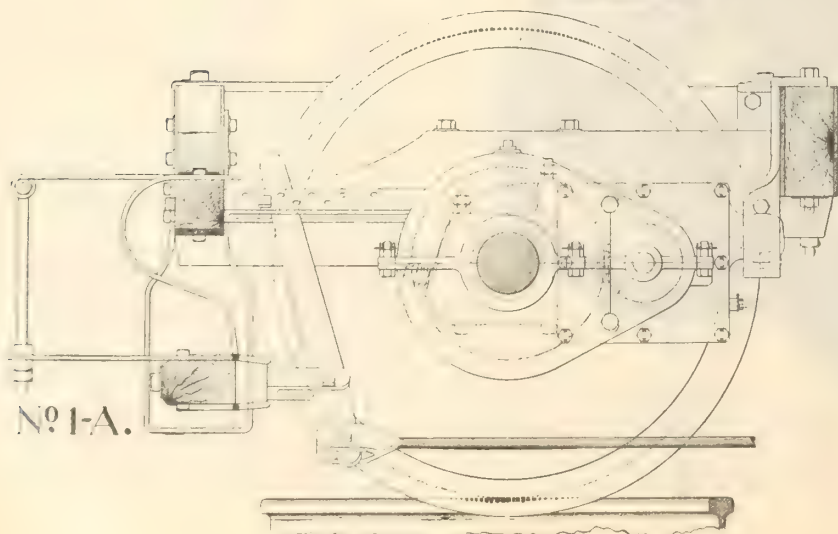
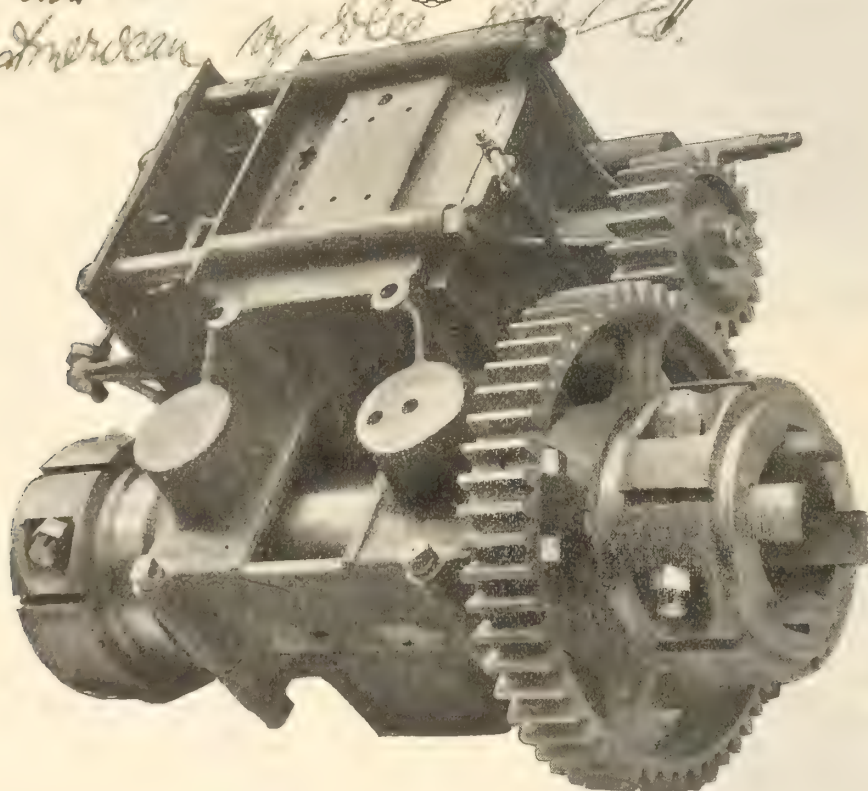
Three methods of lighting cars by electricity have so far been adopted. The most extensively developed method heretofore employed is where a dynamo in the baggage car, run by steam from the locomotive, generates an electric current which is carried through the train by wires extending from car to car. This plan requires the constant attendance of an electrical engineer, & has been found so expensive as to be impracticable. Another method now in use is that of a simple storage battery in each car. This, however, is both expensive & unsatisfactory, because the batteries must be removed at each terminal & recharged from a central electric plant. The weight of the batteries, the fact that the light is likely to diminish as the storage is drawn on, the labor of changing & cost of charging them, together with the necessity of confining the runs of the cars to terminal points where there are charging stations, add to the cost & difficulties of this system.

At one time & another a number of inventors have given more or less attention to the possibility of utilizing the motion of the wheels of railroad cars for the generation of electricity for lighting the train to which such cars belong, but until recently it could not be said that any very satisfactory results had been attained, & even now it is doubtful if any system has been so perfected as to warrant its general adoption. Some months ago the C.P.R. Co. equipped its sleeping car, Winchester, with a system, & it has since been put in the 10 magnificent sleeping cars, of which the Chantilly was the first turned out.

This system consists of a dynamo mounted upon the truck of the car, one end of which is supported by a stirrup from the truck, & the other by the axle. It is driven by a direct gear which revolves usually at the rate of $2\frac{1}{2}$ to 1 revolution of the car wheel. The part resting on the axle rests on a split sleeve, supported by the axle. This split sleeve finds its bearings by means of adjustable jaws, so arranged as to take up any irregularity of the axle, & they engage close to the wheels, leaving the central parts of the axle free to spring round curves & going over irregularities in the road & centering the weight where it is least felt. A peculiar feature of this system is the regulating device. Although the speed of the train may reach great extremes of variations, & the dynamo being directly geared would generate great extremes of current, the regulator is so arranged by a system of resistance wires that the current is kept substantially uniform during all the variations of speed between 20 miles an hour & the maximum ability of the



*I cut Bel to Can. Elec News by order
American by Bel's order*



locomotive. In other words, although the dynamo at a speed of 60 miles an hour is revolving 3 times as fast as it does at a speed of 20 miles an hour, the amount of current generated is the same. In connection with this there is an automatic cut-out so adjusted as to throw the dynamo into circuit with the lamps upon its reaching a potential equal to that of a small storage battery supply, & throw it out of circuit upon its dropping below. The effect of this is that when the lamps are burning, & the train running at 20 miles an hour, the lamps are fed directly from the dynamo, & a small surplus of current goes through the batteries. When the speed falls below 20 miles an hour the cut-out works automatically, & as long as it continues at its low rate of speed, the lights are drawn direct from a small but powerful set of storage batteries supplied for the purpose. Any battery capacity is supplied to take care of the lights during all ordinary & reasonable delays, during stops, slow-downs or casualties. Any capacity can be supplied, but ordinarily & dependent upon the number of lights used there is enough for from five to fifteen hours lighting in the battery supply.

Everything connected with the system is entirely automatic. The porter is given no instructions, beyond being told to turn the lights on when he wants them & turn them off when they are no longer required. We give illustrations of the device as applied to the Winchester. The cuts are so clear that technicians should be able to understand them at once. Another feature of this system is that in running during the daytime when the batteries are full, the very act of turning off the lights cuts down the efficiency of the dynamo to a point where it generates only the normal current necessary to pass through the batteries, in order to keep them in the best of condition. Should it be desirable, as it very frequently is, to introduce electric fans into the sleeping car during the hot months, as soon as those fans were brought into play the current generated by the dynamo would be amply sufficient to keep a large number of them in operation, if required, while yet serving the batteries with all that they require.

The foregoing description is compiled from material supplied by the owners of the system, & we do not accept any responsibility for the claims therein made, or necessarily endorse them.

Of the illustrations accompanying this article the 1st shows the regulating device, the 2nd & 4th give different views of the axle device & the 3rd & 5th explain themselves.

Canadian Pacific Work.

Two dining cars are being built at the Montreal shops which are modeled very much after the Co's car Frogmore, which is said to be one of, if not the most modern dining cars running on any line in America. The decks will be coved & the cars will be equipped with wide end vestibules, so that passengers may enter under cover from adjoining cars.

The Co. will probably build 2 rotary snow ploughs at once. They will be similar to those now in use on the Co's western lines, with all improvements which have been made in rotary snow ploughs up to date. It is also likely that 2 C.P.R. standard wing ploughs will be built & that the nose & wings of each will be operated by compressed air, which is a novel feature.

A paragraph which appeared in a U.S. railway paper recently to the effect that the Co. intended to at once go on with the construction of another 1,000 freight cars as soon as those now being built are completed, is incorrect.

The Co. will probably build at its Perth works some hopper drop bottom ore cars for smelter work on the Pacific Division. They will have a capacity of 60,000 lbs. each.

Ten compound consolidation engines, with

57 in. wheels, are being completed at the Montreal shops for fast freight service. It is expected that 6 passenger engines will be put in hand shortly. The type has not yet been decided on. (Official.)

The official car Champion, used for many years by Vice-President Shaughnessy, has been sent to Winnipeg for the use of Manager Whyte, of the Western Lines, whose car no. 15, which as no. 10 was the General Manager's car when Sir Wm. Van Horne first occupied the position, has been sent to Vancouver for General Superintendent Marpole, of the Pacific Division. Mr. Shaughnessy will in future use the Metapedia, which was built for Lord Mountstephen when he was President. Sir Wm. Van Horne sticks to the Saskatchewan, of which so many railway men & others have pleasant recollections.

A Vancouver paper recently gave currency to a statement, which it attributed to a person connected with the C.P.R. Montreal shops, who, it said, was visiting Vancouver, to the effect that a large number of cars specially adapted for carrying troops were being built by the Co. in Montreal. We are officially informed that the statement, if made, had no foundation in fact. (Official.)

Intercolonial Railway Equipment.

Tenders were recently asked for 300 box cars & 100 platform cars. The box cars are to be of 60,000 lbs. capacity, the general dimensions being as follows:

	FT.	IN.
Length over end sills.....	35	0
Width over side sills.....	8	11
Height top of sills to underside of plates.....	7	3
Length inside.....	34	5½
Width inside.....	8	4½
Height inside top of floor to underside of carlin.....	7	3½
Height of Lining (to underside of top girth).....	5	0
Outside of end sill to centre of body bolster.....	5	3½
Centre to centre of cross frame tie timber.....	7	4
Height top of rail to centre of drawbar.....	2	10½
Wheel base of truck.....	5	2
Door opening.....	5	6
Distance of truck centres apart.....	24	5

The cars are to be fitted with Westinghouse automatic air brakes. Fifty trucks are to be of the 4 wheeled side bearing roller truck pattern, Barber's Patent 12 ins. channel steel, bolster truck, with malleable fittings as made by the Standard Car Truck Co., Montreal, & 250 of the 4 wheeled diamond pattern with rigid bolster, the design to be as shown in Car Builder's Dictionary, 1895 edition, pg. 332, figures 4644 to 4663, except that the steel bolster of truck is to be of a pattern to be approved & the centres of truck wheels are to be 5 ft. 2 ins. apart.

The platform cars are also to be of 60,000 lbs. capacity, the general dimensions being as follows:

	FT.	IN.
Length over end sills.....	35	0
Width over side sills.....	9	0
Length over floor.....	35	1½
Width over floor.....	9	3
Outside end sill to center of body bolster.....	5	4½
Center to center of cross-frame tie timber.....	7	4
Height top of rail to center of drawbar.....	2	10½
Wheel base of truck.....	5	2
Distance of truck centers apart.....	24	3½

These cars are also to be fitted with Westinghouse automatic air brakes. All the trucks are to be of the Standard Car Truck Co.'s make, as specified above for 50 of the box cars. Heretofore wooden trucks have been used on I.C.R. freight cars.

Contracts have been awarded as follows: Rhodes, Curry & Co., Amherst, N.S., 150 box, 100 platform; Crossen Car Mfg. Co., Cobourg, Ont., 100 box; Rathbun Co., Deseronto, Ont., 50 box. (Official.)

We have also been favored with copies of the specifications for 2nd class sleeping cars, 63 ft. 7 ins. body length, postal & baggage cars 60 ft. long, & baggage cars 60 ft. long. It is said tenders are also being asked for 1st class cars.

It was recently stated by Maritime Province papers that the Wagner Car Co. was building 4 solid vestibuled trains for the I.C.R. This is denied, but it is said tenders will shortly be asked for them.

Daily papers recently stated that a company being formed to utilize the power of the Chaudiere Falls, near Quebec, would supply the I.C.R. with electricity for car lighting. The management of the line knows nothing about the matter. (Official.)

Referring to what we said about the Cleveland cylinder in our July issue, pg. 120, & Aug. pg. 155. One of these has been on a locomotive running between Moncton & St. John for some months, and another locomotive is to be fitted with it as soon as possible, to give it a further trial, as the one already in use seems to be working satisfactorily. (Official.)

Grand Trunk Equipment.

The G.T.R. has recently made large expenditures in the renewal of rolling stock, which includes the purchase of locomotives, 1st-class cars & freight cars. It has been part of Mr. Hays' policy to place the rolling stock in the most efficient state, & for this purpose everything of an antiquated character in connection with the system has been eliminated. The equipment, in short, may be said to have been modernized since the advent of Mr. Hays. The 1st-class cars upon the G.T.R. are, for the most part, of the newest pattern, while the old ones which have been in service for many years & present an aspect of decay, are being steadily weeded out.

The workshops at Point St. Charles, Montreal, are engaged at present filling many orders for engines & cars. The engine department is specially active with repairing work. About 2 months ago contracts were signed for 24 engines, 12 passenger & 12 freight. It was decided later on, however, to construct the passenger engines first, leaving the building of the freight engines for a future order. The 12 passenger engines are now well under way, & it is expected will be finished for the New Year. They will be 10-wheelers, having 6 driving & 4 truck wheels. Several old Kingston engines are being rebuilt. These engines were bought up by the G.T.R. for special work, & are now, some of them, over 30 years old. They will receive new cylinders, new wagon top boilers, new motion work, & various other improvements that will enable them to carry twice as much as formerly.

The Co. has recently turned out of its Montreal shops 4 baggage cars, 60 ft. in length, of the full height of 14 ft. 2 ins. from top of rail, the width being 9 ft. 8 ins., with an elevated roof, & finished & painted with the new G.T. standard color. The cars are equipped with the Westinghouse air signals & brakes, & heated with steam. The total weight of car, including trucks, is 64,900 lbs., & the total carrying capacity 18,000 lbs.

The Co. is now turning out a number of refrigerator cars, designed especially to take care of the perishable shipments originating at points on their lines in Canada, the cars being about 35 ft. long, & 13 ft. high, with a carrying capacity of 60,000 lbs. each. These cars are equipped with ice boxes & attachments, 2 being at each end of the car, the ice being supplied through 4 trap doors in the roof, immediately over the ice boxes. They are also equipped with automatic draw-bars & Westinghouse air brakes, & designed to run at a high rate of speed. They are painted an orange color, the roof being white, with the roof edge being in black.

The Wells & French Car Co., Chicago, has just commenced the delivery to the G.T.R. of 500 30-ton capacity box cars, of the standard G.T. design & finish.

Rhodes, Curry & Co., Amherst, N.S., are doing a very satisfactory car building business. In addition to the 150 box & 100 flats for the I.C.R. mentioned elsewhere, they are building six 20 ton coal cars for the Crow's Nest Coal Co. in British Columbia.

White Pass & Yukon.—The manager informs us that so far the Co. has had to take whatever equipment it could get ready for use, & has picked it up wherever it could find what it wanted. It is having 20 flat & 30 box cars built at Seattle, Wash., under the direction of Master Mechanic Garlock. Five locomotives, 1 passenger car, 1 combination passenger & baggage car, 1 baggage car & 10 flats have already been shipped from Seattle to Skagway.

Kootenay Railway & Navigation Co.

In our Aug. issue, pg. 147, we gave some financial statistics of the Kaslo & Slocan Ry., & referred to the rumors respecting a change in the ownership of the line, expressing the opinion that the one attributing its purchase to the C.P.R. was unfounded. It turns out that we were correct. The line has been sold to the Kootenay Ry. & Navigation Co., an English Co. which has as directors H. W. Forster, M.P. (Chairman), a director of the London & B. C. Goldfields; F. Lubbock, a director of the Bank of B. N. A.; A. C. Mitchell Innes, a director of the B. C. Electric Ry. Co., & G. Alexander, of Kaslo, B. C., President of the International Navigation & Trading Co. The K. R. & N. Co. also contemplates other important work. Its prospectus was issued in London, Eng., in Aug. The capital is £500,000, & the Co. is issuing £480,000 of 5% debenture stock at par. Following are extracts from the prospectus:

"The debenture stock will be secured by trust deed, whereby the entire capital stock of the local companies hereinafter referred to, & all their mortgages, bonds & obligations, & the whole of the undertaking of the Co., will be assigned to trustees by way of 1st charge. It is intended that this charge shall be specific as far as regards the stocks & securities of the 4 local companies mentioned herein & the landed properties of the Co., & shall be a floating security so far as regards the Co's other assets. The trust deed will provide that out of the sales of the Co's lands, or, failing this, out of the net profits of the Co. a sinking fund shall be provided for the redemption of the debenture stock within a period of 30 years, by purchase if below, or drawings at 110. In case for any reason the debenture stock should become repayable, the holders thereof will be entitled to be repaid at not less than £110%.

"This Co. was incorporated to consolidate & control as one system the Kaslo & Slocan Ry. & the International Navigation & Trading Co., & to connect these directly with the Great Northern & Northern Pacific Railways by a line either owned or controlled by this Co.

"The Co. will, therefore, own or control:

"The whole of the undertaking of the Kaslo & Slocan Ry., incorporated in 1892, which runs from Sandon to Kaslo on Kootenay Lake.

"The whole of the undertaking of the International Navigation & Trading Co., incorporated in 1894, which owns the connecting steamers on the Kootenay Lake.

"The whole of the undertaking of the Bedlington & Nelson Ry. Co., incorporated in 1897, formed to construct & operate the railway from Kootenay Lake to the International Boundary; and

"The whole of the undertaking of the proposed American Co. now being formed to construct & operate the railway from the International Boundary to Bonner's Ferry, at which point it will connect with the Great Northern Ry.

"The whole of the stock & securities of the above-mentioned companies will be acquired by the Co. & vested in the trustees for this issue of their nominees.

"The Kaslo & Slocan Ry. (about 30 miles) serves the rapidly extending & important mining industry of the chief ore-producing area of the Slocan district, & was constructed at large cost so to do.

"It is now proposed to carry the traffic by the steamers to the southern end of Kootenay Lake, & thence to construct a railway 53½ miles in length along the valley of Kootenay River, connecting with the Great Northern & Northern Pacific Ry.'s at Bonner's Ferry & Sand Point, respectively.

"For 30 miles south of Kootenay Lake the new line will traverse a mineral country yielding gold, copper, silver & lead. The amount of work hitherto done on the claims in this belt has not been very considerable, owing to the difficulty of access; but as soon as the new line is opened work will, no doubt, be actively prosecuted, & the traffic on this part of the Co.'s system should be very remunerative.

"The fact that each half-year of the business of the Kaslo & Slocan Ry. shows an increase over the preceding half-year indicates the rapidity with which business, & consequently the profits earned, is increasing, & the examination of the books of the Co. for the first half-year of 1897 shows net profits \$34,000, & for the second half-year, \$59,000, a total of \$93,000.

"The accounts of the International Navigation & Trading Co. show more than a corresponding increase.

"Taking the two together, there appears for the second half-year a net profit of \$78,000, or at the rate of \$156,000 per annum, equal to £32,000. As the Co. will control & work an additional 53½ miles, it is estimated that the net receipts should be increased by at least £25,000, a total of £57,000.

"The foregoing figures are taken from returns sent from British Columbia, which have been submitted to C. F. Kemp, Ford & Co., whose certificate is as follows: We have carefully perused the revenue & expenses account of the Kaslo & Slocan Ry. Co. for 1897, as prepared & sent over from B.C. by W. R. Allen, Accountant, of Kaslo, who was employed for that purpose. The account shows that the net profits for the first half of 1897 amount to \$34,275.49. For the second half of 1897 amount to \$59,050.01. We have also carefully perused the balance-sheet & revenue account of the International Navigation & Trading Co., which were also prepared & sent over from B.C. by W. R. Allen, Accountant of the Co., & signed by G. Alexander, President of the Co. They show that the net profits for the 6 months ending June 1, 1897, amount to \$7,361.08. For the 6 months ending November 30, 1897, amount to \$18,952.40. In the case of both companies the profits have been arrived at after making charges for maintenance & repairs.

"The amount required to pay interest on the whole of the debenture stock is only £24,000, & will, on the basis of the above traffic, be more than secured by existing revenue; any increase in profits resulting from the operating of the system as a whole therefore goes to increase the balance available for dividend on shares.

The Co., in addition to the railroad & steamers owned or controlled by it, will, as the owner of the undertaking of the Kaslo & Slocan Ry., acquire a valuable land grant of 220,000 acres in the Kootenay District, granted in connection with the construction of its line.

"Arrangements to the satisfaction of the directors have been made with the Great Northern Ry. for the working of the traffic."

D. J. Munn, of New Westminster, B. C., President of the Kaslo & Slocan, confirms the report of the sale of his line, & states that he will retain his official connection with it until

the annual meeting on Oct. 12, when a new board will be elected. Mr. Munn further said in an interview: "The gentlemen who have taken over our interests are very strong financially, & will, I understand, embark in other enterprises of great importance to this section generally. Although the K. & S. is but a bantling, so to speak, it has passed through an experience worthy of a much greater undertaking. Some future time, perhaps, a review of all the circumstances attending its inception & management down to the present will make interesting reading. The general panic of 1893 would scarcely have been felt by this section if it had not been for the unprecedented slump in the price of silver. Although at that time the capital had been secured with which to complete the road, yet with the outlook it would have been unfair to the investors to place their money in what looked like a most dangerous investment. Hence the building was postponed until 1895. I am perfectly satisfied with our investment. It is a certain satisfaction to have brought the road to a successful point throughout all the trials & difficulties which beset it from every quarter, even to an assault on our works by the 'National Highway.'"

Freight Matters.

CANADIAN FREIGHT ASSOCIATION.—A meeting of the Tariff Committee was held at Toronto Sep. 7, when a number of rates and arrangements were agreed to; the meeting adjourning till Sep. 28, 29 & 30, then to consider special arrangements, &c., for next winter's business.

C. P. R. FREIGHT DIFFERENTIALS.—In our Aug. issue, pg. 157, we gave particulars of the calling of a meeting at Denver, Col., for Aug. 22, to discuss the question of the C.P.R. being allowed a 10% differential on transcontinental freight. The meeting decided to arbitrate the question; the C.P.R. to appoint one arbitrator, the U. S. lines to appoint another, & these two to select a third. The C.P.R. has appointed J. W. Midgeley, ex-Chairman of the Western Freight Association, & the U. S. lines have appointed W. R. Day, Special Counsel to the Interstate Commerce Commission. No announcement as to when the arbitration will take place, has yet been made, but Messrs. Midgeley & Day have selected E. S. Washburn, President & General Manager of the Kansas City, Fort Scott, & Memphis Ry., of Kansas City, as the third arbitrator.

INTERCOLONIAL.—It is said an arrangement has been made whereby the I.C.R., instead of handing over its freight for points west of St. John to the C.P.R., will in future hand it over to the G.T.R. or C.P.R. at Montreal for its western destination. The former agreement with the C.P.R. expired Aug. 30, & notice was given by the Government that it would not be renewed. Under the new arrangement the I.C.R. will have the long haul instead of the short one. It is also said the I.C.R. & C.P.R. have come to an arrangement on the question of freight for the east, & that they will exchange business at St. Rosalie Jct., the C.P.R. delivering to the I.C.R. there all goods for points north of Moncton. Freight for points south of Moncton will be delivered to the I.C.R. at St. John, N.B., as heretofore.

THE INTERSTATE LAW.—Col. Walker, Chairman of the Atchison, Topeka & Santa Fe Ry., & formerly a member of the Interstate Commerce Commission, has been in Quebec asking the U. S. commissioners at the International Conference to get Canadian railways brought under the operations of the Interstate Commerce law & to have it provided that in the event of a breach of its provisions the offending Canadian railway shall be excluded from participation in the carrying of U. S. goods from one point of the U. S. to another. Col. Walker has been strongly opposed at Quebec by A.

Clark, Secretary of the Home Market Club of the U. S., & C. S. Hamlin, formerly Assistant Secretary of the U. S. Treasury, who have forcibly urged that the present regulations relating to the transit of goods in bond across Canada between different portions of the U. S. should be continued. The present arrangement is regulated by Canadian & U. S. law, & the deputation maintains there is no dissatisfaction with it or opposition to it, except on the part of some of the U. S. lines. They furnished important statistical information to the commissioners showing the amount of traffic to & from different points of the U. S. over Canadian roads. This information indicates that nearly every State in the Union, even as far south as Louisiana & Alabama, benefits in this traffic. Goods go up the Mississippi to St. Louis & over the Illinois Central to Chicago, or by the Wabash to Detroit, where these roads connect with Canadian railway systems, & thence reach New England points. Although a somewhat round-about route, it is a natural one, & is a great advantage to the producers & consumers in the U. S., east & west. The deputation pointed out that the Canadian railways have admitted they are working under the Interstate Commerce law, & even if they were not, the connecting lines are certainly subject to it. Hence there is no necessity for a treaty, & no treaty would be asked for except with a view to securing some unfair advantage to one or two trunk lines to exclude the Canadian trunk lines from doing U. S. business.

Aliens on the Canada Atlantic.

Just before our August issue went to press, a press dispatch on this subject was sent out from Ottawa, & as there was no time to verify it, we gave it for what it was worth as follows: "The locomotive engineers of the Canada Atlantic & Ottawa, Arnprior & Parry Sound Railways are waging a war against aliens. Some time ago these companies leased a number of locomotives from the Central Vermont Ry. for aiding in the hauling of the extensive lake grain trade from Parry Sound. At the same time a number of men were imported to run the locomotives, thus giving to aliens the work which should have belonged to Canadians. At present the engineers are provided with pilots, but these will shortly be removed, & with their removal the old employees of the lines state they will insist on the new men being sent back. It is stated the C.V. Ry. refused to lease the engines to the C.A. unless C.V. men were employed."

We communicated on the subject with General Manager Chamberlin, who replied as follows: "We have not now, nor have we had at any time, any C.V. engines under lease. We have a large number of engines & cars running through to the U. S., & when business is heavy, more or less C.V. engines run over here as an offset. The statements in the despatch to which you refer were absolutely without foundation, as there has never been any complaint or cause for complaint on the part of our employees."

Canadian Ticket Agents' Association.

The 12th annual meeting will be held at the Russell House, Ottawa, Oct. 12. The present officers are:—President, W. E. Rispin, Chatham, Ont.; 1st Vice-Pres., S. Burrows, Belleville, Ont.; 2nd Vice-Pres., G. Duncan, Quebec; 3rd Vice-Pres., W. H. C. McKay, St. John, N.B.; Sec.-Treas., E. De La Hooke, London, Ont.; Auditor, S. H. Palmer, St. Thomas, Ont.; Executive Committee, J. McDonald, Arnprior, Ont.; W. H. Harper, Chatham, Ont.; C. E. Morgan, Hamilton, Ont.; T. Long, Port Hope, Ont. The Association has over 100 members.

CONSTRUCTION & BETTERMENT.**Work on the Canadian Pacific.**

West St. John, N.B., Terminals.—In the description of these in our Aug. issue, pg. 153, we spoke of the loading capacity of the conveyors from the elevator as being 6,400 bushels an hour. As a matter of fact the rate of discharge will be equal to 50,000 bushels an hour on occasions, which is probably about 3 times as fast as any single elevator now on tide water.

Windsor St. Station, Montreal.—The Co. has been empowered by the Dominion Government to expropriate the land necessary for the extension of this building.

Montreal to Toronto.—The work of double tracking authorized at the last annual meeting has commenced at the Montreal end. There is already a double track between both stations in Montreal & Montreal Jct., & grading is now going on west of the latter point. It

place. They will consist of a 12 stall round house, machine & car repair shops, storehouse, blacksmith shop, coal trucks, ash-pits & turntable; costing altogether about \$75,000. It is expected to have them ready early in the New year.

Pacific Division.—Most of the side tracks at Donald are being taken up to be relaid at Field. The Revelstoke repair shop will be open by November, when the Donald shop will be closed. The Columbia River bridge at Donald is being replaced, the masonry work is being raised 12 ft.

Crow's Nest Branch.—Track-laying has been completed to Kuskanook, Kootenay Lake, giving through rail connection to that point from Eastern Canada. Regular trains will start running over the branch at once.

Columbia & Kootenay.—About 3,000 men are at work on the line between Robson & Midway, & it is said it will be completed by June 1 next.

Columbia, & it is said they will be kept at work with a view to getting Dominion subsidy.

Coast Ry. of Nova Scotia.—About 100 men are employed on construction & it is expected the line will be completed to Barrington this season. (April pg. 40, May pg. 66, Aug. pg. 151.)

East Richelieu Valley.—We were informed by the Deputy Minister of Railways, under date of Aug. 29, that in Mar. last this Co. entered into a contract under the Railway Subsidy Act for the construction of a line from Iberville to St. Thomas, Que., a distance of about 24 miles, but up to the date of our information no portion of the line had been inspected by the Government Inspecting Engineer, nor was the Department officially aware of any portion of the railway having been completed.

The Vice-President of the United Counties Ry. informs us that the E. R. V. Co. built 12



CROW'S NEST RAILWAY. ST. MARY'S RIVER BRIDGE (LOOKING NORTHWEST) DURING CONSTRUCTION.

is expected the grade will be completed to St. Anne's, 20 miles west of Montreal, this season, so that track may be laid next spring. The work is being done by day labor, under R. W. Leonard, who was Manager of Construction of the Montreal & Ottawa short line. Some of the structures between Montreal & Ottawa were built to accommodate a second track, & it is a significant testimony to the progress of the country & to the prosperity of the Co. that the double tracking has been needed within so few years after the construction of the line.

Stonewall Branch.—Neil Keith, contractor, has started work on the extension of this branch from Stonewall, 19 miles from Winnipeg, to Foxton, some 18 miles further north. G. H. Garden is Engineer in Charge. (Aug. pg. 153.)

Calgary.—It is said work is to be started at once on the Co's improvements at this

Work on Various Lines.

Atlantic & Lake Superior.—The Co. is constructing 2 miles between New Carlisle & Paspebiac, Que., so as to reach the wharf at the latter place. Work is being pushed on the wharf so as to have it ready in October for the steamship line which it will run between Milford Haven & Paspebiac. The line between Paspebiac & Port Daniel, 21 miles, is being located, & it is the intention to build it this year. There is a possibility that the grading will be done between Port Daniel & Gaspé this year, so that track may be laid next spring, but the directors have not yet decided as to this. (Official.) (June pg. 98, July pg. 122.)

Canadian Yukon.—McKenzie, Mann & Co. are reported to be keeping 50 men at work between Glenora & Teslin Lake, in order to hold the subsidy of \$4,000 granted by British

miles last year from Iberville to Henryville, that the line has been extended this year from Henryville to Noyan, 11 miles, & that it is expected the work will be completed during September. The engineer is W. Phillips. (July, pg. 122, Aug., pg. 151.)

Ironbridge, Bancroft & Ottawa.—The line, which ran from the G.T.R. Jct. to Baptiste, Ont., has been extended this season 5 miles to a point 2¼ miles north of Bancroft, the station at the end of the extension being named Bancroft. (Official.) (June, pg. 99, Aug., pg. 151.)

Lake Manitoba Railway & Canal Co.—Grading & track-laying are proceeding satisfactorily on the extension from Sifton to the Saskatchewan River. It is expected about 60 miles will be completed this season, carrying the line into the heart of the Swift Current country, to which there has been a large inflow of settlers this year, as well as last.

(May, pg. 95; June pg. 90; July, pg. 122; Aug., pg. 151.)

Manitoba & Southeastern.—Tracklaying commenced Sep. 1, & it is expected from 30 to 40 miles will be laid this season, to the vicinity of St. Anne's. Grading will likely be done to a point about 60 miles southeast of Winnipeg. The season has been unusually wet, & a good deal of the land traversed is low-lying, which has delayed operations somewhat. (May, pg. 65; June, pg. 100; July, pg. 123; Aug., pg. 151.)

Midland of Nova Scotia.—It is expected grading from Windsor to the Shubenacadie River, 40 miles, will be completed by Nov. & that the bridge over the St. Croix River, a few miles from Windsor, will be completed this year. The bridge over the Shubenacadie River will not be completed till next summer. Grading from Truro to the bridge, 20 miles, will be well under way before the ground freezes up. Tracklaying will not be started till next spring & it is expected the line will be open for traffic next summer. The Five Mile division is somewhat expensive work, owing to the zig-zag course of the stream, which will be diverted to avoid a good deal of bridging. The filling of Burton's Lake, 400 ft., is tedious work, owing to the want of a bottom. The Five Mile River & Kennetcook valleys, through which the line is being built, are good agricultural districts, as well as the western portion of the line. The valleys are thickly inhabited on each side of the road, & thrift & comfort can be seen among the farmers. The Chief Engineer is C. J. Fowler. W. G. Reid, of Montreal, is the contractor, & has sublet the work.—(April, pg. 40; June, pg. 99; July, pg. 122; Aug., pg. 151.)

Ontario & Rainy River.—This line, 20 miles of which are under construction, leaves the P. A., D. & W. Ry. at Stanley, crosses the Kaministiquia at Kakabeka Falls, & will follow the south bank of the river to its junction with the Mattawan, then along the Mattawan valley, through the Mattawan iron range & south of the Shabendowan. (Aug., pg. 151.)

Pembroke Southern.—It is said that this line, which runs from Pembroke, Ont., to Golden Lake, on the O. A. & P. S., has been completed. (July, pg. 122.)

SHIPPING.

Richelieu & Ontario Navigation Co.

At a meeting of directors Sept 7, a contract was given for placing new boilers in the steamer Quebec during the winter. It is expected this will enable her to make better speed. President Forget reported on his recent trip to the Lower St. Lawrence, & the steps that should be taken to increase passenger travel in that direction. He said the volume of travel was simply limited by the hotel accommodation. The resident summer population could be increased a hundredfold if cottages were provided. The Board authorized the enlargement of the Co's hotel at Tadousac, work to be commenced forthwith. The rooms, at present numbering 140, will be increased to 250. The ball, smoking & dining-rooms will be doubled in size. It was decided to purchase 40 acres adjoining the hotel for golf-links. The Co. will co-operate with G. Warren in erecting a summer hotel at Murray Bay. It will contain 58 rooms, & will be ready next season. The Co. has been approached about building a summer hotel at Kingston, but is said to have refused to entertain the scheme.

Capt. T. Wilson, Managing-Owner of the Wilson Transit Line, Cleveland, Ohio, & an ex-President of the Lake Carrier's Association, early in September wrote a long letter to the Marine Record, of Cleveland, complaining of treatment he & a party of friends received on a recent trip from Montreal to Chicoutimi & return on the R. & O. Line. He travelled below Quebec on the steamer Caroline & speaks of the accommodation provided as miserable, and also makes charges against the Purser in regard to the state-room accommodation. If Capt. Wilson's statements are true he was compelled to pay a second time for the rooms. Thinking there might be another side to the case we communicated with the Traffic Manager, but have not been treated to the courtesy of a reply. In the absence of full & satisfactory explanations by the Co. Capt. Wilson's charges will be accepted as correct.

The steamer Toronto, now being built by the Co., had a narrow escape from destruction Sep. 2, owing to a serious fire at the foot of Bathurst St., Toronto, where she is moored. Practically no damage was done to her. It is

said her trial trip will be made in October.

The contract for the Kingston, which it is proposed to build as a sister boat to the Toronto, has not yet been awarded. The probability is that the matter will stand over until after the Toronto's trial trip.

A Toronto paper recently stated that this Company had decided to have 3 additional steamers built for next summer's business; 2 of them to be built in Montreal, for the Montreal & Quebec route, & a third in Toronto, for the western trade. President Forget informs us that there is no truth in the statement that 2 boats are to be built in Montreal.

On Sep. 12 the Co. put a cut-rate in effect by the steamer Hamilton, to meet the competition by the propeller service on the Ocean & Persia. The rates from Montreal to Toronto by the Hamilton were \$8 single and \$15 return. This has been changed to \$6 single & \$10 return, including meals & berths. This rate applies to the Hamilton only, and not to the mail boats & the western service.

The Co. withdrew its daily service between Montreal & Toronto Sep. 15, substituting a tri-weekly one. The double service to the Saguenay was discontinued Sep. 17, since which steamers have been leaving Quebec Tuesdays and Saturdays.

It is said the Co. will continue its service among the Thousand Islands next summer, & that it will purchase U.S. boats, so as to be able to parallel the American Line between Alexandria Bay & Cape Vincent, & the Fifty Mile Rambles. It is proposed to put a better boat than the Richelieu on the Cape Vincent route next year.

Office of the Quebec Bridge Company (Limited.)

QUEBEC, September 29th, 1898.

* Sealed proposals for the construction of a combined Railway and Highway bridge across the River St. Lawrence, near Quebec, will be received by the undersigned, until noon, Monday, January 2nd, 1899.

Forms of tender, with circular of conditions, specifications, &c., can be had on application to the undersigned.

The Company does not bind itself to accept the lowest or any tender.

ULRIC BARTHE,
Secretary.



Successful American RAILWAY DEVICES
made in Canada and sold at United States prices.

**Bryant Portable Rail Saws
Pearson Jacks
Taylor Steel Tired Wheels
Chicago Grain Doors
Security Brackets
National Hollow Brake Beam**

F. E. CAME = Montreal

Office—17 Place d'Armes Hill

FOR SALE
Relaying Steel Rails.

About 1,500 tons, 65 pound, with splices, for delivery in Canada. Reply to **R. L. Ginsburg & Sons, Detroit, Mich., or Buffalo, New York.**

Manager Wanted

For Edmonton office of the Alaska Mining and Trading Co., incorporated, operating line of steamers on Mackenzie River Route to gold fields of the North-West. Salary \$80 a month. \$2,000 required.

Apply to H. C. Waters, Alaska Mining and Trading Co., Edmonton, Alberta.

Sectional Pipe and Boiler Coverings

of every description.

Engine Packings, Oils and Grease.

Belting, Cotton Waste, &c. ❀ ❀

ASBESTOS in all its forms ❀ ❀

Mineral Wool for deafening, fire-proofing, &c.

EUREKA MINERAL WOOL & ASBESTOS CO., - - 136 BAY ST., TORONTO.

Ontario & the Great Lakes.

Peat has been tried as fuel on the Toronto Ferry Co.'s steamer *Primrose*.

The steamer *Golden City* was burned to the water's edge at the Government dock at Lakefield, Aug. 22. Loss, \$5,000; partial insurance.

W. Askin, General Agent of the Northwest Transportation Co., with headquarters at Toronto, broke his leg recently at Centralia, Ont., while jumping from a buggy attached to a runaway horse.

The steamer *J. H. Jones*, of the Buffalo Fish Co., was sunk in a collision with the G. N. T. Co.'s steamer *Pacific* off Kagawong, Lake Huron, about midnight, Sep. 16. The crew were all taken off by the *Pacific*. The *Pacific*'s bows were slightly injured.

Dominion Letters Patent have been issued incorporating J. D. Reid & D. Gow, Cardinal, Ont.; G. F. Benson, Montreal; G. Hall, Ogdensburg N. Y.; & J. K. Dowsley, Prescott, Ont., as the Prescott & Lake Superior Navigation Co., with a capital of \$100,000.

The steel barge *Nadine* being built for the Prescott Elevator Co. was damaged by a fire at the foot of Bathurst St., Toronto, Sep. 2, & her completion will be somewhat delayed in consequence. A description of her & her sister barge, the *Hilda*, appeared in our Aug. issue, pg. 162.

Capt. Trowell, of the steamer *Ocean*, plying between St. Catharines & Montreal, having had his leg broken by the parting of a cable, his place has been taken for the balance of the season by Capt. McGiffin, of the Niagara Navigation Co.'s steamer *Chippewa*, which has gone into winter quarters.

The returns of traffic through the Canadian Sault Canal show that, up to the end of August, 2,661 vessels passed through the lock this season, carrying 2,189,964 tons of freight. This is a decrease compared with the traffic during the corresponding period last year of 209 vessels & nearly a million tons of freight.

The steamer *Arundel*, which took the place of the North King between Toronto & Rochester, made her last trip Sept. 10. She broke a crank pin, & her passengers, 150 in number, were obliged to go to Brighton by the G. T. R. to connect with the North King for Rochester at that point. The *Arundel* was taken to Toronto for repairs.

Algoma Harbor has been greatly improved by recent dredging. From the harbor entrance up to the steamboat docks there is at least 15 ft. of water. The channel here was 100 ft. wide & only 10 or 11 ft. deep in the shallowest spots. The width has been increased to 130 & 160 ft. From the steamboat landing to the bridge the width is 100 ft. & depth 10 ft.

In a prosecution instituted by the Lord's Day Alliance, the Captain of the small steamer *Jubilee*, plying between St. Catharines & Port Dalhousie, was fined \$20 & costs, & the Engineer \$1 for running on a Sunday. The magistrate expressed the opinion that the boat was running for mere gain, & not in conjunction with any other means of transportation, & he did not deem it a necessity.

Last month the Georgian Bay & Lake Superior Steamship Line's boat, *Majestic*, just after she left Algoma Mills, struck a rock, breaking her rudder shoe. The accident was not discovered until she reached Sault Ste. Marie. The *Pacific*, a steamer belonging to the same Co., was sent from Thessalon to the Sault & took on a portion of the *Majestic*'s cargo. The damage was quickly repaired & the *Majestic* took her next regular trip.

The tug *Ariadne*, towing the wood scow *Effort*, attempted to cross the tow line of the steamer *George Stephenson* & consort *Roebling* recently, when opposite Port Huron. The

tug cleared the line, but the scow was caught amidship, cut half in two by the *Roebling* & capsized as she slid upon the cable. The 3 men on the scow were hurled into the river, but were rescued. The Captain of the tug says he supposed both vessels were steamers, & attempted to cross the bow of the one astern.

Capt. O'Brien, of the steamer *Empress of India*, was recently summoned by the Toronto Harbor Master for running at too high a rate of speed in the bay & through the eastern gap. The by-law says 4 miles shall be the limit of speed, but 6 are allowed. The *Empress*, however, was making 11½. The Government engineer, who is superintending the work at the eastern gap, made complaint that the speed at which the vessel was run was injuring the crib work. The case was withdrawn upon the Captain promising not to do it again.

The navigation season of 1898 is nearing its close, said an old lake captain to a *Globe* reporter recently. It has been one of the most successful seasons in the history of lake navigation. All the large steamers have been kept busy carrying excursions, freight & fruit to & from different ports along the lake. It has been a very heavy excursion season, & not one has been disappointed, through rough weather or storms, as is customary 2 or 3 times during the season. Special boats had to be put into service to carry the large amount of fruit offering. The large schooners, which carry coal, have been kept on a continual run.

The pier in the Sault Ste. Marie Canal which has been such a hindrance to navigation is to be removed. Now only one vessel can pass the railway bridge at a time. Last year an up-bound & a down-bound vessel attempted to pass at this point, with the result that they became so tightly wedged that traffic was blocked for over 6 hours, & the boats were only released after the fender strakes had been sawed through. The change in the bridge will make the full width of the canal available. The work involves the building of a masonry abutment, the removal of one of the present abutments & the pier above referred to, the taking down of the superstructure & the erection of a steel bridge spanning the entire prism of the canal. Contracts for the work have been awarded.

The American Line of steamers between Kingston, Ont., Clayton, N. Y., & Montreal, ceased running Sep. 6, after 2 months' business. General Manager Folger says the line carried thousands of people this year, but the revenue would have been much larger had not competition with the R. & O. N. Co. brought on a rate war. Passenger rates this summer were ridiculously low on account of the spirited competition, but he says the American Line will continue the service in 1899, and be in a little better position to meet competition. An Oswego, N. Y., telegram says the Northern Transit Co., which served as the western connection of the American Line, is well pleased with the business of its 2 boats on the route between Detroit, Toledo, Cleveland, Toronto, Oswego & Ogdensburg, & is talking of putting on 2 more for next season's business.

Two gigantic wheat ships have recently been launched on the Great Lakes, which show not only the tremendous development of lake commerce, but the fact that the lake shipyards are capable of turning out ships as large as can be built anywhere on this continent. The S. F. B. Morse, recently completed at Bay City, Mich., is 476 ft. long & of 10,500 tons burden. The whaleback *Alexander McDougall*, recently launched at Superior, Wis., is twice as large as any boat of that unique pattern hitherto attempted. She is 460 ft. long with 10,000 tons displacement. She will carry a cargo of 250,000 bushels of wheat, the produce of from 16,000 to 18,000 acres of land. Few realize the tremendous bulk of our lake

commerce. More commerce passes the Soo Canal than the Suez, & the volume of freight passing through the St. Clair River is greater than the entire business of the port of New York.

On Sept. 1 the steamer *Ocean* was trying to get up the rapids at Point Iroquois with the assistance of a tug; the tow-line parted just as the *Ocean* was about half-way up the pitch, & she drifted broadside on the reef of rocks. There was about 3½ ft. of water on her starboard side & 10 on her port side. The rapids in this place are very swift, probably 10 miles an hour. The steamers *Reginald*, *Chieftain* & *Johnston* were secured as soon as possible. The *Johnston* has 2 very powerful steam winches. After the cargo from the *Ocean* had been unloaded the *Johnston* was securely fastened to a large pine tree on the bank, & her steel cables run to the *Ocean*, & a heavy strain put on them. Then the *Reginald* & *Chieftain*, with 11-in. wrecking hawsers, each 150 fathoms long, began jerking on the boat, & she came off 6 ins. to 2 ft. each jerk, the steel hawsers of the *Johnston* holding a strain & preventing the *Ocean* from being forced back again on the shoal by the heavy current. In this way the *Ocean* was released on Sep. 5, apparently without receiving much if any damage.

Vessel masters generally will be interested in changes in 2 aids to navigation on Lake Erie. It is proposed to erect a steam fog signal at Erie, Pa., at the northeast corner of the peninsula. The bell at the pierhead at the entrance to the harbor will, of course, still be kept in operation, & in all probability will be very much improved by being raised above its present level, it being now down very near the bottom of the light-house. There is a prevalent opinion, also, that the present main Erie light on the bluff to the east of the city is of practically no benefit to commerce, the Presque Isle Light, the pierhead lights & ranges, & the lights of the city rendering it entirely superfluous. There seems to be every likelihood of the fulfilment before long of the desire on the part of the shipping interests of Lake Erie, that the light-house on West Sister Island be changed in location. The light-house is located on low grounds at the southern end of the island, & is invisible through a large arc to the north & northeast. The vessel interests desire that the light-house be rebuilt on a higher point of the island, so that it can be seen from all directions. Officers of the Lake Carriers' Association have declared in favor of these changes.—*Marine Review*.

Dry Dock for St. John, N.B.

Ex-Mayor Robertson, of St. John, is endeavoring to secure the construction of a dry dock there. At a meeting of the Board of Trade there early in September he related what he had done in England recently in connection with the matter. He had interviews with Messrs. Chamberlain & Goschen, of the Imperial Government. The latter requested him to get plans & specifications for a dock capable of accommodating the largest vessels of the navy, as well as the largest merchant steamers, & asked him if he had seen during his trip such a dock as he thought suitable to St. John. Mr. Robertson said he at first spoke of no. 3 graving dock at Glasgow, one of the largest in the world, being 881 ft. long, also one of the most perfect.

Mr. Robertson thinks the Imperial Government would contribute £100,000 a year for 20 years. The Dominion Government under 45 Vic., Cap. 17, would give \$10,000 a year, & the Provincial Government \$2,500 a year for the same term. As to the desirability of having a dry dock, he mentioned that steamship people in England spoke of the necessity of it, as they do not have vessels twice as large as ours. Insurance and writers also emphasized

A port without a dry dock could not be considered as either 1st-class or a home port. The subsidies in sight are not sufficient, as in addition to the dock there is the necessary repair plant. The dock & plant would cost \$1,000,000. The dock at Esquimalt cost £180,000 without the repair plant. The Quebec & Halifax docks cost \$1,000,000 each. The dock he proposed for St. John would be 800 ft. long, sufficiently large to take in the largest vessel built & building, & to accommodate 2 average sized steamers at once. The matter might be taken up as a civic work by the city, the city taking the \$22,500 in subsidies. They might borrow the money at 3%, but as the subsidies are only for 20 years, where would they be after that? If it was decided that it was not advisable for the city to undertake the work, he believed he could, if given 9 or 12 months, form a company satisfactory to all concerned. He would ask of the city \$2,500 a year for 20 years, a free site & exemption from taxation. If he failed to form the Co. the city would incur no responsibility. The new Glasgow dock & plant took 7 years to build, but he thought the one he proposed at St. John could be finished in 5 years.

A resolution was adopted recommending the City Council to assist in promoting the project on the lines submitted by Mr. Robertson, which it decided to do by a vote of 12 to 20.

The Maritime Provinces.

The Kingsport Marine Slip Co. is having 40 feet built on to its slip.

Work on the new cradle for the Dartmouth Marine Railway is progressing rapidly.

The America, a vessel built for the Halifax Pilot Service, was launched Aug. 27. She is very staunchly built & gives promise of proving a fast sailer.

Capt. J. B. Sutherland has resigned his position as 1st officer of the Government steamer Lansdowne & has gone to St. Thomas, W. I., to take charge of the Halifax steamer Hazel-dene.

The Dominion Atlantic Ry. Co.'s steamer, Prince Rupert, collided with & sunk the Digby packet, Silver Cloud, in the Bay of Fundy, Aug. 24, during a thick fog. The crew was saved.

The contract for the steamer to succeed the Stanley in the winter service between P.E.I. & the Mainland had not been awarded up to Sept. 14. It is said the vessel will be built by Gourlay Bros. & Co., of Dundee, Scotland. (July, pg. 131; August, pg. 162.)

Notice is given of application for incorporation, under the New Brunswick Joint Stock Co.'s Act, of the Steamship Pharsalia Co., with a capital of \$200,000, for the purpose of owning & sailing a British steamer, the Pharsalia. The applicants are: R. & P. W. Thomson, Rothesay, N.B.; J. H. Thomson; W. W. Turnbull; J. K. Dunlop, St. John, N.B.; & C. De W. Smith, Windsor, N.S.

At the last session of the Dominion Parliament \$50,000 was voted as a subsidy to any Atlantic steamship company which would run a vessel to Charlottetown & have cold storage compartments for the carrying of perishable goods. Arrangements have been concluded with the Beaver Line, & the steamer Lake Winnipeg has been fitted up with mechanical cold storage, & now calls at Charlottetown on her way to and from Montreal.

The Steamship Leuctra Co. has been incorporated under the N.B. Joint Stock Co.'s Act,

Annapolis, which towed a scow load of excursionists to Digby recently, & the tug Marina of Yarmouth for carrying passengers on the harbor, are in trouble. The maximum fine is \$500 for both masters & owners, & 2 years' imprisonment for the master in the latter case & a maximum fine of \$200 for towing an unlicensed scow, barge or boat. It is said prosecutions will follow all over the Dominion where the law has been violated & the lives of passengers, ignorant of the danger they were running, jeopardized.

The Clyde-built ferry boat Chebucto, of which an illustration is given on this page, was put on the route between Halifax & Dartmouth Aug. 28. On Sept. 29 she crashed into her dock at Halifax with terrific force. She had been allowed to hold her headway too long, & when the propeller was started to work astern it was too late & she crashed into the wharf with great force, damaging it considerably. Some of the passengers were thrown violently to the deck. The Chebucto is very hard to dock & has to be stopped a great distance from the dock. The paddle boats, on the other hand, can be run at full speed to within a few yards of the dock & be easily stopped, as the large side wheels make sufficient drag to stop

the boat even without being turned astern. The Chebucto's propellers were not able to stop her for some time after being reversed. The ferry wharf is badly damaged.

The Yarmouth S. S. Co.'s steamer Express, running between Halifax & Yarmouth, N. S., struck on the rocks off Port Latour in a fog, Sep. 16. She soon filled & settled down. The passengers & crew were taken ashore in small boats. The Express was a steel paddle steamer of 88 tons net, 381 tons gross. She was built at King-

horn in 1892 & hailed from Lancaster. She was 202 ft. long, 24 ft. broad & 10 ft. deep. She had engines of 200 horse power. Her 1st owners were the Morecambe Steamboat Co. of Morecambe, Lancaster. She was purchased early this year by the Yarmouth Steamship Co., was brought across the Atlantic, & arrived at Yarmouth from the other side in June, taking the place of the City of St. John on the South Shore route. She was commanded by Capt. Harding & carried a crew of 32 men. A full description of her appeared in our July issue, pg. 135.



THE HALIFAX-DARTMOUTH FERRY BOAT CHEBUCTO.

with a capital of \$160,000, for the purpose of owning a British steamer, the Leuctra. The incorporators are: R. & P. W. Thomson, J. M. Robinson & W. M. McKay, Rothesay, N.B.; J. H. Thomson, W. W. Turnbull, W. H. Murray & R. T. Leavitt, St. John, N.B.; J. B. North, Hantsport, N.S.; J. M. Smith, Windsor, N.S.; & J. De W. Chipman, St. Stephen, N.B.

Steps are being taken to prevent unlicensed tugs carrying passenger, or towing unlicensed scows with passengers. The tug Pinafore, of

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TORONTO.

Yukon Navigation Matters.

The Bennett Lake & Klondike Navigation Co., which has its head office at 23 Leadenhall St., London, Eng., & has a capital of £75,000, has been licensed to carry on business in British Columbia, where F. M. Rattembury, of Victoria, is its Attorney. The principal objects of the Co. are to operate steamers, rail or tramways in Canada, to facilitate access to Dawson City or elsewhere in the Klondike, & to obtain parliamentary authority to build a railway from the north end of Marsh Lake to Hootalinqua River, & a railway or tramway on either side of the White Horse Rapids & Miles Canyon. The Co. possesses extensive powers, a recital of which would occupy more space than we could devote. Full particulars are contained in the B.C. Official Gazette of Sept. 8.

In our Aug. issue, pg. 163, we gave some particulars of the work of this Co., which is operating the steamer Nora between Bennett & White Horse, connecting with 3 other steamers, the Ora, Nora & Thorn, which run on the lake & river route for the balance of the way to Dawson City. The idea of entering the Yukon from the up river & running down to Dawson, in place of utilizing the Lower Yukon & traversing so many weary miles of uncertain water, originated with British Columbia people. The U.S. companies which have been running steamers on the Lower Yukon have, says the Vancouver World, several times sent men up the river to advise upon the possibility of running steamers in the upper reaches of the Yukon. All reported against the feasibility of it, & that boats could not be run through Miles Canyon & White Horse, to say nothing of the Five Fingers, while running them back again was entirely out of the question. Still, it has been done. The steamers were built, & carried in small sections, over the mountains of the Chilcot Pass, in thousands of small packages, amidst the storms & snows of last winter, when even ordinary travel was thought to be questionable. Incessant care had to be shown, so that no package was missing, as it was apparent that in a country where there was no possibility of duplicating any missing article, the loss of even one package might be a serious obstacle to the completion of the boats. Timber had to be secured, a saw-mill put in operation to cut the necessary timber, & a thousand details arranged in a part of the country, at that time a terra incognita. But amidst all the difficulties, the steamers were built & launched in time, & capital little steamers they are.

The wonderful journey through the rapids has often now been depicted, & a great surprise it was to the Dawsonites to see the trim little vessels coming into their city, from up the river, instead of from below. At one step the whole problem of how to reach Dawson had been solved. Vancouver and Victoria are now within 9 days' travel of Dawson. No longer will there be weary months of waiting for news of the outside world. Backwards & forwards the Ora, Nora & Thorn, have been travelling the whole of the summer, without the slightest mishap, bearing in tons of goods for the local merchants, who, by getting in ahead of the down river boats, have secured the first market, & the richest profits, & bringing out hundreds of miners & business men, delighted to reach civilization in a few days—when they were expecting to take weeks on the journey.

It has been a wonderful transformation scene. Already for next year enterprising merchants are booking freight room for the first steamer down to Dawson, as it is apparent to them that the first goods in next year will be of enormous value. Next year, as during this, the Canadian coast cities will retain the cream of the Klondike trade. Arrangements are being now made, for extend-

ing the operation of the fleet, & securing larger & even more powerful steamers so as to hold the route that has so courageously opened out. Astonishing as the success has been this summer, of this line of steamers, already the principal inaugurators of the Company are hard at work, perfecting arrangements to secure for B.C. the winter route to Dawson as well as the summer one. Particulars of what they are doing will be found on pg. 196 of this issue, under the heading, "The Arctic Express Co."

The Boston & Alaska Transportation Co. has passed into the hands of a receiver. This Company was given the contract by the Dominion Government for the transportation of militia & other supplies to the Klondike. The latest advices from St. Michael's, Alaska, stated that 300 tons of these supplies were lying there, the Co. being unable to get them up the river. The action of the Government in giving the contract to a shipping port in the U.S. over the tender of Canadian firms in Canadian Pacific coast cities aroused great indignation at the time, & British Columbians take a grim satisfaction in the result. The shipment of the supplies commenced early in June, the first instalment being taken from Seattle by the Hixham. This cargo & subsequent shipments were transferred to river steamers being built at the mouth of the Yukon. But the men engaged in building the steamers tied them up for their wages, & the Boston & Alaska people have been moving heaven & earth to get a river company which would take the supplies on to Dawson. This they had failed to do when the advices left St. Michael's, as the river companies say the Dominion Government has already paid the B. & A. Co. 75% of the contract price, & they express doubt as to the ability of the Co. to make good to them the transportation charges to Dawson. When the Danube left St. Michael's the Seattle people were making frantic efforts to close with the river companies, but with little prospect of success, although a large portion of the supplies were landed there early in July. In striking contrast to the above, & in vindication of the position taken by B.C. merchants at the time the contract was awarded, is the fact that 30 tons of supplies sent up in the Canadian steamer Danube for the N.W.M. police, & which were transferred to the C.P.N. Co.'s steamer Yukoner, have long since gone up the river, with every prospect of reaching Dawson safely.

The Canadian Development Co. is running its steamer Anglian between Teslin Lake & Fort Selkirk.

Two stern-wheel river boats, the Mono & the Stikine Chief, built for J. A. Mara for Stikine River traffic & subsequently destined for the Yukon River, have been wrecked while being towed from Wrangell to St. Michael's by the Fastnet.

Chief Engineer Coste, of the Dominion Public Works Department, who was sent to the Yukon last spring to look into the navigability of the route from Teslin Lake to Dawson, reports to the Department from Fort Selkirk that there is a free course for vessels drawing 3 ft. of water from the head of Teslin Lake down the Hootalinqua & Lewis Rivers to Fort Selkirk. From Fort Selkirk it is plain sailing to Dawson City.

The Canadian Pacific Navigation Co.'s river steamer Yukoner, built at St. Michael's, was given her trial trip Aug. 6. It proved satisfactory & the work of loading her with freight was at once started. She was to leave St. Michael's Aug. 7 for Dawson, Captain J. Irving, Manager of the Co., being in command. He did not doubt her ability to ascend the river, the lowest water reported by boats arriving about that time being $4\frac{1}{2}$ ft., so that unless it fell very rapidly it was expected that all the boats then at St. Michael's would be

able to make the round trip at least, if they did not get back to Dawson a second time.

The C.P.R. steamers Tartar & Athenian are lying at Vancouver open to engagements.

The Sydney-Newfoundland Service.

At night we were in Newfoundland. A 6 hours' run across Cabot Straits, in the steamer Bruce, brought us early next morning to the wharf at North Sydney, & again we stepped ashore on Canadian soil. What made the matter seem simpler was that we slept soundly all the 6 hours, in berths so commodious that the tallest member of our party—6 ft. 1 in. in his stockings—was able to stretch himself out to his full length. Tall men appreciate such a luxury at sea. How is it that the builders of berths so seldom think of it? But the Bruce is a model in every respect, & in its fittings equal to anything that a first-class Cunarder gives. As an ice-breaker she suggests wonderful possibilities. Every one admired Sydney Harbor before, but no one believed that it could be kept open all the year round. But last winter the Bruce steamed calmly, at the rate of 7 knots, through blue ice 20 ins. thick, & in the spring she pushed her way through the still more dreaded field ice with little trouble. If she did that last winter, when she had to make a 20 hours' run to Placentia, the trans-insular railway not being completed, how much easier to do it when she has only a 6 hours' run to Port-aux-Basques? The time of her arrival now can be calculated to a quarter of an hour.

It seems to me that this is the kind of boat with which to try the Hudson's Bay navigation before we can consider the question closed, or winter communication between Prince Edward Island & the Mainland, or navigation during the winter to Paspebiac or further up the Gulf or even the River St. Lawrence. The people of North Sydney, at any rate, believe that as an ice-breaker the Bruce can do anything. Doubters declared that when sent into dock the winter's work would show a great deal of damage to bow, keel & hull. She went into the big dock at St. John's in July in order to be inspected, & no damage was seen, further than might have happened with a winter's sailing anywhere.—Correspondence by Rev. D. M. Grant.

B.C. Freight & Shipping Report.

R. P. Rither & Co. say, under date of Aug. 31: Business in grain chartering both from San Francisco & the northern ports is very slow, & on the present basis of freights there is little to be done. It is a question, however, if even a substantial reduction in rates would mend matters, as foreign consuming markets are more or less demoralized. There is some demand for nitrate tonnage on the west coast of South America & more than one vessel has been fixed to proceed there from San Francisco in ballast.

In the lumber market rates continue nominal to some extent, but there has been a decided marking down of quotations in several directions. Tonnage is now offering more freely, but this is accompanied by a falling off in the demand for lumber, which tends to steady rates.

The salmon season has proved a great disappointment & in B.C. the pack up till now is only about 40% of last year's. Several of the fleet chartered will therefore not be required, & indeed already two vessels have been withdrawn.

The White Pass & Yukon Ry. Co. has contracted for 135 miles of telegraph wire & the necessary supplies for equipping its offices at stations along the road, running north from Skagway.

In British Columbia Waters.

It is said that more than 100 vessels have been added to the Pacific Coast fleet this season, B. C. getting more than its share.

The C. P. R. steamer Illicillwaet, heretofore running between Arrowhead & Thompson's Landing, has been withdrawn from that route, & now runs between Brooklyn & Robson, touching at all intermediate points. Capt. Hugues is now in command.

On Sept. 8 at 2 a.m., on Lower Arrow Lake, the C. P. R. steamer, Rossland, ran into P. Genelle & Co's tug Fawn. Both vessels had lights out & each had given signals, but the Fawn's pilot misunderstood the Rossland's whistle. The Fawn is about 70 ft. long & had been in commission 3 years. She was cut in 2 by the Rossland's prow. The 2 parts were towed to Shields' landing by the Illicillwaet, to be placed on the ways & repaired. Had the Rossland struck the Fawn in the middle instead of abaft the pilot house there would have been loss of life. Both engines were reversed when the boats collided.

A large steamer, with a pneumatic caisson & air lock elevator for gold dredging purposes on the Upper Fraser is likely to be built at Vancouver. A model has been tried & found to work satisfactorily to the inventors, Messrs. Garrison & Wood, of Los Angeles, Cal. The steamer will cost about \$20,000. It will be 120 ft. long & 28 ft. wide & will be fitted with steam appliances & machinery for heavy dredging work. The caisson is to be 10 by 20 ft. It is designed as a water-tight section in the boat that can be lowered to any reasonable depth so as to strike the bottom of the river. Then it will be pumped out so workmen can descend inside the caisson & dig out the bed of the river.

In our Aug. issue, pg. 161, we mentioned the sale of the Esquimalt Marine Ry. to the B. C. Marine Co., which intends to enlarge the plant, to erect a smaller plant in Victoria Harbor & to build another marine railway at Vancouver. There is evidently going to be competition. The Star Yard at the head of Victoria Harbor, which until recently was managed by T. Trahey, has been sold to a U. S. Co., of which J. Clarke, a Victoria shipbuilder & contractor is Manager. This Co. has com-

menced building a slip. A cradle will be built running from shore to mid-channel, or until 20 feet of water is struck. The grade of the ways will be 1 ft. in 20. It is intended to handle vessels up to 2,000 tons.

We have no advice as to what the Canadian Pacific Navigation Co. is doing in regard to a new steamer for the Vancouver-Victoria service, further than what we mentioned in our July issue, pg. 134, & Aug., pg. 161, except that the Assistant Manager of the Co. denies a rumor that a steamer has been bought from the London & Northwestern Ry. of Eng., & states that negotiations are being carried on with that & other companies for the purchase of a 1st-class steamer, it having been found that, owing to the rush in the British shipyards, too long a time would elapse before such a craft could be built to order. The Islander is now doing the Vancouver-Victoria service, the Charmer being laid up.

The Pacific Coast S. S. Co. has decided to increase its San Francisco-Puget Sound-British Columbia service from a weekly to a semi-weekly one. As soon as the Corona, which ran ashore between Dyea & Skagway, can be placed in commission again she will be put on the southern run, taking the place of the Santa Rosa, which will be put on the B. C. route, & will run in conjunction with the Umattilla, Walla Walla & Queen. Steamers will leave San Francisco each Wednesday & Saturday, arriving at Victoria, B. C., each Monday & Friday & Seattle each Tuesday & Saturday. Returning, they will leave Seattle every Sunday & Thursday, arriving at Victoria each Wednesday & Sunday. The return of the Senator and City of Puebla, which were withdrawn on the opening of the war, will make a change in the vessels of the Puget Sound fleet, but it will make no change in the sailing days.

The Ontario Court of Appeal recently reversed the decision of an assessment court & held that in assessing for purposes of taxation the poles, wires, conduits & cables of a telephone company, the cost of construction or the value as part of a going concern is not the test; they must be valued in the assessment division in which they happen to be, just as so much dead material to be taken in payment of a just debt from a solvent debtor.

THE ST. LAWRENCE ROUTE & THE MANITOBA GRAIN TRADE.

By Edward Farrer.

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Sir Wilfrid Laurier has said that the question of the day in Canada is transportation. It is a question everywhere, owing mainly to the drop in prices during the last 20 years. When wheat was \$1.50 a bushel the cost of transportation was not the vital factor it is to-day, when the price is so much less. The general movement in behalf of lower transportation rates is caused, as economists put it, by the fact that whilst improved transportation has contributed greatly to the fall in prices, it has not similarly reduced its own price; in other words, while formerly 10 bushels of wheat would fetch enough to carry 100 bushels, say, 250 miles, it would now be necessary to sell 15 bushels to transport the same quantity the same distance, so that, to quote Professor Mavor, of the University of Toronto, "The transportation charge tends at present to form a progressively increasing proportion of the realized price of the article transported."

What Mr. Laurier had particularly in mind, however, was the question of transportation from the North-West. The Canadian route from the Sault to the Welland Canal, & from the Welland to Montreal & Quebec, has cost the people over \$50,000,000 for canals, besides a large sum for harbors & dredging; yet the bulk of the grain traffic of Manitoba is going to the Atlantic by way of Buffalo & New York. For every bushel of Manitoba wheat sent to Montreal for export in 1893, 2 bushels were sent to Buffalo & New York; in 1894 the proportion was 3 to 1 in favor of the American route; in 1895 as much as 8 to 1; in 1896 3 to 1; in 1897 5 to 1.

The export of grain from Manitoba is destined, we all believe, to become an immense traffic, & it is of importance, after all we have spent & are spending on the St. Lawrence route, that the trade should not be diverted in this fashion to the U. S.

The reasons why it seeks New York in preference to Montreal appear to be these: First of all, Montreal is handicapped by its remoteness from the ocean & by the freezing of the St. Lawrence so soon after the Manitoba harvest. It was cruel of nature, when she had built so majestic an outlet from the Great Lakes to the Atlantic, to place that heavy ban upon it. Wheat does not begin to reach Fort William in large quantities till the first of October. Ordinarily the last ocean vessels leave Montreal about Nov. 20. But as it takes on an average 10 to 12 days for a cargo to reach Montreal from Fort William, the Manitoba shippers do not care to ship to Montreal after Nov. 10. On the other hand, they can ship to Buffalo as late as the first week in December; it takes a week to send a cargo from Fort William through to New York, & their insurance runs to Dec. 10. Buffalo has thus an advantage of 30 days of shipping time at the busiest period of the year. Besides, when the wheat gets to Buffalo the owner has the choice of 4 ocean ports, New York, Boston, Baltimore & Philadelphia, open the year round—an important consideration.

Secondly, the speculative market of New York enables the Manitoba shipper to insure himself against a drop in price while the grain is in transit. For instance, when he has 100,000 bus. of no. 1 hard ready to ship from inland elevators to Fort William, he wires his New York agent to buy an option for the delivery of 100,000 bus. of no. 2 red, the standard grade there, a fortnight thereafter. The option, of course, goes up & down with the market while the no. 1 is on its journey, & protects the no. 1. Hence, as he says, the banks need not worry about his account. The option is bought in when the Manitoba

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grain arrives. There is no speculative market at Montreal, so that the Manitoba shipper lacks this sort of protection at that port. Moreover, the longer duration of the voyage to Montreal increases the risk of a bad turn in the market; it also represents an extra loss of interest on the wheat while in transit.

In the next place, & this is perhaps the chief reason, it is usually cheaper to use the American route. The Manitoba shipper has no sentiment in his soul; the sole question with him is how to lay down grain at Liverpool at the lowest cost. There is not much difference between the cost of getting it to Montreal & the cost of getting it to New York, Boston or Baltimore. But the objective point is Liverpool, and it is almost always cheaper to get it to Liverpool via New York than via Montreal, because, as a rule, ocean rates from New York are lower. There are more steamship lines at New York & Boston than at Montreal, and greater competition among vessels of greater carrying capacity. At Montreal he is in danger of being "held up" by a sudden demand for increased rates, especially towards the close of the season; consequently it is difficult for him to know in advance at Winnipeg exactly what a shipment for Liverpool via Montreal is going to cost at its destination. Again, at Montreal the grain may have to wait 3 or 4 days till a vessel is ready to take it, & when a vessel does turn up, the facilities & appliances for loading it are not up to date; while if the shipment should miss the last vessel it costs money to store it or send it to Boston or St. John. In consequence of these drawbacks, Montreal is not regarded favorably by Manitoba shippers. There are only a few buyers in Montreal competent to handle the blocks of wheat now shipped from Manitoba, & the number is not likely to increase till the port has been modernized.

These, briefly stated, are the reasons why Montreal has lost the greater part of the Manitoba grain traffic. But it is necessary to a full understanding of the subject that we should look a little beyond immediate causes.

As most persons know, the shipping business on the Upper Lakes has undergone remarkable expansion since a 16-ft. channel between Buffalo & Duluth was obtained in 1882. Prior to 1882 the available depth was 9½ ft. At that depth the route could move only comparatively small shipments; indeed was little better than a local route. The Upper Lakes are now a great through route between East & West, carrying bulky commodities at a very low rate, & what is probably as important, tempering the rates of all the railways running from the agricultural States to the Atlantic seaboard. It is quite supposable that but for cheap lake rates and the effect of lake competition on rail rates, the Northwestern States might not have been able to make wheat-growing pay in the recent era of low prices; in other words, might have stood still instead of adding millions to their population; & that it would have been impossible to bring the iron ore of Lake Superior to the coal of Pennsylvania, Ohio & Illinois—that is, to have made the iron & steel industry of the United States what it is to-day. The old sailing vessel has gone, & along with it the iron steamer, once considered a leviathan. The present type is the steel steamer, with double bottom & triple expansion engines, capable of carrying 5,000 tons of cargo at a speed of 13 miles an hour. One of the steamers lately built for the Bessemer Steamship Company measures 475 ft. over all, & has a carrying capacity of 6,500 tons. The substitution of steam for sails, with the improved facilities for loading, unloading & fueling, has greatly augmented the working power of the fleet, a lake steamer being able to do something over twice the work of a sailing vessel of like tonnage. In a recent report to the Secretary of the Treasury, Mr. Tunell, of

Chicago, shows that in this way the carrying power has been increased 2½ times since 1885. Formerly 15 or 16 round trips were considered a good season's work in the ore business between Lake Superior & Lake Erie ports, whereas 22 round trips are now usually made. On June 30, 1897, the gross tonnage of the steel vessels on the lakes was 490,000 tons. The wooden tonnage was 885,000 tons. Steel was the material used in the construction of eight-ninths of all the tonnage built last year. In 1897 the freight received & shipped at Buffalo, the eastern terminus of deep-water navigation, exceeded 10,000,000 tons. The shipments of coal from Buffalo exceeded 2,400,000 tons, the receipts of grain & flour over 200,000,000 bus. The aggregate tonnage of freight carried on the upper lakes was 30,000,000 tons; the quantity going through the canals at Sault Ste. Marie in a season of 230 days being about twice the traffic of the Suez Canal in 365; while the traffic which passed up and down the Detroit River is said to have exceeded the foreign & coastwise traffic of London & Liverpool combined. It is hard to realize that it is only 69 years since the first American vessel was launched on Lake Superior, & since the first vessel arrived at Chicago from the Lower Lakes. "On that occasion all the male inhabitants of the village, including the boys, numbering nearly 100, assisted in dragging the craft across the bar." The village has now 1,500,000 inhabitants, & 30,000,000 people, about the population of England & Wales, dwell in the eight States bordering the Upper & Lower Lakes.

As said, the period of greatest expansion dates from 1882, when a 16 ft. channel was obtained. Since then the centralization of industries, with the concentration of population in large manufacturing centres, has been going on with considerable rapidity, & the process has undoubtedly been hastened in the watershed of the Upper Lakes by the ease & cheapness with which food & raw materials are carried long distances from the place of growth & extraction to the place of consumption & manufacture. The huge steamers bring down grain, flour, iron ore & lumber, & carry back coal, salt, building material, & heavy factory goods, thus effecting an exchange between East & West of the coarser staples which the railway could not effect at anything like so low a cost. Now, however, a 21 ft. channel is all but completed. Shortly before his death, General Poe, of the U.S. army engineers, who had charge of the St. Mary's Canal & other improvements, said, in a report: "The increase from 9½ to 16 ft. brought about a truly extraordinary development of lake commerce, the result being most notable, perhaps, in the character of the vessels employed. Give the commerce a channel from Buffalo to Duluth, that shall be navigable on a draft of 20 ft., & it needs no prophet to foretell a more wonderful growth still." I suppose it is safe to say that steamers carrying 7,000 tons of cargo, or more, may be looked for so soon as the harbors are made deep enough to accommodate them; that, low as they are, rates have not nearly touched bottom, nor can any limit be set as yet to the development of a commerce already of colossal proportions.

Unfortunately, the St. Lawrence route lies outside the deep-water area. There is only 14 ft. of water in the Welland Canal, & an available depth of only 9 ft. in the canals below Kingston. About all the U.S. Government has had to do is to improve the lakes themselves; whereas we have had to dig a series of canals aggregating 70 miles in length past the rapids of the St. Lawrence & round Niagara Falls, at a time when we have been building a trans-continental railway, & carrying on other burdensome enterprises. There is no prospect, at present, at any rate, of our being able to deepen the Welland to 21 ft.

That is a task we might, perhaps, have undertaken had it not been deemed advisable to deepen the canals below Kingston in order to obtain a uniform depth of 14 ft. from Lake Erie to Montreal; but to do the two works simultaneously would be a heavy strain. Sanguine persons believe the U.S. will sooner or later deepen the Canadian canals to 21 ft. in the interest, not of our trade, but of their own. Professor Emery R. Johnson, an authority on the subject of American waterways, says in a recent work:

"There has been a good deal of discussion whether the deep water channel to the sea should pass by way of the St. Lawrence, or from the lakes to New York city; but the question seems clearly to have but one answer so far as the U.S. is concerned. However desirable it may be for Canada to have deep-water communication between her western territory & Quebec, Montreal, & her other eastern cities, & however important it may be for Canada to have a water route from Canadian fields, forests, mines & shops to Liverpool & other markets of Europe, the case with us still remains different. Our concern is primarily to connect the Great Lakes with the great cities of the eastern states. These are our chief markets. Trade with England is desirable, but it has only a secondary importance. The traffic on the Welland Canal is comparatively light; in 1890 it was only about ¼ that on the smaller, essentially barge-traffic Erie Canal. The St. Lawrence route would not only have less commercial value for us, but it would increase rather than lessen our commercial & political independence. Our political relations with Canada & England would be injured by such a waterway. We should have about 1,400 miles of coast from which our ocean cruisers & men of war could be excluded. As long as Canada remains a dependency of Great Britain, our commercial & political interests will remain opposed to hers."

At all events, American co-operation is not in sight.

Vessels carrying 175,000 bus. of wheat, or 200,000 bus. of corn, sail into Buffalo from Fort William, Duluth & Chicago. Such cargoes cannot be taken through the Welland. At Port Colborne, the Lake Erie end of the Welland, connection between the Upper & Lower Lakes is broken as effectually as though it was the meeting place of a standard gauge railway with a narrow gauge. The largest cargo that has ever passed through the Welland was probably that of the Algonquin, belonging to Hagarty & Co., of Toronto, which took 67,000 bus. of wheat through last summer. Ordinarily, when a steamer reaches Port Colborne with more than 60,000 bus., she is obliged to lighten; then when she reaches Kingston or Prescott she has to transfer all she has on board to barges, which take it down the 9-ft. channel to Montreal. With 14 ft. of water all the way from Port Colborne to Montreal, rates to Montreal will certainly be reduced. Per contra, the deepening of the Erie Canal, now in progress, will have the effect of reducing water & rail rates between Buffalo & New York, while the rate from Fort William & Duluth to Buffalo is sure to be reduced when the 21 ft. channel is fairly going & the supplementary improvements finished. It is obvious that the advantage to Montreal in having 14 ft. of water from Lake Erie will not of itself enable her to recover the Manitoba tonnage lost to Buffalo & New York under the same conditions making for lower rates by the latter route.

My own notion is that it was a mistake for the Government to deepen the canals below Kingston. True, it had been decided by the former Government; nevertheless, I venture to think it would have been better to spend the money in deepening the Welland to 21 ft. The Chief Engineer of the Public Works Department tells me there was no engineering difficulty in the way. Nothing in

the economies of water transportation is much more established than that the modern lake vessel abhors canals. With her costly equipment she cannot afford to incur the delay & danger inseparable from passing through them. Between Kingston & Montreal there are 43 miles of canals, as against 27 on the Welland. I have not been able to find a practical man who believes that when those 43 miles are deepened to 14 ft., lake vessels will make use of them to get to Montreal; the vessels, it is universally thought, will, as now, tranship at Kingston or Prescott to barges. Had we deepened the Welland to 21 ft. & left the lower canals as they were, the position would have been this: Vessels could have carried cargo from Fort William or Duluth to Kingston for nearly as low a rate as to Buffalo. The 27 miles of canalling in the Welland, & the difficulty of procuring return cargoes at all times, would, of course, have militated against the route; still, the rate to Kingston would have been materially lower than now. Then from Kingston to Montreal, 178 miles, we should have had the present barge service of 9 ft. to compete with a barge service of 9 ft.—the depth the Erie will have when the projected improvements are finished—from Buffalo to Albany by canal & from Albany to New York by river, a total distance of 500 miles. Under such circumstances the rate from Lake Superior to Montreal would have been sufficiently low to recover for Montreal at least a portion of the Manitoba traffic, & to augment the export via Montreal of grain from Chicago & Duluth.

Let us return to the actual situation. There are already 300 steamers or more on the Upper Lakes which cannot pass through the Welland, & consequently cannot enter Lake Ontario. All of these, or nearly all, are U.S. vessels. I am sorry to say the Canadian fleet on the Upper Lakes is quite insignificant. Of the vast tonnage going through the Sault canals only 4% is Canadian. A Canadian steamer of the latest U.S. type would be hard set to earn expenses. She would be cut off from Montreal, Toronto, Hamilton, Kingston, etc., by the termination of deep-water navigation at Port Colborne. She might sail to places like Owen Sound, Parry Sound & Goderich; but, as everyone knows, there are no ports of any great account on the Canadian shores of Huron, Erie or Superior; whereas U.S. steamers do business with Chicago, Milwaukee, Cleveland, Detroit, Toledo & Buffalo, with an aggregate population of 3,000,000, as well as with many smaller cities & towns situated on the Upper Lakes, some, like Escanaba & Marquette, with a booming shipping trade. Furthermore, Canadian vessels, large or small, operate at a disadvantage in being excluded from the vast stream of U.S. lake commerce. Manifestly, if a vessel has a cargo both ways she can make more, & yet charge less, than if she has a cargo only one way. A Canadian vessel going to Duluth for a cargo of grain for Kingston is usually obliged to go light, because not allowed by U.S. law to carry from one U.S. port to another—as, for example, from Oswego or Buffalo to Duluth. Going to Duluth light she cannot afford to accept as low a rate to Kingston as a U.S. vessel which has reached Duluth with a full or partial load from Buffalo. That is to say, she not only suffers directly through being deprived of purely U.S. traffic, but the deprivation cripples her in the competition for traffic between U.S. ports & Canadian ports. This is why the Canadian fleet is insignificant by comparison with the U.S. fleet, & the largest Canadian vessels, with a few exceptions, mere tubs by the side of the largest U.S. vessels.

The larger the vessel the less the cost of carrying per bushel & the longer the time in which navigation is possible in the fall. The report for 1896 of the Buffalo Merchants' Exchange says, with a touch of Populism: "The

future of the business on the lakes seems to be most discouraging to the owners of small vessels; the business is apparently drifting into the hands of capitalists & corporations, one concern having built during 1895 16 large steel vessels, at an expense of \$3,000,000, & they are still building." "The vessels now being built," says an American expert, "can be navigated with safety in the fall, under conditions which would have been dangerous to the class of vessels prevailing 10 years ago."

For these reasons Canadian vessels are unable to make as low rates as U.S. vessels. This rule may admit of exceptions; all the same, it is the rule. Hence, in their anxiety to regain the Manitoba traffic, the Montreal Board of Trade has asked the Dominion Government to permit U.S. vessels to carry grain for export from one Canadian port to another. The theory is that if U.S. vessels were allowed to carry grain from Fort William to Port Colborne, Kingston, Owen Sound, Midland or Parry Sound it would be possible to lay it down at Montreal cheaper than it can be laid down for at New York. The fact that a good deal of export grain is carried in U.S. bottoms from Chicago & Duluth to Kingston for Montreal in preference to Buffalo is cited in support. There is no denying that U.S. competition between Fort William & Eastern Canadian ports would reduce the rate to Montreal. A U.S. vessel of the smaller class going to Kingston or Prescott with Manitoba wheat could return to Duluth, on the way back to Fort William, with a load of coal or something else from Oswego or Sodus Point—a traffic from which Canadian vessels are debarred. This of itself would be a consideration in favor of lower rates. Canadian vessel-owners protest that to allow the U.S. to participate in Canadian traffic while Canadians are rigorously excluded from U.S. traffic would be grossly unfair, and, as they put it, unpatriotic; and add that if U.S. vessels are going to carry the harvest of Manitoba to the St. Lawrence, the harvest might as well go to New York at once & be done with it so far as Canadian interests are concerned. The answer of Montreal is that it is a serious matter to contemplate the diversion of the export trade of the Canadian Northwest to U.S. seaports. It is so much lost to Canadian labor, steamships, railroads, banks, etc.; furthermore, if New York is to be the regular outlet for Manitoba, Manitoba may some day ask what there is left for her in the connection with Old Canada that she should prolong it.

Some maintain that the opening of the railway to Parry Sound will restore the traffic to Montreal. It is difficult to see how. The C.P.R., which in railroad parlance originates the traffic, has elevators at Owen Sound, to which port its passenger steamers run from Fort William, & rail connection from Owen Sound with Montreal. Yet, except in a year like 1897, when prices were higher than usual, it has not been able to carry much export grain from Owen Sound to Montreal in competition with the Buffalo route. It carries next to none all-rail from Fort William to Montreal; the all-rail traffic could not be made to pay & was abandoned years ago. The grain brought to Owen Sound by the C.P. steamers, which, however, are not grain-carriers in the proper sense, is mostly for Ontario millers, although last year, as just observed, a considerable quantity was for export from Montreal & St. John. The line from Parry Sound to Montreal will be a trifle shorter than the C.P. line from Owen Sound, but that will make no difference. Since, in ordinary seasons, the C.P. cannot make money by hauling Manitoba wheat for export from Owen Sound to Montreal & St. John in competition with the Buffalo route, notwithstanding that it has the haul from the place of growth to Owen Sound, I do not see how the Parry Sound road can cut much of a swath in the trade.

It is true that U.S. railways haul wheat from Buffalo to New York in competition with the Erie canal, indeed, get the lion's share of the traffic, & while it is 440 miles by rail from Buffalo to New York it is only 390 from Parry Sound to Montreal. But the conditions of transportation at Buffalo & Parry Sound & along the respective routes are so different that it does not follow that what the U.S. roads do the Parry Sound road can do. The U.S. roads start grain trains of 60 cars, each car containing 1,000 bus., from Buffalo. The grades on the Parry Sound road would not allow of a train of that weight being drawn by a single locomotive. Again, local traffic on the New York Central, Erie, West Shore & Lehigh is out of sight greater than on the Parry Sound line; & there is an indefinitely better chance of obtaining a return load to the point of departure. Besides, Manitoba wheat can be carried from Fort William to Buffalo in U.S. steamers at a lower rate than from Fort William to Parry Sound in Canadian. The ordinary quoted rail rate from Buffalo to New York, "alongside," i.e., alongside the ocean vessel, is 5c. a bushel, \$1.67 a ton, but the actual rate is frequently less. Last fall it was 4c. from vessel at Buffalo to alongside vessel at New York. The Parry Sound road cannot charge more to Montreal, or it will get none of the traffic. It may be able to carry Manitoba grain to Montreal for that sum. But to say that, under a running agreement between the Dominion Government & the Parry Sound road, Manitoba grain can be shipped for 4 or 5c., at a profit to both carriers, from Parry Sound to Montreal & thence over the Drummond County road to Quebec & the round-about Intercolonial to St. John, 1,150 miles, with the cars returning empty, looks like a very wild assertion.

The Parry Sound road may possibly stand a better chance at carrying U.S. wheat to Montreal. It can employ U.S. steamers and barges between Duluth & Parry Sound, which will ensure a lower water-rate than can be obtained between Fort William & Parry Sound, where the traffic has to be carried in Canadian bottoms. Only here again the rate to Parry Sound will be higher than the rate to Buffalo, because the vessels carrying grain to Parry Sound will have to return empty, whilst those going to Buffalo have return cargoes. Everyone will rejoice if the Parry Sound road shall succeed in bringing a greater volume of U.S. grain to Montreal; but, to be candid, the prospect is not bright.

The best authorities, Canadian & U.S., whom I have been able to consult, say the true if not the only way of recovering the Manitoba traffic for the St. Lawrence route is for the C.P.R. Co. to put large grain steamers, with barge consorts, between Fort William & Owen Sound, running them in connection with the railway at Fort William & with a first-class ocean steamship line owned by the company at Montreal, so that the Manitoba shipper can get a through rate & through bill of lading direct from his elevator at Brandon, Morris, or Indian Head to Liverpool. This, it is believed, would give Montreal a pull over the U.S. route which she can hardly hope to get in any other manner. What is of more moment, it would add to the value of all the grain annually produced in the Canadian Northwest by reducing the cost of transportation of the surplus for export. It would bring the Manitoba wheat grower, the Montreal or Toronto buyer & the English wheat-broker closer together, & enable them to handle the crop to better advantage all round. At the close of navigation grain stored at Owen Sound or Montreal could be shipped over the C.P. line to West St. John. The distance would be: Owen Sound to Montreal, 460 miles; Montreal to St. John, 480; total 940—a long rail haul, to be sure, but with this vital fact in its favor, that it would be merely part of a continuous rail & water haul in the same

hands from Manitoba to the United Kingdom, a distance of 4,500 miles. As it is, the C.P. ceases to have any interest in the grain once it reaches Fort William. The transportation from Fort William to Montreal, & the transportation from Montreal across the Atlantic, are separate & distinct transactions.

Such a plan would not call for any fresh canal expenditure by the Dominion. The grain steamers of the C.P. would not enter the Welland but go straight to Owen Sound. It would be immaterial whether the Welland or the canal below Kingston were deepened or not. One of the most eminent waterway engineers in the U.S., a man familiar with the Great Lakes & the St. Lawrence route, wrote to me the other day:

"We all know how cheaply the C.P.R., with its railway lines running from ocean to ocean, can carry merchandise across the continent—what an advantage it has over the so-called transcontinental roads in the U.S., which have to receive freight from, & deliver freight to, other roads that have the hauling half way across or more. On the same principle the C.P.R. could carry wheat from the place of growth in Manitoba to Fort William & thence to Liverpool on its own steamships from Montreal at a rate which no other route or combination of transportation interests that I know of could touch. When Montreal was closed it could fall back on St. John, where it has already built up a large export business, & which would become a still more important seaport if it were the winter terminus of C.P. ocean vessels. Given a C.P. steamship line at St. John in winter, fed with Manitoba wheat, it ought to carry a great deal of the Ontario & Quebec produce which now goes to Europe from Portland & Boston.

"The navigation laws, compelling British trade to be done in British bottoms, were repealed long since, as unsound in principle. I am sure there is no economic heresy in the doctrine that the trade of a country should be carried by that country's own land & water routes if the services can be performed by them as cheaply as by the routes of a foreign nation. Looking at Canada all over, a country of length without breadth, with her western provinces separated from the eastern by uninhabited if not uninhabitable stretches of desert, while lying for hundreds of miles alongside our hustling Prairie States, of which, indeed, Manitoba is the northern projection, it seems to me she, of all countries, ought to keep her carrying trade in her own hands if she can. For a like reason, she ought to keep her seaboard provinces in closer touch with the rest of the country by establishing a winter port there. Were I a Canadian Minister I should not vote a dollar to a Canadian Atlantic service except on condition that it fulfilled the ends here outlined—that it regained for Canadians the carrying of their own harvest in the Northwest, & promote the solidification of the country by uniting Manitoba to Montreal & St. John. In my judgment, the C.P.R. is the only agency that can establish & successfully operate a steamship line capable of doing this, simply because it alone has the machinery to work with—a transcontinental road all the way from Vancouver & Winnipeg to Montreal & St. John, affording unequalled facilities for feeding Canadian ocean steamships & for carrying the cargo from the place of origin to Europe at lowest cost. The wheat crop for export of the Canadian Northwest amounts at present, I understand, to 20,000,000 bus. annually. If by the project just outlined only 5c. a bushel were added to its value & to the value of the wheat not exported—and that is a rather low estimate—the payment of a subsidy of \$1,000,000 a year to the C.P. ocean line would be recouped to Canada 2 or 3 times over every year."

I have no idea what the views of the C.P.R. Co. are, nor, indeed, whether the scheme admits of being worked out or not just now;

but the opinion of this distinguished U. S. authority is worth considering by the Co. & by the Government.

Under any circumstances it is time to reconstruct Montreal harbor. We should also abolish the canal tolls & wharfe charges. There are no tolls on the Erie Canal, & no harbor dues on grain at New York, whereas the canal tolls on the St. Lawrence route & the Montreal wharfe charges amount to $\frac{1}{2}$ c. a bushel. The immense sum which Canada has spent on the St. Lawrence above & below Montreal cannot be considered well-invested till Montreal is able to supply a quicker ocean service with lower rates, so that the Canadian exporter may have something like as good a chance as his U. S. competitor. Anyone can see that the west end of the harbor is in a hopelessly congested state. The Grand Trunk has one track by the Wellington bridge, the C. P. one from Hochelaga. This is all the access the railways have to the wharves & harbor, & they are prohibited by a by-law which to a stranger must read like a bit of Chinese legislation, from moving cars except at night. The prime requisites of a harbor are, first, channels deep enough to admit vessels of the largest size; second, such arrangements for loading & unloading that vessels may get in & out with the least possible cost & delay; which, of course, implies that the railways shall have plenty of room for storing, shunting & running cars alongside the ships. London has 10 miles of docks; Liverpool 8 miles, which have cost \$200,000,000; Glasgow 6 miles, cost \$65,000,000; at New York the wharves are distributed over a frontage of 15 miles, at Baltimore of 6 miles, & at Boston of 4 miles. The principal wharves at Boston, the Cunard & Allan, are not in the city proper, but have been built at some distance from it, on the other side of a channel, for the purpose of providing the railways with more convenient access. At Portland the wharves are spread over a frontage of 8,000 ft. At Montreal the frontage in the west end, where the older shipping firms are in possession, does not, I am told, exceed 3,500 ft. Yet the famous plan no. 6 actually proposed to crowd 14,000 ft. of wharves into that space, although at the east end a magnificent stretch of unoccupied river front is available for wharves, warehouses, elevators, railway lines & all the other apparatus of a great port.

Montreal is served for the most part by steamers of the old-fashioned type of 4,000 & 5,000 tons. There are larger ones, but very few. Such vessels cannot carry freight at as low a rate as the modern steamer of 8,000 tons & upwards which does business at New York & Boston.

The Railway & Engineering Review says: "Even more noteworthy than the recent attempts to make the trans-Atlantic journey at high speed is the evident decision of the companies that, other things being equal, it pays to build steamers of enormous size. Excepting the White Star ship Oceanic, which is building, the Kaiser Wilhelm der Grosse is the largest vessel since the Great Eastern. The older vessels, which ranged from 300 to 400 ft. in length, are completely outclassed. A good idea of the tendency to build immense vessels may be gained from the following table, in which the largest new steamers of leading lines are compared with the famous Great Eastern:

Names.	Tonnage.	h.p.	length.
Kaiser Wilhelm der Grosse.	11,000	28,000	649
Kaiser Friedrich.	10,000	24,000	640
Oceanic.	17,000		704
Lucania.	12,000	18,000	620
St. Louis.	11,000	20,000	634
La Touraine.	10,700	17,000	620
Fort Benham.	8,000	15,000	500
City of Rome.	8,411	15,000	500
Teutonic.	7,000	15,000	500
Great Eastern.	8,000	15,000	500

"And the next marine monster, the Oceanic, when completed, will be 50 ft. longer than the

Kaiser Wilhelm & 12 ft. longer than the Great Eastern."

Putting Manitoba aside for a moment, see how this affects the farm staples of Ontario. Here is the average ocean rate per ton on cheese & butter from Montreal & Boston to Liverpool, from May 7 to Oct. 30, 1897:

	Cheese.	Butter.
From Montreal.	21s. 9d.	26s. 9d.
" Boston.	13s. 3d.	13s. 3d.

All the export cheese & butter of Ontario does not go to Liverpool; a great deal goes to London & Glasgow, & to these ports Boston rates average less than rates from Montreal. It is likewise true that rates on flour, hay & cattle from Boston are lower, as a rule, than rates from Montreal. All of which means that the Ontario farmer loses a large sum annually by reason of the existing condition of things at Montreal, & would be benefited probably more than any one else were the Ottawa Government to take the harbor in hand.

New York is asking Congress to deepen the ship channel in that harbor from 30 to 35 ft. "Our prestige would be gone," says a shipping man, "if when the 'new vessel,' the leviathan of the future, arrived at Sandy Hook we could not admit her." The expenditure by the U.S. Government on improvements in New York, exclusive of armaments, has been as follows, to June 30, 1897:

Hudson River, above New York.	\$1,800,000
Harlem River.	1,030,000
East River & Hell Gate.	4,370,000
New York Harbor channel.	1,750,000
Total.	\$8,950,000

The North River improvements at New York, carried on by the city, involve the construction of 16 piers & an outlay of \$18,000,000. The U.S. Government completed in 1892 the work of deepening the Baltimore harbor channel to 27 ft., & is now engaged in deepening it to 30, the cost of this latter work being estimated at \$2,500,000. At Boston the United States Government is deepening the principal channel to 27 ft. At Philadelphia, which is 100 miles from the open ocean, the U.S. Government has just completed a ship channel 26 ft. deep at mean low water, at a cost of \$2,500,000. Down to 1896 the U.S. Government had spent \$2,500,000 on the harbor at Buffalo, \$2,125,000 on the harbor at Chicago, \$1,700,000 on Oswego harbor, \$1,500,000 on Cleveland harbor, \$600,000 on Duluth harbor, \$1,100,000 on the harbor at Michigan City, & \$1,200,000 at Toledo.

At Montreal the entire expenditure on the harbor has hitherto been borne by the harbor itself, the interest on the debt being paid from wharfe dues, which, notwithstanding a recent reduction of 20 per cent., are a perceptible burden on commerce. The Ottawa Government has not spent a dollar on our national port; it has spent over \$60,000,000 on the canals leading down to it, & on the St. Lawrence channels below, but the harbor itself, the key of the situation, is left to the mercy of local effort.

The policy of the day is to trade more with Europe & less with our own continent—a policy forced on us by the Dingley Act, which, although Mr. Dingley might deny the soft impeachment, is to some extent an expression of U.S. dislike, not of us as Canadians, but of our connection with England. If, however, trade with England is to be profitable, & there is no denying that it is subject to the natural drawbacks incidental to all trade carried on at long range, it is obvious that we must have as quick & as cheap an ocean service as the people of the U.S., whose commodities have the same free access to our own & the British market. And I for one am unable to see how such a service can be established at Montreal till the Dominion Government takes hold of the harbor & plans for a thoroughly modern footing, as the Government at Washington is

along with the chief seaports & lake ports of the U.S. In proposing to utilize the east end of the Harbor Mr. Laflie is moving in the right direction, but he should go further, & ask Parliament to assume the debt incurred for past, present & future improvements. That done, & the C.P.R. induced to co-operate with the Government in founding a fast passenger & freight service, so that wheat may be shipped direct from Manitoba & Fort William, Minnesota & Duluth, to Liverpool by the St. Lawrence route, Montreal will once more be in the running as an ocean port; while the farmer of the Canadian Northwest, together with the farmer of Ontario, will be benefited to a very important extent indeed.

Miscellaneous Navigation Notes.

A marine slip costing \$8,000 to \$10,000 is being built at Rat Portage, Lake of the Woods.

The steamer Filgate has been purchased by the Montreal & Cornwall Navigation Co. & will be run as an excursion boat next season.

The Toronto agent of the Dominion Steamship Co. states he has been advised that the line will run between Liverpool & St. John, N.B., this winter, owing to the breach of its relations with the G.T.R., in consequence of which it will not make Portland, Me., its American terminus.

The latest addition to the Sincennes-McNaughton line fleet is the powerful tug, Virginia. She was built for work in the Lower St. Lawrence & carries surface & salt water condensers. She is built of oak, lined with pitch pine, is 107 ft. 3 in. in length, has a beam of 24 ft. & a depth of hold 10 ft. 8 in.

The Canadian-Australian Steamship Co. is said to be applying for an increased mail subsidy, based upon the large increase in the bulk of the mails since calling at New Zealand ports. The Dominion Government was at first not particularly impressed with the claim, but investigation has shown that not less than 300 to 400 bags of mail matter are carried on each trip from New Zealand, & there being no room for them with the other matter from Australia, state-rooms have to be utilized for their storage.

A London, Eng., cablegram says: "The plans for the short steamship route between Milford Haven, Wales, & Paspebiac, Que., are progressing. The Canadian Steamship Co., working in conjunction with the Atlantic & Lake Superior Ry. Co., has announced that, pending the completion of a line of 21-knot steamers of the 1st-class, steamships of a somewhat less power have been chartered, with which to make the journey between Milford Haven & Paspebiac in a little over 4 days. The Ry. Co. is completing docks at Paspebiac for the largest ocean steamers, & the Great Western Railway Co. of Eng. is arranging for special express passenger service to London."

There is likely to be further competition in the steamship business between the Pacific Coast & Japan & China. A line from San Diego, via Honolulu to Yokohama & Hong Kong, is said to be an assured fact, the Atchison, Topeka & Santa Fe Ry. working in close connection with it & probably giving it financial assistance. The Co. has been incorporated as the California & Oriental Steamship Co., capital \$5,000,000. It is said negotiations are on for the purchase of 2 vessels in England, that there will be sailings from San Diego every 25 days, & that the service will include Manila if that port is ceded to the U.S. Some years ago the Santa Fe operated a line of steamers across the Pacific. The venture, however, was far from successful. Since then the road has been asked to put up money for steamship lines, but has so kept out of the business until now.

ELECTRIC RAILWAYS.

British Columbia Electric Railway Co.

The 2nd ordinary general meeting of this Co. was held in London, Eng., last month. The Chairman of the Co. in addressing the meeting said: I regret we are again obliged to forego the pleasure of recommending a dividend. Your directors have come to the conclusion that, although we have a small surplus profit in hand, it is more prudent to apply it to reserve fund than to divide it up amongst shareholders. I am aware shareholders are getting tired of constantly remitting money to B.C., & receiving no return upon it, but I heartily trust this will be the last occasion on which I have to meet you without recommending, at all events, some small return on the money you have invested. I feel myself how disheartening it is to have remitted, as this Co. & its predecessors have, upwards of £400,000 without ever having drawn one single penny out of B.C. up to the present day. I feel that I am trespassing on your good nature to a certain extent & on your confidence in the country in asking you to remit another £100,000 for the Benefit of Vancouver & Westminster. I am, however, emboldened to do this by the very satisfactory assurances & willingness to subscribe further money which many shareholders have shown, & by their inclination to back their opinion as to the great future which is in store for B.C. by subscribing further capital. I feel, too, every confidence that the smaller shareholders will come forward just as liberally as the larger ones have done when we have the opportunity of applying to them to take up their proportion of further shares.

It is a pleasure to be able to state that in spite of our not being able to give you any dividend this year, the issue of our £100,000 of stock has already been practically assured. This money we propose to devote towards putting Vancouver into a satisfactory position with regard to electric power, as we shall have done in Victoria by September. I think there is no doubt we shall have as fine & liberal an installation of electric power in these two cities as is possessed by any cities of their size in the whole world. We are helping ourselves as well as helping them in taking these steps, because by promoting the prosperity of these cities we insure an increase in business, & the advantages to a city of having a cheap, regular & reliable electric supply immediately tends to increase its prosperity, & consequently attracts fresh settlers inasmuch as it enables it to compete with all the other cities who are competitors. By this means we enable our cities to do their business on the cheapest possible terms, as an efficient power enables all branches of business, whether it be manufacturers, mills, or any other works where a power is needed, to compete successfully with the commerce of the world.

Our improvements for the year, besides the construction of the Vancouver Power House & the construction of an entirely new metallic circuit for power business, & the increase in the power itself involved, includes the construction of 2 small additions to our railway. The first is an extension from Westminster City to the small town of Sapperton. Although at present we cannot say that we expect to earn more from it than the amount of interest on the cost of the construction, yet our board are desirous of meeting their constituents as far as they possibly can in all such matters where we are not actually losers, & we hope that the construction of the branch will induce fresh settlers & fresh business to spring up along it, & thus make it a paying investment in time. The second extension is a very small one, being the Denman Street Line in Vancouver, from Robson street to the beach. This is a very short extension, but one which

the board believe will prove a considerable increase of traffic in the summer months.

One word as to the criticisms which have been levelled against our management. We have heard a great deal said about the very large proportion which our expenses bear to gross revenue when compared with similar companies in Canada. I have taken out a list of the principal companies' percentages, & I find they run from the Toronto Railway's 48.81% & the Montreal's 55.05, the Ottawa Electric Railway 67.67 & we ourselves show 68.01%. You will see, however, in our figures that the heavier expenses are shown in the early months of the year, and since then we have made steady improvement, & we trust we shall be able to reduce the expenditure at any rate to 63% during next year. No effort on our part will be wanting to bring about such a result. I am afraid I cannot hold out to you hopes of doing as well as such big companies as the Montreal & Toronto, or even as well as the London, Ont., company, which has, if anything, a smaller constituency than our own. At the same time, no effort of ours shall be wanting in our endeavor to reach this state of economy, & if we cannot succeed in it this year it will be our aim to do so in the future, & there is some encouragement to the shareholders in the fact that there is substantial room for improvement in this respect. When we do succeed in making this improvement it will mean a near dividend for the shareholders.

The Co. has had on the whole a good year. The returns have been very satisfactory in proportion to the population of the cities, & as I have said, the percentages of expenses have been gradually decreasing; but in order to make the necessary economies we have had to expend a very large amount of money on construction & improvements of electrical apparatus. Electrical science has developed so rapidly that the apparatus installed 7 or 8 years ago is now out of date; & while not being useless, it is very uneconomical, & all companies are replacing the obsolete types with new types of machinery, which in a short time show large economies in fuel & labor. For this reason our company will undoubtedly do better hereafter owing to the many improvements already made. For one thing, these improvements have made our securities a sound investment; but I do not forget that our shareholders have not yet received the benefit of our labors & this is accounted for by the fact that we have been obliged to sink into fresh improvements every penny we have succeeded in earning, although we have employed the very strictest economy in our daily operations. And this course, I fear, will have to be pursued for some years; but we may notwithstanding be able to give some return to our shareholders on the money they have invested in this Co. in the near future. It only remains for me to move, "That the report & accounts be received & adopted, & that the surplus of profits be apportioned as recommended therein."

The motion was adopted, as was also the proposal to raise an additional £100,000. R. M. Horne-Payne & F. S. Barnard were re-elected directors. It was decided to make the new issue of stock in £10 shares.

The official test of the new plant which the Co. has installed at Goldstream, near Victoria, took place Aug. 23, the power being turned into the station at Rock Bay. The work was not then quite completed, but the trial was in every way satisfactory & indicative of the extent of power available when the plant is fully completed. The Victoria Times says the work of installing this extensive plant, which has occupied several months, was undertaken & carried out by the Co. itself. A number of Eastern Canadian & U. S. companies had contracts for the supplying of wire, machinery, etc., but the work as a whole has been conducted by the Co. under

the superintendence of Mr. Hasson, of San Francisco. The polling & wiring is now complete, a distinct telephone service connects Goldstream station with the city offices, & the 2 wheels which will provide power have been placed in position. Accommodation is provided for a third wheel should necessity arise for any additional power.

One great improvement is promised under the new system, which will be appreciated by the large number affected by it. Three distinct circuits will be established, 1 for the tram cars, 1 for power, & a 3rd for light. These will be independent of one another & a heavy drain on the car service will thus have no effect whatever on the light or power. Hitherto when extraordinary demands were made in the service for power for the tram cars, as for instance during summer concerts at Oak Bay, the extra power required was drawn from the lights, which suffered in consequence. This defect will be entirely obviated by the reform proposed. Some other improvements are also contemplated in regard to lighting. The new plant will afford the Co. all the power it requires for the various uses to which it is devoted, with a good reserve fund for emergencies. A large part of the present plant on Store street will be retained in case of accident to the Goldstream plant, but this is merely a precaution & is not taken because of any fear that it will be required. A dynamo & 2 of the engines will in all probability be removed to Vancouver, where additions to the present equipment are urgently required.

D. A. Shiles, who has been connected with the Vancouver & New Westminster tramway since its opening, has been appointed superintendent of traffic for the B. C. E. Co. at Vancouver, in place of C. Aird, resigned.

Manitoba.

Winnipeg River. A contemporary which ought to be better informed says that: "An electric railway from the mouth of the White-mouth River to points on the Winnipeg River & the transmission of power to Winnipeg, is in contemplation by a company of Winnipeg capitalists who propose to utilize a portion of the water power on the Winnipeg River for this purpose." Seeing that the mouth of the White-mouth River is in the woods some 12 miles north of the C.P.R. main line, it would be interesting to know how that distance is to be traversed. No one lives along the route of the suggested line except Indians & a few trappers until the Hudson's Bay Road at Fort Alexander, near Lake Winnipeg, is reached. The scheme must have originated in a reporter's very fertile brain.

Ontario Lines.

The Hamilton, Grimsby & Beamsville has asked Barton Township Council to allow it to remove its rails on Maple Avenue, between Trolley St. & Sherman Avenue, & continue the line on Main St. to Trolley St. & along that street. The Co. asks this to avoid 2 sharp curves. The request is meeting with strong opposition from the St. Ry. & residents in the section interested. It is said the St. Ry. Co. wants the use of Main St. to continue its line to Bartonville.

Hamilton Radial. This Co. & Sudbury Township Council have patched up their difference over the Beach-sprinkling question for this season, the Co. promising to have a sprinkler in operation by June 15 next, & the Council withdrawing its action at law.

Hamilton Street. Following up the directions of the people, as expressed at the polls, to extend this Co's franchise until 1928, the City Council introduced a by-law which had a stormy passage. A number of amendments were moved, such as to extend the time for the use of limited tickets from 5 to 7, & to give 10 limited tickets for 25c., the vote being a tie. It was decided that the Co. should carry firemen free. An amendment that it should carry all school children for 5c. for the round trip was lost. The hours of labour for employees were fixed at 60 a week, and wages at 15c. an hour for regular work & the same for overtime.

Lanark County. The ratepayers of Perth have defeated the Lanark County Electric Ry. bonus by-law. A scheme is now on foot to build an electric road from Carleton Place to Lanark.

London. The earnings for July were \$10,659.50, against \$10,617.50 a year ago. The small increase is attributed to the fact that there was one more working day last year compared with this year, & a couple of circuits which will figure in the August earnings this year. The earnings for the first 7 months this year were \$57,265.75, against \$53,577.28 for the corresponding period.



TORONTO RAILWAY CHAMBERS.

The City Council will proceed against the St. Ry. Co. to restrain it from permitting advertising in its cars.

St. Catharines & Niagara Central. This steam line, which has been in trouble for some time (see July issue, pg. 118) has been sold to Haines Bros., of New York, who, it is said, make a business of buying up bankrupt railways, putting them in first-class running shape, & then operating them. It is the intention to operate the road by electricity. Good coaches will be put on, & the trip from Niagara Falls to St. Catharines made in 40 minutes. Various changes to the road-bed itself will be made. The trestle work at Merritt & Thorold will be done away with, & the road run on the ground, the motor cars being able to overcome grades which steam cars could not do. The G.T.R. at Merritt will be crossed on the level by means of interlocking switches. The plans include the extension of the road to Port Dalhousie.

The Niagara Falls Park & River Ry. has commenced to supply power to the new corollary works.

The Oshawa Electric Ry. will likely be extended to the suburb of Cedarville.

The Co. is building a siding to J. O. Guy &

Co.'s elevator, which is being supplied with power for its machinery by the Co.

Ottawa St.—This Co., which has been having trouble with its employees on account of hours & wages, has decided to pay 15 c. an hour to employees of 3 years' standing, 14 c. to employees of 2 years' standing & 14 c. for those of less than 2 years' standing. This it is thought will prevent a strike, as it meets the demand of 80 out of 136 motormen & conductors. Spare men will be allowed 13 c. an hour, but the Co. will not recognize the Union. In this settlement both sides made compromise that enabled the employees to come out of the negotiations with a considerable gain, their day having been reduced an hour without any corresponding reduction in wages.

It is expected the Co. will extend its line from Rockliffe Park to the rifle range next year, the Dominion Government having promised to furnish free old steel rails taken up from the Intercolonial Ry.

The suburb of Britannia wants the Ottawa Co.'s lines extended to that place.

The Peterboro & Ashburnham St. Ry. & all property thereto belonging, including the franchise, was sold at sheriff's sale, Sep. 12, at the suit of James White, to Messrs. Hazlitt, Bradburn & Stevenson & the Walsh Estate, for \$20,000. These parties are members of the present Co., & hold a judgment against the Co. for \$50,000. The cars are now being operated.

St. Catharines, Merritt & Thorold. A change has taken place in the ownership of this line. Heretofore the stock was all held by G. Dawson, St. Catharines, & G. Symmes, Niagara Falls. Mr. Symmes has sold out to Mr. Dawson. H. C. Symmes, who has managed the road, will retire Oct. 1. The extension of the line to Port Dalhousie is talked of.

Sarnia. At the annual meeting, Aug. 24, the following were elected: President, J. S. Symington; Vice-President, S. A. Macvicar; other directors, J. Flintoff, J. H. Jones, J. Cowan, F. Smith; Secretary & Manager, H. W. Mills. It is said the statement of affairs submitted was very satisfactory.

Thamesville to Rondeau. An electric line from Thamesville, via Morpeth & Ridgeway, to Rondeau Park is talked of.

Toronto Ry.—The gross earnings of this Co. are as follows:—

	1911	1910	Increase
Jan.	\$7,141.41	\$80,210.20	\$73,068.79
Feb.	69,744.61	82,077.67	12,333.06
Mar.	78,801.45	78,888.33	86.88
April	73,759.38	86,868.83	13,109.45
May	82,401.51	92,070.35	9,668.84
June	91,035.41	94,119.32	3,083.91
July	105,381.04	91,035.41	14,345.63
Aug.	93,224.33	110,300.54	17,076.21

Upon the total receipts for August the Co. pays 10% to the city. Under the agreement the Co. pays \$100,000 on amounts up to \$1,000,000, & 10% on the next \$500,000. The million dollar mark was passed in July. Last year the receipts reached about \$20,000 in excess of \$1,000,000. The fiscal year between the Co. & the City closes Aug. 31.

The Co. has declared a dividend of 1% for the quarter ended Sep. 30, payable Oct. 1.

The Co. carried 1,879,298 passengers from Aug. 29 to Sep. 10, not counting transfers. These were the 2 exhibition weeks; the receipts were \$10,000.

The Co. has had difficulties arising out of a judgment by Judge Ferguson on the dispute between it & the City as to what constitutes the "turn-outs," which are excluded by the Co.'s agreement from the track allowance of \$1,000 on single track & \$1,600 on double track, paid

by the Co. to the City. The Judge ruled in favor of the City's contention as to the nature of a turn-out & against the Co.'s contention that turning and connecting tracks & street intersections constitute turn-outs. Certain other questions of counter-claims were decided in favor of the Co.

The Co.'s assessment appeal against \$79,000 for its poles & wires in Ward 2 has been adjourned sine die. It is before 3 county court judges. So far evidence as to value has been given by Mr. Kynock & E. Mackenzie for the Co., & by Mr. Van de Mark, electrical engineer, Detroit, for the City. The latter said that more than 50 large U.S. cities use girder rails, thus enhancing their value, while the other witnesses rather limited their value as scrap-iron. The pivotal point in this test trial is the value of rails, poles & wires per se, not their value as contributing to the working of the road.

Laidlaw, Kappelle & Bicknell, solicitors for the T. Ry. Co., have taken proceedings to restrain F. G. Lear & E. A. Macdonald from publishing, exhibiting, or making use of letters, &c., alleged to have been abstracted by Lear while in plaintiffs' employ as stenographer. It is said the matter which it is sought to enjoin consists of copies of letters dictated by W. Laidlaw to be sent to his partner, G. Kappelle, some of which were not even sent. It is alleged that when Lear left plaintiffs' employ he took the shorthand note books away with him & subsequently divulged their contents to Macdonald. Plaintiffs have obtained an injunction, which is being appealed against.

The City Council has petitioned the Provincial Government to appoint a commission to investigate the charges of irregularities in connection with the granting of the street railway franchise, provided the evidence forthcoming warrants such a step.

The illustration on page 193 shows the office building recently erected by the Co. at the corner of King & Church Streets.

Toronto Suburban.—The troubles between this Co. & the village of Weston were explained in our Aug. issue, pg. 166. In addition to stopping its cars at the eastern boundary, before entering the village, the Co. has ceased supplying power to light the village streets.

Brockville.—The Brockville Times says: "There is no reason why an electric railway connecting Brockville with the summer resorts up the river & with Prescott below should not pay. The local traffic on such a railway would be large & a great many tourists would travel over the line if it were properly advertised. There is no doubt that such a railway would bring many customers to the merchants of Brockville. Light freight cars as well as passenger cars could run over it, & farmers could thus send their produce cheaply & conveniently to town."

The Hull & Aylmer Co. has given notice of application to the Dominion Parliament for a charter for a bridge between Hull & Ottawa, to enable it to get into Ottawa. A vigorous lobby defeated its bill last session.

The Metropolitan Co. is anxious to engage in electric lighting & is seeking franchises from the municipalities along its railway.

Province of Quebec.

Montreal Island Belt Line.—A special general meeting of shareholders was held recently to divide the undertaking into sections as authorized last season; to authorize the directors to withdraw & cancel the existing bond issue; to authorize a new issue, & after providing for the old issue to dispose of the balance as may be deemed necessary. The proposed bonds will be secured by the execution of a mortgage deed upon the whole of the property, assets, rents & revenues of the Co.

Montreal Park & Island.—This line will be sold by the Sheriff Sept. 22. The Co. has during the past summer had some cars on the Carterville route, which ran at the rate of 45 miles an hour.

The difficulties between the Co. & the municipality of St. Louis have come to a crisis. In the action taken by the municipality to annul its contract with the Co., Judge Charland rendered an interlocutory judgment ordering the Co. to comply with the terms of the contract as interpreted by the municipality within 2 months. That judgment was taken to the Court of Appeal & to the Privy Council, but without success. Consequently, counsel for the municipality moved, on Sept. 12, for final judgment. That motion was opposed on the ground of irregularity, & the case was taken en delibere. Meanwhile the municipality has been served with an intervention on the part of D. Morrice & A. Thibadeau in their quality of trustees for mortgage bondholders. In the event of the intervention being set aside, & the opposition to the motion for judgment being dismissed, the regular course will be for the Co. to be called to show if the interlocutory judgment has been complied with. It is stated in this connection that tickets at reduced rates have recently been issued by the Co.

Montreal Street.—The gross earnings are as follows:—

	1897.	1896.	Increase.
Oct.	\$116,292.09	\$109,110.38	\$7,182.71
Nov.	110,929.60	100,818.57	10,111.03
Dec.	113,128.91	103,116.02	10,012.89
	1898.	1897.	
Jan.	110,140.83	89,620.55	10,520.28
Feb.	102,625.49	89,951.68	12,673.81
Mar.	114,677.91	99,441.87	15,236.04
April	110,819.37	103,045.93	7,773.44
May	123,508.09	116,337.03	7,171.06
June	133,164.61	130,676.78	2,487.83
July	129,245.92	143,986.62	14,740.70
Aug.	143,801.19	131,431.77	12,369.42
	\$1,308,535.01	\$1,227,537.20	\$110,279.21

The Co. has extended its line along Berri St. to Bonsecours Market & along Amherst & Berri to the wharf.

On Sept. 16 one of the Co's storage sheds in the centre of its yard at Hochelaga was burned, together with the contents, consisting of 60 cars of the winter equipment & 7 sweepers. The loss is estimated at from \$150,000 to \$200,000. Insurance \$90,000.

Sherbrooke.—R. R. Smith, of Worcester, Mass., has been appointed Manager, succeeding L. E. Whitehead, resigned.

Electric Railway Items.

The Halifax, N.S., Tramway Co. has declared its 7th quarterly dividend at the rate of 6% per year, payable Oct. 1.

J. D. Fraser, of Ottawa, Ont., has been elected a member of the Executive Committee of the Street Railway Association of America.

It is stated in Montreal that Jas. Ross has succeeded at last in his Birmingham St. Ry. negotiations, and that the line will be converted into an electric tramway without delay.

Electric railways in Canada have shown a wonderful development during the past few years. On Jan. 1 last there were 35 electric railways in operation, with a total mileage of 583. The number of passengers carried in 1897 was \$3,800,000 as compared with 16,170,000 by the steam railways on their mileage of 13,000. The paid-up capital of the electric railways in Canada is \$18,700,000.

Trolley car competition has injured the New York Central's regular & excursion traffic to near-by points, particularly Niagara Falls, Lewiston & Lockport, & to counteract the popular feeling for trolley rides the Passenger Department has announced a reduction in rates to the points named of about 50%. The Central is now selling round trip tickets from Buffalo to Niagara Falls for 50c., to Suspension Bridge, 60c., & to Lewiston & Lockport, 75c.

TELEGRAPHS & CABLES.

Pacific Cable Matters.

A Sydney, N.S.W., dispatch dated Aug. 22 announced that the premiers of Queensland, New South Wales & Victoria had met in conference & discussed plans for a Pacific cable, & decided to make the definite offer that if Great Britain & Canada together would guarantee five-ninths of the cost of laying the new cable, they would recommend to their respective Legislatures to contribute one-ninth each, asking New Zealand to contribute the remaining one-ninth.

A committee of the New Zealand Legislature has reported in favor of adopting the above-mentioned proposal, that colony to contribute one-ninth of the cost. The committee also recommends that Canada be trusted with the construction, administration & maintenance of the cable, on the understanding that the contributing colonies are to be entitled to representation & votes on matters of policy of the management, & that the cable is to be jointly owned & controlled by the contributors.

In the Imperial House of Commons last month Mr. Provand asked the Secretary for the Colonies whether he could inform the House of the present position of the negotiations relating to the proposed cable from British Columbia to the Australian Colonies. Mr. Chamberlain, in reply, said: "We have no proposals from Canada or from South Australia & New Zealand. The premiers of the remaining 4 Australasian colonies have joined in a resolution that their Colonies will favorably consider the proposal for a Pacific cable, provided that Canada & the United Kingdom will each contribute 1/2 of the cost. Until we have formal & definite proposals from all the Governments concerned, Her Majesty's Government cannot proceed further in the matter."

R. Bafort, writing to the London, Eng., Times, says:—"The problem of the protection of British interests in the Far East, menaced by astute, unscrupulous rivals, is daily becoming more urgent. Will you allow me to point out that an important factor in this problem is the projected all-British Pacific cable, the immediate establishment of which has become imperative? Both Imperial & Colonial interests demand it. Canada & Australasia are willing to participate with Britain in its cost. It would liberate Colonial cablers from the present crushing cable corner. A cablegram from Vancouver to Melbourne has to tour the world, costs over 6s. a word, & is often subject to disastrous & exasperating delays. By the direct Pacific cable it would cost 2s. a word & arrive within the hour. Until this alternative cable is laid, our Australian Colonists will frequently be compelled to depend on the shaky Siberian land-lines for telegraphic communications with the Mother Country. Those lines are controlled by Russia. Naval & military experts assert that our foreign-controlled cables would certainly be cut by our enemies during any crisis. This might imperil the very existence of outlying portions of the Empire. Britain thus needs a strategic cable system free from foreign control. Commerce needs a system free from the deadly grasp of the monopolists. If the Pacific route existed, the cabling public would save nearly £225,000 a year. In 8 years this sum would pay for the new cable. The project is perfectly practicable from the electrical, engineering & financial standpoints. The control of Pacific cable communication should by right devolve on the British pioneers & principal constructors of the world's sub-marine cable system. To allow another nation to forestall us by executing this great work would constitute a most humiliating abdication of our recognized position as lords of the ocean depths. Finally, by a mutual effort, Britain, Canada & Australia can

establish this communication without the slightest cost to their taxpayers. Under these circumstances, would not the Imperial Government be quite justified in taking the initiative in this project, which is generally considered to be ripe for execution? Recent official declarations on the part of Australasian Premiers prove beyond doubt that such action would meet with a cordial response from the Colonies concerned."

A New York dispatch of Sep. 2 said: "At a meeting of directors of the Pacific Cable Co., held at the office of the J. P. Morgan Co., Sep. 1, plans were considered for the establishing of cable communication with the Philippines, the Asiatic Coast, Japan & Australasia, via Hawaii. Surveys for the duplicate cable, via Sitka & Aleutian Islands, were ordered. J. A. Scrymser, President of the Pacific Cable Co., will sail from Vancouver for Japan Sep. 12."

A San Francisco dispatch of Sep. 10 said: "Arrangements have been made for the construction of a cable between San Francisco & Honolulu & from there to Yokohama. There will be a monopoly between the two latter points."

Canadian Pacific Telegraphs.

The copper wire from Montreal to Vancouver was completed September 16, & is now being worked as a direct circuit right through, doing away with all intermediate repeating, & enabling the Co. to render very fast work. Business can now be handled between Toronto, Vancouver, Victoria, Rossland, Nelson, and other far Western points almost as quickly as between Toronto, New York & Montreal.

This new line was very fully described in our May issue, pg. 82. The actual distance covered is about 2,900 miles, constituting probably the longest direct land line circuit for daily work in the world. To pass across this immense distance signals only occupy one-fifth of a second. Canada now only needs the Pacific cable to make her telegraphic communication one of the foremost in the world. Speaking on this subject, a few days ago, Lord Brassey said: "I have no recent advice with respect to the cable. I may say that the Australian colonies are anxious to improve their postal & telegraphic communications, & are not unprepared to contribute."

The telegraph line along the Crow's Nest Pass Ry. has been completed from Lethbridge, Alta., to Cranbrook, B.C., & from Nelson, B.C., to Kuskanook, B.C., leaving a gap of 75 miles, which will be finished this month.

In announcing the close of the recent international yacht races, between the Challenger & the Dominion on Lake St. Louis, the daily papers, commenting upon the efficient service rendered by the Co. by which bulletins were minutely received, highly complimented Superintendent Kent for the admirable telegraph arrangements which enabled them to give each incident as it became visible, so that those who read the bulletins had the news almost at the instant it happened. The operators, H. Goddu & Mr. Richardson, at Dorval & Beaconsfield, were in full view of the events described.

A circular recently issued by Local Manager Christie, in Victoria, B.C., says:—"We recently completed the laying of a splendid new 3-conductor cable, which connects Departure Bay with English Bay near Vancouver. From Victoria or Departure Bay our wires run along the E. & N. Ry., & from English Bay to the Vancouver office along one of the city streets. This makes the main artery of communication with the outside world very secure from interruptions. We are now at work rebuilding the line between Victoria & Departure Bay & stringing an additional wire, which gives us 3 wires to Vancouver direct. To the U.S. side we have recently laid a cable, which gives us, via Port Angeles, direct

connection with Port Townsend, Seattle & way offices. The Victoria office is equipped with a set of quadruplex apparatus (by which 2 messages may be sent & 2 received on 1 wire, simultaneously), 2 duplexes ($\frac{1}{2}$ a quadruplex), & several sets of single apparatus. We have a large & competent staff of operators, clerks & messengers. Vancouver office, our main point of distribution, has 5 wires to the East, & with the completion of the new copper wire, now in course of construction, will have 6. Vancouver has 1 duplex working direct to Montreal, 2 duplexes to Winnipeg, local wires direct to Kamloops, Donald & Rossland, a quadruplex to Portland, $\frac{1}{2}$ of which is used to San Francisco direct, & a duplex & single wire to Seattle. From San Francisco to the East we have 2 duplexed copper wires."

The telegraph line from Winnipeg to Portage la Prairie to connect with the Lake Manitoba Ry. & Canal Co.'s line to Dauphin was completed Aug. 28, & messages to the Dauphin line are now sent direct from Winnipeg, in connection with the C.P.R. Telegraphs.

Telegraphic Advertising.

When the Western Union Telegraph Co. & the Postal Telegraph & Cable Co. see fit to place a considerable sum of money annually in advertising, there seems to be some hidden reason that is unseen by the public even after a close scrutiny.

It is easy to think one sees absolutely no reason for these competitive monopolies advertising. Of course through these agencies millions of telegraph blanks that are headed with printed matter, setting forth the number of offices reached by wire, are strewn among the American people. Boys in every city, wearing uniforms, advertise in a local way. The blue & white signs at every small railway station recall to the traveller that he is yet in communication with home folks.

In all the telegraph & electrical journals will be found full-page advertisements of both the Western Union & Postal Telegraph Companies. The Baltimore & Ohio Telegraph Co. & the old Mutual Union, as well as other small companies & organizations that have sprung up, & eventually been taken in by the greater ones, without exception tried the advertising medium of rate cutting, but it never paid. The Postal Co. is a living example of the fruits of advertising. It is now the greatest competitor the Western Union ever had, but it does not deem it wise to discontinue advertising, & besides the electrical magazine advertisements, from time to time printed slips are enclosed with every telegram sent out, calling attention to the service of the company.

It may well be said that this is but the result of competition or rivalry, for there are but two competitors of any consequence in the telegraph field. Aye, 'tis true. But is not advertising in itself the outgrowth of rivalry & competition in every business? When great monopolies see it necessary to advertise, & do advertise, rest assured there is something in it.—W. Fogarty, in Profitable Advertising.

Western Union Lines in Canada.

The Western Union Telegraph Co. has about 3,000 miles of pole line, 8,000 miles of wire, & 213 offices in the Maritime Provinces. The Co. covers the whole of Nova Scotia & New Brunswick, with the exception of the portion of the latter province situated on the I.C.R. west of Moncton, which is served by the Great Northwestern Co. The W.U. handles the land business of all the Atlantic cables, except those of the Commercial Cable Co. The affairs of the Co. in the Maritime Province are managed by D. C. Dawson, who is Superintendent at St. John, N.B.

Between St. John, N.B., & North Sydney, N.S., 430 miles, the Co. had 250 miles no. 9 B. & S. gauge copper line & has this year built 180 miles more, completing the entire distance, so as to be better equipped for the heavy cable traffic. The Co. is reconstructing its pole line between Fredericton Jct. & St. John, along the C.P.R. right of way, & also between Moncton & Sussex, N.B., on the I.C.R. This work will be completed this season.

It is expected the W.U. line from Woolley, Wash., via Fairhaven, Blain & New Westminster, will be completed to Vancouver & offices opened for business at Vancouver & New Westminster early in October. It is said the Co. will extend its Vancouver Island lines from Victoria to some point on the northeast coast of the Island, with a view to catch Alaska & Klondike business.

A Representative Canadian Telegrapher.

G. F. Macdonald, of Ottawa, Ont., who was recently elected Vice-President of the International Association of Fire Alarm & Police Telegraph Superintendents, was born in Bytown, now called Ottawa, in 1848, & is therefore a Canadian by birth, & of the old Highland stock. He entered the service of the Montreal Telegraph Co. on May 1, 1863, 35 years ago, & continued in the service until 1874, when the city saw the necessity of a fire alarm system. Mr. Macdonald built the system & has remained at the head of it ever since. He still takes a great interest in commercial telegraphy & holds the position of Secretary to the Fire & Lighting Department of the City of Ottawa. He also represents the underwriters for safe wiring in Eastern Ontario. When he entered the telegraph service the paper & register ruled supreme. He conveyed to the citizens of Ottawa the sad news of the death of President Lincoln, & heard Professor Morse's last message: "Peace on earth, good will toward men." Mr. Macdonald is one of the most companionable of men. At the recent Elmira meeting of the Fire Alarm & Police Telegraph Superintendents, he was one of the active spirits, & his gentlemanly traits of character secured him the friendship of every delegate present.—Telegraph Age.

Alaska Telegraph & Telephone Co.

The Electrical World says: "The Alaska Telegraph & Telephone Co., which was incorporated under the laws of California in July, 1897, by San Francisco capitalists, has, after overcoming much opposition, secured a franchise. The Canadian Government grants the Co. the right to construct & operate telegraph & telephone lines in Canadian territory over the Chilkoot Pass, running along the lakes & up the Lewis & the Yukon Rivers to Dawson City. The line will start from Juneau & extend to Dyea, thence in a northerly direction over the Chilkoot Pass. After following the line of the rivers to Dawson, it will be continued as far as Circle City, which will be the terminus. The total length of the line & branches is estimated at 1,000 miles. Construction will be commenced very soon, & the line rapidly pushed to completion. The Canadian Government is to have free use of the line. T. Reichert, formerly Surveyor General of California, is President, & J. F. Fassett, Secretary." Up to the time of going to press we have been unable to verify the foregoing.

Telegraph Office Changes.

Opened: Avonmore, Ont.; South Finch, Ont.; Kiskisink, Que.

Closed: Caledonia Springs, Ont.; Grimsby Park, Ont.; Hudson, Que.

EXPRESS.

The Arctic Express Company.

Details of the registration of this Co. in British Columbia, as an extra provincial company, were given in our Aug. issue, pg. 148. It may be added that the directors are Judge Struve, J. R. Winston & H. J. Ramsay, of Seattle, Wash.; & F. M. Rattenbury, & A. S. Potts, of Victoria, B.C., Mr. Rattenbury being the Manager. It is said a considerable amount of the Co.'s stock has been sold in B.C., at the par value of \$1 a share.

The Co. is, says the Vancouver World, doing a series of strong log hotels every 30 miles from Skagway to Dawson City, Yukon, & provisioning & equipping these with a large quantity of goods. Provisions & goods have been forwarded & are being distributed by the steamers. When completed a man can travel in & out of Dawson in comparative ease. Apart from these hotels, a man coming out of Dawson last year, & this year also, must buy his provisions, feed for dogs, tents, stoves, blankets, etc., & buy a costly team of dogs to haul them out again, pitching camp each night after his long walk, hunt for firewood, feed his dogs, all with infinite labor, & at an enormous cost, never less than \$1,000, & ranging from that price to \$1,800, according to the scarcity of dogs in Dawson. Not many can afford to travel this way, & none will ever dream of undergoing the cost & fatigue this year when the new posts are established, as a man can leave Dawson with nothing but what he stands up in. The charge has been fixed for the through accommodation at \$250, & whilst this sum will afford a good profit to the Co., it will also be infinitely cheaper than any other means of communication.

The Co. has secured a contract for carrying in the U.S. mail for 4 years. This will bring an annual revenue of \$80,000 for a fortnightly mail. It is expected the Canadian mail contract will also be secured. Express & newspaper service to the Klondike will also be carried on.

Following are the Co.'s express rates from Victoria, B.C., value being limited to \$25:

SUMMER RATES, MAY 15 TO SEPT. 15.

	To Dawson City.	To Circle City & Weare.
1 to 5 lbs..	\$1.00	\$1.50 a lb.
5 to 10 lbs..	.75	1.00 "
10 to 100 lbs..	.50	.75 "

WINTER RATES, SEPT. 15 TO MAY 15.

To Bennett & intermediate points, \$ 1.50 a lb.	
To Dawson City "	5.00 "
To Circle City "	10.00 "
To Weare "	15.00 "

When a shipment exceeds \$25 in value 5 additional is charged.

MONEY & VALUABLES.

To Bennett & intermediate points	1½%
To Dawson City	2%

Death of Gilman Cheney.

Gilman Cheney, Vice-President of the Canadian Express Co., died in Montreal Sept. 14, leaving a widow and a son. He was born at Hillsborough, N.H., in 1822. At the age of 17 he was apprenticed to one of the large cotton manufacturing companies of Manchester, N.H., where he remained until 1849, the year of the Californian gold excitement, when he joined the rush to the Pacific Coast. Two years of digging for fortune in the California sands gave him all the experience of that kind of life he desired, & he came home in 1852, subsequently coming to Canada as a representative of Rice & Co., express forwarding agents. This company was afterwards known as the British American Express Co., & later became the Canadian Express Co. In 1880 Mr. Cheney became its President, succeeding his father, B. P. Cheney, who was the

first President. In 1892 Mr. Cheney became a member of the Board of Trade, & until his recent illness was one of the best known figures in Montreal business circles. He was prominently associated with the Merchants' Cotton Co., of which he was at one time President. He took an active interest in benevolent institutions, & besides being a director of the Board of the Montreal General Hospital, was the principal founder of the Sailors' Institute.

The Dominion Express Co. has opened an office at Edmonton, Alta., which is situated on the north side of the North Saskatchewan River. The office on the south side of the river is at the terminus of the Calgary & Edmonton Ry., at South Edmonton.

The Dominion Express Co. has opened a route on the C.P.R. Crow's Nest Branch, between McLeod, Alberta, & Cranbrook, B.C., & has established agencies at Pincher Creek, Alta.; Bull Head, Cranbrook, Fernie & Wardner, B.C. It has also extended its route on the Montreal & Ottawa section of the C.P.R., between Plantagenet & Ottawa, Ont.

Henry Sanford, Vice-President of the Adams Express Co. was recently married in New York to Mrs. Olive Burchard, widow of Dr. T. H. Burchard, & daughter of S. Wilmot, of Newcastle, Ont., ex-Dominion Commissioner of Fisheries. Mr. Sanford, who is aged 68, has been a widower for many years, & Mrs. Burchard, who is about 35, was a friend of his daughter & made frequent visits to his home in Bright, Conn. Mr. Sanford became strongly attached to her, & after her husband's death he became a frequent visitor at the Buckingham, where Mrs. Burchard made her home when in New York.

TELEPHONES.

The Bell Telephone Company.

The protest of the Co. against being taxed for areas in Toronto may result favorably to the Co., the City Solicitor having advised that the Co. entered into an agreement with the city by which it is exempted from payment of charges for area space.

It is said the Co. has decided to establish a long-distance service in Manitoba, & that the line mentioned in our Aug. issue, pg. 168, as having been started from Carberry to Neepawa, is the first step in the work. When the whole service is finished it is expected there will be communication between Winnipeg, Portage la Prairie, Neepawa, Minnedosa, Rapid City, Brandon, Carberry, Souris, Boissevain & Morden. The Co. already has a line between Winnipeg & Selkirk, 24 miles, & another between Winnipeg & Stony Mountain, 13 miles.

In Oct., 1892, the Co. secured a franchise in Brantford, for 5 years, at \$450 a year. This has not been renewed, & negotiations are still pending between the Co. & the city. In referring to the matter the Brantford Courier says: "As far as Brantford is concerned the People's Company could come here to-morrow and stand an equal chance with the Bell in securing the franchise. How far it is in the interest of business men & private houses to have a duplicate telephone service is a moot question. However, one thing is sure. The day has gone by when municipalities are going to be paid any substantial sum by the Bell people for an exclusive franchise."

The Co. recently offered the city corporation of London, Ont., \$1,000 a year for a 5 years' exclusive franchise. This would be simply a renewal of the franchise heretofore held. The Co. has reduced the rate for house service unlimited to \$20 a year; druggists & doctors, \$25 a year; business telephones remaining at the old rate of \$40. The People's Telephone Co. of London, which recently ob-

tained a 15 years' franchise from the city, is trying to get its capital stock taken up there. So far no work appears to have been done towards establishing an exchange. This Co. proposes to charge \$12 for house telephones, limited service, & \$26 for business service, with a 2c. call rate.

In a recent interview the Manager of the Ontario Department of the Co., speaking of the city of Hamilton, said: "It is very doubtful if the Co. will ask for a renewal of its exclusive franchise in 1902, when our present franchise expires. The strong probability is that the Bell Co. will not seek for exclusive franchises in any Canadian town in the future. Its position is so impregnable that there is not the slightest danger of any permanent injury to its business by the competition of rival companies. Such competition can only be temporary, spasmodic & isolated, & cannot possibly succeed. Then why should the Bell Co. trouble itself to secure exclusive franchises?"

Telephone Items.

The ratepayers of Neepawa, Man., have voted a bonus of \$6,000 for a new telephone system.

The Citizens' Telephone & Light Co., Rat Portage, Ont., has ordered a 2,000 light single pole alternator.

The White Pass & Yukon Ry. is about to install a telephone system along its completed section, starting at Skagway.

Notice is given of application for incorporation of B. A. Scott & others, of Roberval, Que., as the Roberval Telephone Co., with \$10,000 capital.

It is reported that a telephone company will be formed at Gore Bay, Ont., to connect with Meldrum Bay, Silver Water & Evansville. The distance is about 58 miles.

The telephone line between Carberry & Neepawa, Man., referred to in our Aug. issue, pg. 168, was built by W. M. Boyd, of Carberry, who is now managing the line.

The New Westminster & Burrard Inlet Telephone Co. has completed its Boundary Creek line as far as Greenwood Camp, B.C., giving through connection to Spokane, Wash. The Co. expects to have the line completed to Greenwood City this month.

The Dominion Government has recently laid down the Pelee Island telephone cable out to the Dummy Light, Point Pelee, & put a telephone instrument in the Dummy itself. By this action, vessels may, at a moment's notice, wire intelligence of any casualty which may occur, or of the passing of any special steamer, boat, raft, etc. The Pelee cable, as now laid, extends to the east side of Pelee Island in a straight line, to a point about a mile south of Pelee Island Light. It is also south of the "middle ground" & all reefs in the north channel. From its landing on Pelee Island, the line extends to the life-saving station at the south end of Pelee Island, & the life-boat can be launched in a few minutes at any hour of the 24.

It is said the Spokane Falls & B.C. Telephone Co. is to have a rival. The Inland Telephone Co., it seems, has endeavored to purchase the line between Rossland, B.C., & Spokane, Wash., & failing in this, now threatens to parallel the existing line. Ex-Governor Bell, of Nevada, in a recent interview at Spokane, said: "It is the intention of the Co. to extend the lines wherever business may be found in this section to justify it. We have poles here & at Loon Lake for the line to Rossland & Republic, & will have 2, perhaps 3, gangs of 25 to 30 men in the field this week. The lines should be in working order in 40 days if our plans do not miscarry. We branch off from Meyers' Falls or Kettle Falls to Eureka & from thence will probably extend to Conconully."

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For doors, etc., 23 x 3½ inches, blue letters and border on white ground, carried in stock with following lettering.

Waiting Room	Ladies' Toilet	Private Office	Dining Room
General Waiting Room	Men's Toilet	Freight Office	Lunch Room
Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

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Railway numbers for bridges, mile posts, signal houses, etc.; single figures on plates 8½ in. high.

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Agents for the Imperial Enamel Co. of Birmingham,
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BRANCH OFFICES—197 Lombard Street, Winnipeg—S. A. Erskine, Resident Agent;
28 Broad Street, Victoria, B.C., D. H. Macdowall, Resident Agent.

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Always Stamped “Lisango,” and
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VOL. I. No. 8.

TORONTO, CANADA, OCTOBER, 1898.

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The Westinghouse Manufacturing Co., Limited
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GALENA OILS are the Standard Lubricating Oils of the World.

GALENA OILS are used on nineteen-twentieths or ninety-five per cent. of the total railway mileage of the United States, Canada and Mexico, and their use is being carefully considered by the leading railway managers of Europe.

GALENA OILS run the fastest trains of the world, and delays are unknown, except when due to mechanical defects, or other well known causes over which the oil has no influence.

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COTTON WASTE—All Grades.

Write for Catalogue.

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 and...
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THE Railway and Shipping World

Devoted to Steam & Electric Railway, Shipping, Express, Telegraph & Telephone Interests.

VOL. I., No. 8.

TORONTO, CANADA, OCTOBER, 1898.

\$1 A YEAR.

The C.P.R.'s Vice-President.

Thomas G. Shaughnessy, an excellent portrait of whom is given on this page, was born in Milwaukee, Wis., of Irish parentage, Oct. 6, 1853. He started in the railway service in the purchasing department of the Chicago, Milwaukee & St. Paul Ry. in 1869, subsequently becoming General Storekeeper of the line, a position he held when W. C. Van Horne left the Co.'s service in 1881 to become General Manager of the C.P.R. In 1882 Mr. Van Horne selected him as General Purchasing Agent of the C.P.R., with headquarters at Montreal. After occupying that position for some two years he became Assistant to the General Manager, & then in succession Assistant General Manager, Assistant President, & then a director & Vice-President. He is also director of a number of other companies in which the C.P.R. has interests.

In religious belief Mr. Shaughnessy is a Roman Catholic. He resides at 1149 Dorchester St., Montreal, & has as a summer residence at St. Patrick, Que., the house similarly occupied for so many years by Sir John Macdonald. He is a member of all the chief clubs in Canada.

A biographer has pertinently remarked of Mr. Shaughnessy:—"From the first day of his life as a railway man, there was no doubt in the minds of those who knew him that he would be a success. The qualities of his mind are thoroughly modern, & fit exactly the service of this greatest branch of modern public service. Ardent & untiring, he has the ability to do much work, & his shrewd common sense & prodigious memory enable him to guide that work to the very best advantage."

Manitoba & N. W. R.

In our July issue, pg. 126, we mentioned that the bonds of this Co. had been secured by a syndicate headed by E. B. Osler, M.P., Toronto, & gave a good many particulars about the line, its financial statistics, earnings, &c. In September we were enabled to state (pg. 178) that W. Hendrie, of Hamilton, was also a member of the syndicate, & that in addition to the bonds, the interests of the Allan family, of Montreal, had also been secured by the syndicate, giving them possession of the road. As we then foreshadowed, H. M. Allan, of Montreal, who was one of the receivers, has retired, & Mr. Osler's partner, A. M. Nanton, of Winnipeg, who was the other, has been appointed sole receiver. The old board, headed by A. Allan, President, & H. M. Allan, Vice-President, has retired, being succeeded by the following:—President, E. B. Osler; Vice-President, W. Hendrie; other directors, H. C. Hammond, R. A. Smith, W. D. Matthews, A. R. Creelman, Q.C., F. G. Osler, & G. C. Loveys. Messrs. Osler & Matthews are both C. P. R.

directors. Messrs. Hammond & Smith are members of the firm of Osler & Hammond, Mr. Creelman is a partner of Mr. Osler's brother, B. B. Mr. Loveys is the accountant of the McCarthy, Osler & Creelman firm, & F. G. Osler is E. B.'s son, & is in his office.

It is said that Mr. Osler & his friends have been quietly picking up the bonds of the M. & N. W. for several years past. In Jan. last, probably fearing that the Northern Pacific or some other line might step in ahead of them & secure control, they made an offer through Coates, Son & Co., of London, Eng. to pay 86 per cent. for each £100 certificate, on condition that they secured a clear majority of the bonds. Coates, Son & Co. did not

property, which, we understand, was considerably exaggerated. We are officially informed that all the Co. intends to do this year is to make some very necessary repairs to the road-bed & to some bridges, including the placing of the bridge across the Assiniboine River at Millwood on a permanent foundation. This latter, however, may not be done before next spring. A couple of stalls will be added to the roundhouse at Minnedosa & the same at Portage la Prairie, & small stations will be built at Macdonald & Franklin. Thirty stock cars of the most modern pattern are to be added to the equipment.

We still adhere to the opinion expressed in our July issue, that this line will ultimately be either sold or leased to the C.P.R. & operated as a branch of that system. Certainly with Messrs. Osler & Matthews on the M. & N. W. board, the line is not likely to fall into anti-C.P.R. hands.

A meeting of the Winnipeg creditors of the Co. was held there recently, at which E. B. Osler was present & stated that there was a large sum due to H. M. Allan for working expenses, & that a considerable amount would be required for putting the road in proper repair, etc., which he claimed should be charged to working expenses. The result would be that the amount of money available in the Receiver's hands would only pay a comparatively small amount upon the creditor's claims. H. M. Allan, he stated, was selling out his claim for some 40c. on the dollar. The purchasers of the road were anxious to treat the local creditors in a much more liberal manner than outsiders, & as soon as the proposed act of the Dominion Parliament, which would be applied for next session, was granted to the purchasers to take over and consolidate all the interests in the property, the Receiver would pay the Winnipeg creditors the par amount of their claims without interest. This offer was unanimously accepted by the creditors present.

Rhodes, Curry & Co., Amherst, N.S., have an order to build 15 cattle cars for the Quebec & Lake St. John Ry.

A. G. Peden has resigned the auditorship of the Canada Atlantic, which he has held for 15 years, & will retire from railway service. He was with the old St. Lawrence & Ottawa at one time.

The Maritime Board of Trade recently considered the promotion of tourist travel in the Maritime Provinces, the subject being introduced by H. L. Chipman, agent of the Plant Line at Halifax, & adopted a resolution urging local boards to devote attention to the subject by the formation of associations for the purpose of advertising their localities, entertaining visitors, & securing the establishment & improvement of hotel accommodation necessary to keep pace with the increasing travel.



THOMAS G. SHAUGHNESSY.

disclose the names of the persons for whom they were acting, & this, of course, gave rise to all sorts of rumors. The bond-holders promptly accepted the offer, & about £490,000 of bonds out of a total of £540,000 were transferred. Then the Allan family had to be dealt with. They had sunk a very large amount in the road & owned practically all of the Co's capital stock, besides owning the rolling stock, which they held in the name of the Canadian Improvement Co. The Osler syndicate bought these interests out. It is announced that there will be no change in the general policy of the Co., & for the present at least no change in the officials. A despatch from Winnipeg recently announced a very extensive programme for improvements to the

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Sir William to Sir Rivers.

A letter written by Sir Wm. Van Horne to Sir Rivers-Wilson, on the eve of the latter's departure from Canada, after his recent inspection trip, has been made public as follows:

MONTREAL, Sep. 1, 1898.

DEAR SIR RIVERS,—In order to guard against any possible misunderstanding, I beg leave to state in writing our position concerning the questions we have recently discussed. The two main questions between our respective companies are:—

1st. The existing demoralization of transcontinental & local passenger rates.

2nd. The future use of the G.T. line between Toronto & North Bay as a means of connection between the C.P. Co.'s lines in Middle & Southern Ontario & its main line.

The 1st question is of immediate & pressing importance to the G.T. & the C.P. Cos., & to all of the trunk & transcontinental lines as well.

The 2nd question is a domestic matter in which lines other than the G.T. and C.P. are not necessarily interested.

As regards the 1st question, the C.P. was indisputably the party attacked, & while we felt quite justified in our demand that rates & conditions ante bellum should be restored as a condition precedent to a meeting of the lines interested, looking to a new arrangement, we proposed later on that disinterested arbitrators should determine whether the rates & conditions should be restored in whole or in part, or not at all, as a condition precedent to such a meeting. The fairness of this was recognized by your own Co., which assented to it, as did all the other lines interested, save two of your western connections—the Great Northern & the Northern Pacific. So matters stood until, quite recently, a proposition from a disinterested source was made to the lines interested that the transcontinental passenger rates should be restored & the question of differentials to the C.P. submitted to arbitration, & pending such arbitration the C.P. should be allowed $\frac{1}{2}$ the differential it formerly enjoyed. We indicated our willingness to join the other lines in the restoration of rates on these conditions, & we have indicated to you our willingness to agree that as between the C.P. & G.T. all passenger rates should be restored at the same time to the ante bellum basis.

You have emphatically stated that the termination of the North Bay arrangement by the G. T. had no connection with or relating to the transcontinental rate question. Certainly the question of the future use of your North Bay line for our traffic has no relation to the transcontinental rate matter.

Whether or not we shall make use of your North Bay line for our Ontario traffic, instead of using our own longer line as we are now doing, or instead of making a new & shorter line of our own, we cannot permit anybody to determine for us. That is not a proper subject for arbitration. We may or may not be able to agree with you for the use of your line, but there is no reason why negotiations concerning this matter should in any way be complicated with or delay the settlement of the passenger rate difficulty.

Yours truly,

W. C. VAN HORNE, President.

Sir C. Rivers-Wilson, G.C.M.G., President
G. T. R. Co.

Commenting on the above on Oct. 15, when it was made public in England, the Financial Times said the C. P. R. was not so utterly unreasonable in its attitude as would be inferred from words uttered by Sir Rivers-Wilson in his recent speech.

The Financial News expressed the opinion that if Sir Wm. Van Horne refused much longer to arbitrate there would be a grave suspicion that he was swayed more by personal feeling than by real regard for the interests of C. P. R. shareholders.

A London cablegram of Oct. 17 said:—"Sir Rivers-Wilson will not let the C. P. R. side of the case, as set forth in Sir Wm. Van Horne's comments on the rate war, pass unnoticed. He is preparing a lengthy reply. All correspondence relating to the North Shore line & the rate war will be issued late to-night. In the reply it will be denied that the G. T. is responsible for the rate war. The blame is placed on the U. S. roads. The C. P. R. seeking to penalize the G. T. is declared to be neither equitable nor practical. Sir Rivers-Wilson will ask for a restoration of local rates now that the transcontinental difficulty is ended. Further, the G. T. President will offer to submit differences to arbitration, suggesting as the board of arbitration the Joint Traffic Association & ex-Attorney-General Olney of the U. S. to refer all matters in dispute."

Pacific Coast Passenger Rates.

Transcontinental passenger rates were restored by the C.P.R., Sep. 5, to about ante bellum figures, but it would appear that the war is likely to break out again at any moment. The C.P.R. Passenger Traffic Manager stated early in Oct. that the U.S. lines were again cutting rates, & now the Great Northern makes a similar charge against the C.P.R. General Passenger Agent Whitney, of the G.N., has addressed a letter to the Chairman of the Western Central, Trunk Line, East & New England Passenger Associations, charging that the C.P.R. Agent at Dyea, Alaska, had as late as Oct. 1, sold orders on Seattle for tickets from that point to Minneapolis for \$10, the lowest point reached during the war. The letter intimated that the Great Northern might be forced to protect its own interests. It is charged that with this low rate the C.P. secured all the miners returning from Alaska. It is said the Western U.S. lines will attempt to convince the Interstate Commerce Commission that the C.P.R. has not kept its promise to restore & maintain rates. The Great Northern & Northern Pacific may decide to make an open reduction in rates to meet those of the C.P. The Eastern lines & those reaching St. Paul hope the transcontinental rate war, which cost them millions of dollars, will not be renewed.

The C.P.R.'s Passenger Traffic Manager stated on Oct. 19 that he had sent in his reply to the Great Northern's charges to the interested associations. It was to the effect that the accuser was making mountains out of mole hills. The fact of the matter was, he said, that they had not had time to notify their Alaska agent of the restoration of rates. As soon as the news reached Dyea of the present condition of affairs the cause of the complaint would be removed.

The Ontario Rate War.

So far the C.P.R. shows no sign of restoring local rates in Ontario, & the Passenger Traffic Manager has publicly stated that so long, to use his own words, "as the G.T.R. shows a disposition to play into the hands of the U. S. lines, against the interests of the Canadian Northwest, by diverting traffic to the U.S., so long will the present form of punishment for the G.T.R. be maintained." With the restoration of western rates, the C.P. has to compete with the G.T. on even terms, so far as rates are concerned, in the Manitoba & Northwest business. This is something the C.P. has never had to do before, & it is undeniable that upon even terms the G.T., with its U.S. connections, is bound to secure some of the business that has hitherto gone to its rival. One result of the restoration of rates to the west is sure to be that the C.P. will lose some of its business there, & the same will occur in regard to Manitoba travel. Under these circumstances the C.P. is probably anxious to secure from the G.T. a differential on Manitoba business, & it is said in railway circles that it is withholding the restoration of rates in Ontario in order to force the G.T. to come to its terms.

Canadian Ticket Agents' Association.

The annual meeting held at Ottawa, Oct. 12 & 13, was well attended, over the usual average number being present, as well as a large number of travelling representatives of U.S. lines. The following officers were elected: President, W. E. Rispin, Chatham, Ont.; 1st Vice-President, S. O. Perry, St. Thomas, Ont.; 2nd Vice-President, G. Duncan, Quebec; 3rd Vice-President, W. H. C. McKay, St. John, N.B.; Sec.-Treas., E. de la Hooke, London, Ont.; Auditor, S. H. Palmer, St. Thomas, Ont.; Executive Committee, J. A. Macdonald, Arnprior, Ont.; W. H. Harper, Chatham, Ont.; C. E. Morgan, Hamilton, Ont.; T. Long, Port Hope, Ont.; A. Calder, Winnipeg.

It was decided to hold the next meeting at Winnipeg, Oct. 13, 1899. The following presentations were made: To W. T. Dockrill, Travelling Passenger Agent C.P.R., gold watch; to Alderman Black, Chairman of Reception Committee, gold-mounted umbrella; to J. A. Walsh, Assistant General Passenger Agent, Canada Atlantic, gold-mounted walking-stick, the two latter being for attentions during the meeting.

Washington County.—This line, which was described in our June issue, pg. 100, is almost completed. The branch to Eastport, Me., has been completed, giving connection with Calais, Me., & with the C.P.R. at St. Stephen, N.B. The rumor that this line is owned by Russell Sage, of New York, is denied, but it is expected that it will be amalgamated with his South Shore Line, running between St. Stephen & St. John, N.B. He controls a charter for a bridge over the St. Croix River, which would have to be built to connect the 2 lines. The J. P. McDonald Co. Calais, Me., are the contractors & H. J. Ensling is their Superintendent.

C.P.R. Freight Differentials.

The arbitrators on the question of whether the C.P.R. should be allowed a 10% differential on transcontinental freight rates, held a preliminary meeting at the Auditorium in Chicago, Oct. 11. J. W. Midgely, ex-Chairman of the Western Freight Association, represented the C.P.R., W. R. Day, Special Counsel to the Interstate Commerce Commission, represented the U.S. lines, & E. S. Washburn, President & General Manager of the Kansas City, Fort Scott & Memphis Ry., was the third arbitrator, chosen by the other two. It is said considerable friction arose over the question of whether the hearing should be an open one, & it was decided that it should be behind closed doors.

The arbitration opened Oct. 12, when R. Kerr, Traffic Manager of the C.P.R. lines west of Lake Superior, & Freight Traffic Manager Bosworth, presented the case for their Co. They argued that the C.P.R. labors under many disadvantages in laying down freight on the Pacific coast, particularly at San Francisco & at points farther south. The road has no direct inlet to the country south of Vancouver & Portland, Ore., & it is obliged to reload from cars to boats & break bulk in order to make shipments to points off its own rails. For these reasons it contends that it should be permitted to make lower rates than competitors which do not labor under such disadvantages.

Third Vice-President Stubbs, of the Southern Pacific, occupied the whole of Oct. 13 & part of Oct. 14 in stating the case for the U.S. lines. He said that at first the C.P.R. might have labored under serious disadvantages as compared with its U.S. competitors. It had no direct connections to the district south of its terminal on Puget Sound, its track was new & not in good condition, it could not make as fast time as the other roads, & it was new to the field. For that reason it was permitted to make lower rates than the U.S. lines, not by agreement, but by sufferance. Ever since its inauguration as a transcontinental line it had insisted upon making rates lower by 10% than its U.S. competitors. He argued that the disadvantages under which the C.P. line labored at first no longer are in evidence. He claimed that it operated on an equal basis with the roads of the U.S. If it is at a disadvantage as compared with the Southern Pacific for south Pacific coast traffic, the Southern Pacific is at an equal disadvantage in competing with it for north Pacific coast traffic. For these reasons he argued that the C.P.R. should be obliged to make as high rates for hauling freight from points in the U.S. to Pacific coast territory within the bounds of the U.S. as the U.S. lines make. He pointed out that while Congress makes every provision for domestic shipments in U.S. ships it permits a foreign railway to enter the U.S. & take freight destined to other points in the U.S. at rates which U.S. roads cannot make. Mr. Stubbs' argument was for the entire abolition of a differential in favor of the C.P., & an insistence that it should be compelled in freight business, as in passenger business, to make the same rates as are used by the roads of the U.S.

On Oct. 19 it was announced that the arbitrators had decided that the C.P.R. was not entitled to a differential, the decision being worded as follows:—

The undersigned, who were appointed arbitrators, under the following resolution, adopted at a meeting of interested lines, which convened at Brown's Palace Hotel, Denver, Colo., Aug. 22, 1898, viz.:

"Resolved, That provided the C.P.R. will join with the U.S. lines in a co-operative agreement designed to secure the maintenance of reasonable rates on the freight traffic interchanged with San Francisco, Cal., by other points in the U.S. & Canada, that the

lines here represented will submit to arbitration the question of whether the C.P.R. is or should be entitled to a differential under the rates made by the U. S. lines for the carriage of the freight in question, and if any differentials, what those differentials shall be. The board of arbitration to consist of 3 members, 1 to be selected by the C.P.R., 1 to be selected by the American lines interested, they 2 to select a 3rd, & that the decision of 2 members of said board of arbitration shall be final, conclusive & binding upon all."

After hearing the evidence & arguments of the interested parties, & having duly considered the same, respectfully submit their decision as follows:—The C. P. R. is not nor should it be entitled to a differential under the rates made by the U. S. lines for the carriage of the freight in question.

EDW. S. WASHBURN, W. A. DAY.

I do not concur in the above conclusion.

J. W. MIDGLEY.

THE C.P.R.'S POSITION.

On Oct. 21 Vice-President Shaughnessy made the following statement in regard to the decision:—"The arbitrators have rendered a decision adverse to the C.P.R., but we are told that the decision is based upon a technical construction of the language of the resolution that purported to describe the question which was to be left to arbitration. That resolution, after reciting certain provisions, reads:—"That the lines here represented will submit to arbitration the question of whether the C. P. R. is, or should be, entitled to a differential under the rates made by the U. S. lines for the carriage of the freight in question." It appears that the arbitrators held that, under this language, the only question they could try was whether the C.P.R. had an inherent title to a differential, & that they could not go into the question as to whether, under existing conditions in accordance with railway practice on this continent, the Vancouver route should be considered a differential. The Co.'s Traffic Manager, who attended the Denver meeting at which the resolution was passed, clearly understood that it contemplated a bona fide submission to arbitration of the material business question, & not merely a technical philological interpretation of the word 'entitled.' No sane man would claim that the C.P.R., or any other railway, had an inherent title to any differential.

"If we are correctly informed as to the basis of the arbitrators' decision the question must be submitted again in such form as to obtain a decision on the broad merits.

Intercolonial West Bound Freight.

It was recently stated in Montreal that arrangements had been made whereby all west bound through freight originating on the Government system would be turned over to the G. T. R. at Montreal, instead of being given to the C. P. R. at St. John, N. B., as was heretofore the case, & that in return for this the G. T. R. would give the I. C. R. its share of freight bound east, more especially export cargoes of grain & the like.

Enquiry at Intercolonial headquarters fails to elicit any further information than that "part of the statement is true & part is not."

The Traffic Manager of the G. T. R. informs us that the statement is not altogether correct, & that the facts are that the G. T. R.'s agreement with the Government system is based upon the ordinary railway principles of exchange, & contemplates that the Government line will take advantage of its long haul from the East to Montreal, & there exchange the traffic with the G. T. R., the latter agreeing to give the Government railway traffic at Montreal instead of hauling it to Chaudiere Jct., as was done in the past.

The U. S. Roadmasters Association.

At the annual meeting of this Association at Denver, Sept. 13 & 14, the following officers were elected: President, T. Hickey, Michigan Central; 1st Vice-President, J. M. Meade, P.R.R.; 2nd Vice-President, C. B. Teller, D. L. & G.; Sec.-Treas., J. B. Dickson, C. & N. W. President Hickey is Roadmaster of the M.C.R., at St. Thomas, Ont. The Times of that place says he is a native of Ireland & came to America with his parents when 7 years old, settling at Angona, Indiana. In 1872 he took his spade in hand & began to transfer gravel & real estate from one point to another. At night he found rest in one of the sleeping cars attached to a work train, afterwards he became a section boss & was promoted to be a Lake Shore road train conductor. Not long afterward he secured a position as extra gang foreman on the M.C.R., then became Assistant Roadmaster & finally General Roadmaster, which position he has held ever since. He has been prominent in the history of the Roadmasters Association during the past 15 years.

I. C. R. Official Changes.

Since pgs. 204 & 205 of this issue, on which some appointments, &c., were announced, were printed, the following information has reached us.

General Freight Agent Wallace issued the following circular Oct. 19:—"W. Robinson has been transferred to Toronto as General Traveling Agent. W. G. Robertson has been appointed Division Freight Agent, St. John, N.B. His district will extend St. John to Moncton inclusive, north of Moncton to and including Eel River, east of Moncton to and including Spring Hill Jct. and Point du Chene Branch. D. A. Story has been appointed Division Freight Agent with headquarters at Halifax, N.S. His district will extend Halifax to Salt Springs inclusive, Truro to Sidney and North Sydney, and the Oxford, Pictou & Pictou Landing branches."

Further particulars about Messrs. Robinson & Robertson will be found on pg. 205. Mr. Story was station agent at Halifax.

General Passenger Agent Lyons issued the following circular Oct. 21:—"H. A. Price, District Passenger Agent, Halifax, has been transferred to Montreal, with headquarters at 143 St. James St. Territory, Dalhousie and west. J. B. Lambkin, District Passenger Agent, Montreal, has been transferred to Halifax, N.S., with headquarters at 132 Hollis St. Territory, east of Dalhousie."

It is said M. L. Tracey, Moncton, becomes Superintendent of car cleaning over the whole system.

Intercolonial Equipment.

Contracts for 3 postal & baggage cars, & 4 baggage cars, all 60 ft. long, have been awarded to Rhodes, Curry & Co., Amherst, N.S. A contract has also been let for 6 second-class sleeping cars. There are not any particularly new features on any of these cars.

The Railroad Car Journal stated in its October issue that a contract had been given the Wagner Palace Car Co. for 28 passenger cars. General Manager Pottinger informed us on Oct. 17 that this information was not correct.

Tenders have been asked for 15 consolidation locomotives, which will be modern in every respect, & conform to the best American practice. They will weigh, in working order 160,000 lbs., & have driving wheels 56 ins. diameter. One of them will be fitted with the Cleveland patent cylinder arrangement, the other experimental. Tenders & engines shall have wheels to be wrought iron; main driving

wheel, centre of steel, all others of cast iron or steel cast iron. Axle boxes & cross heads of cast steel. Iron tender frames with heavy 10 in. channel beams. M.C.B. automatic couplers to be applied on both engine & tender. Toughened steel crank pins & piston rods. Steel cab. Westinghouse train signal. Muffled pop valves. Metallic packing all around, including air pump. Chime whistle. Double latch reversing lever.

It was recently telegraphed from Moncton that Mechanical Superintendent Joughins had sold to the Government road, through a Montreal agency, trucks for 400 freight cars, or that trucks of his invention were to be used on that number of cars, & that he would get a royalty on them. We have looked into this matter carefully, & are satisfied that there was no foundation for such a statement. Steel trucks are to be used, but not Mr. Joughins'. An order has been given to a foundry to make for trial use 10 pairs of trucks, of a pattern designed by Mr. Joughins. It is a pity that political papers cannot confine themselves to legitimate criticism of the policy adopted by the political head of the road without singling out permanent officials for attack. Mr. Joughins came to the I.C.R. with an excellent reputation, & it is most unfair that unfounded charges of this nature should be made against him.

Equipment Notes.

The Erie & Huron cars are being given an overhauling at the L. E. & D. R. R. shops at Walkerville, Ont.

The Manitoba & Northwestern Ry. is about to add to its equipment 30 stock cars of the most modern pattern.

The G.T.R. has started work at its Point St. Charles works, Montreal, on the 1st of 6 large modern locomotives. They will be practically the same as the Moguls recently purchased by the Co. for the lines west of the Detroit & St. Clair rivers, of which we gave a full description in our May issue, pg. 61, & an illustration in our June issue, pg. 89.

Sir Wm. Van Horne's Western Trip.

Sir Wm. Van Horne left Montreal Oct. 3, on his annual trip to the Pacific Coast, being accompanied by Principal Peterson, of McGill University; R. B. Angus, one of the C.P.R. directors, & W. W. Ogilvie, the flour mill owner. At Winnipeg the party was joined by E. B. Osler, M.P., another C.P.R. director, who had gone on a day or two ahead, in connection with matters relating to the purchase of the M. & N.W.R. by himself & associates. Western Manager Whyte met the President at Fort William & accompanied him to the Pacific Coast & back. The trip was made by special train, going over the short line from Montreal to Ottawa, thence by Fort William to Winnipeg. As usual, Sir Wm. travelled most of the way by daylight only, so as to see the whole of the lines. From Winnipeg a rapid run was made over the southwestern branches, the actual running time for the 410 miles being 9 hours & 15 minutes. On returning to Winnipeg from this run Sir Wm. said that the appearance of the country had undergone a great change in the past few years. The solitary farm-house of five years ago was now a village, & the village of a few years ago was now a town substantial & prosperous. There was plenty of wheat on all sides, but the farmers in many instances were late in stacking.

THE KETTLE RIVER RAILWAY.

The President & his party, as well as the Council of the Board of Trade, were entertained at luncheon at the Manitoba Club by A. M. Nanton, President of the Winnipeg Board of Trade, who, in proposing Sir William's health, alluded to the community of in-

terests that exists between the C.P.R. & the people of the west, & said that, owing to its geographical position, Winnipeg ought to secure the trade of the rich mining regions of British Columbia.

Sir William, replying, discussed the question of the trade of British Columbia, which he said belonged naturally to the merchants of Winnipeg, & not to the traders of Spokane. He thought the best means of insuring that trade to Winnipeg, was by shutting out U.S. railway competition in British Columbia, which would divert the smelting business south of the line & allow the Spokane merchants to secure the trade. Last session a Mr. Corbin applied to the Dominion Parliament for a charter to build a railway to do this very thing. Parliament had, however, fortunately, thought Sir William, refused the charter. The Winnipeg Board of Trade had helped the C.P.R. in its fight before Parliament to keep foreign competition out, & the Co. had succeeded. But the Corbin interest had passed into the hands of the Great Northern Ry. Co., & another application would be made to Parliament next session for the charter. He trusted the Winnipeg Board of Trade would again be willing to lend a helping hand to keep the road out, as it would be in the interests of the merchants to do so.

IN AN INTERVIEW AT WINNIPEG

Sir William stated that the road-bed east of there was in magnificent condition; improvements were being constantly made & the permanent way was never in so good a condition as at the present time. From Fort William west, preparations for a double track were being made, & all the bridges & culverts were being widened & strengthened with this end in view. The whole line was being gradually laid with 75-lb. steel rails, which were more than sufficiently strong for any strain that they would be subjected to.

As to improvements in Winnipeg he stated they were going on all the time. There were other needs more important for the present than a new station, & these were being attended to. Within a few years, however, he

ventured to say that this much-talked-of new station would become a reality, & when the Co. did decide to build one, it would be one of which Winnipeg would have no cause to be ashamed. It might become necessary to enlarge the present building to a size enabling it to answer more fully for present needs, & these alterations might possibly be made in the near future.

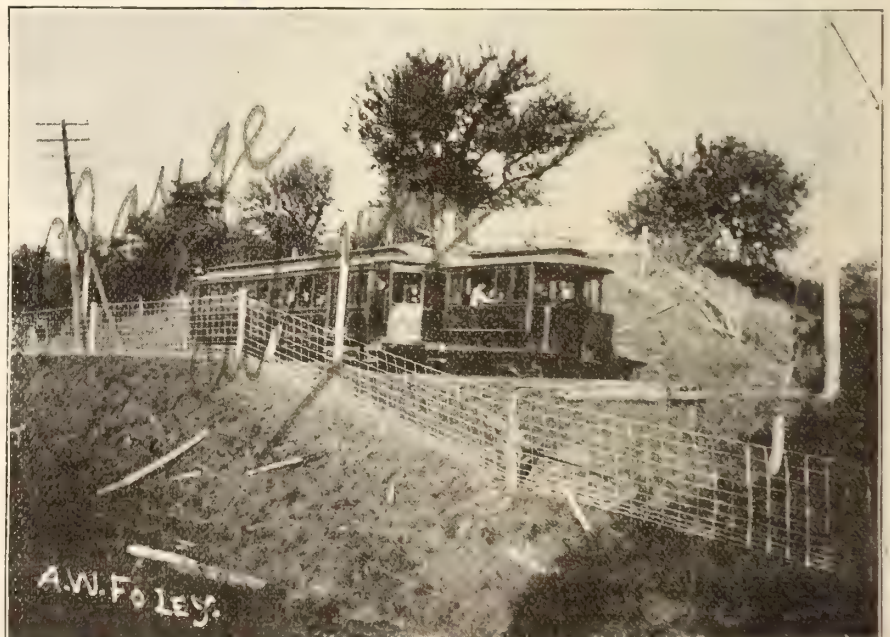
With regard to the fast 100-hour trans-continental service, of which so much was heard this summer, he said the time was not quite ripe for inaugurating it. Within a year he hoped the traffic would warrant such a service being put on. The roadway & rolling stock were quite equal to supplying such a service, or even one 28 hours faster; it was merely a question of volume of traffic.

From Winnipeg the party went direct to the Pacific Coast, spending some days

AT VANCOUVER & VICTORIA.

At the former place Sir William stated to an interviewer that the Co. would build a solid structure at New Westminster, & do what it could toward building up the city. Vancouver would soon have its handsome depot complete. The city had not had what could really be called a station before, & now it would have one that would not only be useful, but in addition, would be one of the finest buildings in the city. If Vancouver had pressed for a station some time back, another temporary building would have been put up. A good structure that would last 10 or 15 years, one that would have to do for several years yet, but not a really permanent depot. It was often the case that a city, by insisting on a new station before the Co. was ready to expend the money on it, only got another temporary structure, instead of a finer permanent building which would have been put up had it waited a year or two. When the Co. did build a depot, it tried to combine commodious & convenient premises with a handsome structure worthy of any city.

From the Coast the President & his party returned by way of Kootenay Lake & the Crow's Nest line, reaching Montreal Oct. 23.



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FINANCE, MEETINGS, &c.

The Grand Trunk's Semi-Annual.

In our Sept. issue we gave the Secretary's official notification of the result of the operations for the ½-year to June 30, since which the full report has reached us as follows:

The revenue statements & abstracts of working expenses are rendered on the amended basis adopted in the last ½-year's accounts. The accounts for the ½-year ended June 30, 1897, have been similarly adjusted for the purpose of comparison.

The following summary shows a comparison of the ½-year's revenue account with that of the corresponding ½-year, ended June 30, 1897:—

June 30, '97.		June 30, '98.
£1,756,566	Gross receipts, as per account no. 7.....	£1,871,733 19 1
1,196,643	Deduct—Working expenses, being at the rate of 66.46%, as compared with 68.12% in '97...	1,243,883 8 4
£559,923	Net Traffic receipts..	£627,850 10 9
14,469	Add—Amount received from International Bridge Co., Saginaw, & Muskegon bonds, & interest on bonds, &c., of Central Vermont Ry., of interest on securities of controlled lines acquired by the issue of G.T. 4% debenture stock.....	12,930 12 9
5,856	Interest on Toledo, Saginaw, & Muskegon bonds, & interest on bonds, &c., of Central Vermont Ry., of interest on securities of controlled lines acquired by the issue of G.T. 4% debenture stock.....	5,253 11 11
3,087	Interest on securities of controlled lines acquired by the issue of G.T. 4% debenture stock.....	3,087 10 8
65,102	Balance of general interest account.....	64,840 3
5,957		16,709 14 6
£654,395	Net revenue receipts..	£730,672 10

Following are the net revenue charges for the half year:—

Rents (leased lines).....	£78,174 10 6
Interest on debenture stocks & bonds of the Co.....	431,771 18 8
Interest on debenture stock & bonds of lines consolidated with the G.T. Co., & interest on Michigan Air Line bonds.....	80,648 16 5
	7,750 0
	£593,345 11 7
Amount advanced to Chicago & G.T. Co. under traffic agreements towards payment of interest on its bonds, ½-year to June 30, for which interest coupons are held.....	£8,392 1 4
Amount advanced to Detroit, Grand Haven, & Milwaukee Co., towards payment of interest on its bonds, under agreements, ½-year to June 30.....	22,282 9 4
	30,674 10 8
	£624,020 2 3
Leaving a surplus of.....	106,651 18 7
	£730,672 10

There was a balance at the credit of net revenue account on Dec. 31, '97, of £10,289 2s. 3d., of which \$50,000 or £10,273 10s. 5d. has been appropriated as the contribution for that ½-year towards the revenue proportion of the expenditure for the reconstruction of the Victoria Jubilee Bridge, leaving a balance of £15 2s. 10d. This amount, added to the surplus for the past ½-year of £106,651 18s. 7d., makes a total amount available for dividend of £106,667 1s. 5d.

The directors recommend the payment of the full ½-year's dividend on the 4% guaranteed stock, which will absorb £104,395 17s. 6d., leaving £2,271 3s. 11d., to be carried forward to the next ½-year's accounts.

The net revenue surplus for the ½-year ended June 30, '97, amounted to £2,708 12s. 10d. The result of the past ½-year's operations shows, therefore, an improvement of £103,943 5s. 9d.

The following table exhibits a comparison of the receipts for the ½-years ended June 30, '98 & '97:—

Description of Receipts.	1898.	1897.	Increase.	Decrease.
Passengers.....	£ 112,730	£ 107,015	£ 5,715	£ 25,080
Mails & express...	90,665	88,913	1,752	

Freight & live stock	1,285,819	1,180,549	99,270	
Miscellaneous.....	52,991	13,189	39,802	

£1,871,734 £1,756,566 £115,168

The increase of £39,802 in miscellaneous receipts arises from rentals received from the C.P.R. Co. for use of the G.T. line between Hamilton & Toronto, from the Wabash Co. in respect of the running arrangements between Windsor & the Niagara Frontier; & from the Intercolonial Ry. for the use of the line between Ste. Rosalie & Montreal. The decrease of £25,656 in the passenger receipts is partly attributable to the running arrangements above mentioned, for which, however, a set off is obtained in the rentals paid by the several companies; while some portion of the decrease is the result of the reduction in local rates during the greater part of the half year.

Traffic Statistics.	1898	1897.	Increase.	Decrease.
Passengers carried.....	3,009,641	2,948,309	61,332	
Average fare per passenger	2s. 11d.	3s. 2d.	23d.	
Tons of freight & live stock	4,437,449	4,049,878	387,571	
Average rate per ton.....	5s. 9½d.	5s. 10½d.	3d.	
Total earnings per train mile	51.32d.	50.65d.	0.67d.	

The average receipt per ton per mile on the entire freight business was 0.66 of a cent, compared with 0.65 of a cent in the corresponding ½-year.

The working expenses, including taxes, amounted in the ½-year to £1,243,883, or 66.46% of the gross receipts, as compared with £1,196,643 or 68.12%; an increase in amount of £47,240, but a decrease in the proportion to the gross receipts of 1.66%.

The following table exhibits a comparison of the revenue expenditure, including taxes, under the heads of the revised classification, for the ½-years ended June 30, '98 & '97:—

Description of Expenditure.	June 30, '98.	June 30, '97.	Increase.	Decrease.
Maintenance of Way and Structures	£180,980	£102,156	£78,824	
Maintenance of Equipment.....	224,187	209,477	14,710	
Conducting Transportation.....	709,678	738,326	11,352	
General Expenses	50,717	51,184	—	467
Total.....	£1,165,562	£1,101,143	£64,419	
Percentage of Gross Receipts..	65.80	67.24	—	1.44
Expenditure per train mile.....	33.76d.	34.06d.	—	0.30d.

The charge for taxes amounted to £12,315 compared with £15,500, a diminution of £3,185, in consequence of the appropriation of £3,082 in the corresponding ½-year on account of the "State of Maine Tax Suspense Account" being now unnecessary, that account having been finally closed on Dec. 31, '97.

The train mileage of the ½-year compares with that for the ½-year ended June 30, '97, as follows:—

Description.	June, '98.	June, '97.	Increase.	Decrease.
Passenger.....	3,069,188	2,984,677	84,511	
Freight.....	5,127,515	4,409,397	718,118	
Mixed trains.....	557,120	929,578	—	372,458
Total.....	8,753,823	8,323,652	430,171	

The G. T. gross receipts for the ½-year show an increase of £115,168, or 6.56%; the working expenses, including taxes, an increase of £47,240, or 3.95%, & the train mileage an increase of 430,171, or 5.17%.

The working stock in service is as follows:—locomotives 811. First-class cars, ordinary, 372; dining 4; parlor 8, with compartments; smoking 35; baggage 27. Second class cars, ordinary, 149; immigrant sleeping, 11. Post office cars, ordinary, 19; with baggage & smoking compartment, 55. Baggage cars, ordinary, 163; with smoking compartment, 14. Horse boxes 2. Total passenger cars, 859. Box cars, brake vans 372; goods, 15,732. Cattle, 1,208; platform & coal 6,180. Total freight cars 23,492. Not used for traffic, auxiliary & ice scraper cars 101, snow

ploughs 69, dump cars 171, boarding cars 21, cinder cars 50, grand total 24,763. Of these the following are out of service: ordinary, 1st class 61, ordinary 2nd class 48, post office 5, horse boxes 2, brake vans 27, cattle cars 97, platform & coal 337, dump 85, total 106. No additions to the stock have been made at the expense of capital during the ½-year. Sixteen engines have been sold or broken up, & 20 new engines of modern type & increased capacity have been purchased on revenue account during the ½-year. There remained at June 30, '98, 16 engines in excess of the official stock. Three passenger cars, 500 thirty-ton box freight cars, & ten refrigerator cars have been provided at the expense of revenue, in part replacement of cars broken up. There remained out of service at June 30, '98, a balance of 23 cars in the passenger, & 4 cars in the freight equipment. At the end of the ½-year there was an amount of £27,440 3s. 10d. at the credit of the locomotive renewal fund, & of £58,102 11s. 11d. at the credit of the car renewal fund.

The charges for capital account for the ½ year amounted, less credits, to £93,944 8s. 7d., the chief items of expenditure being £53,194 8s. 9d., charged on account of the reconstruction of the Victoria Jubilee Bridge, & £39,158 9s. 6d. for the further equipment of engines & freight cars with air-brakes & automatic couplers, in compliance with the Safety Appliance Act.

Bonds of the Co. (Hamilton & North Western), amounting to £409,400, bearing 6% interest, matured on June last, of which £399,500 had been presented for payment, or exchanged for 4% debenture stock at the end of the ½ year. The substitution of 4% debenture stock for these 6% bonds will effect a saving in interest charges from June, 1, '98, of upwards of £8,000 a year.

The President reported to the proprietors, at the last general meeting, that in addition to the reconstruction of the Victoria Bridge at Montreal, it had been deemed necessary for the more efficient & economical conduct of the traffic to authorize the renewal during the next 2 or 3 years of the bridges on the section of the line between Montreal & Portland, & it has also been determined to renew certain bridges on the southern division used jointly by the Wabash Co.

The proportion of the expenditure for reconstruction of the Victoria Bridge, properly chargeable to revenue, has been fixed at £110,000, which, together with the cost of renewing the bridges between Montreal & Portland, & on the southern division, it is proposed to charge to revenue account, spread over a period of at least 5 years, so as to obviate any undue increase in the maintenance charges in any 1 year.

There had been expended to June 30, '98, on account of these renewals, an amount of £57,816, of which £10,274 has been as already announced, charged against the net revenue balance at Dec. 31, '97, & £15,402 is included in the maintenance charges for the past ½ year, leaving £32,140 at the debit of Bridge Renewal Suspense Account on June 30, '98.

The International Bridge at Buffalo it is also intended to renew at an early date, the cost of which will be charged against the revenue of the International Bridge Co.

The reconstruction of the Victoria Jubilee Bridge has progressed satisfactorily, & it is expected that the new double track will be available for traffic by Jan. 1 next. Meanwhile the traffic is being conducted over the single track as heretofore.

The gross receipts of the Chicago & G.T. Ry. Co. for the ½ year to June 30, '98, amounted to £376,387, against £301,436 in '97, an increase of £74,951. The working expenses were £294,541, against £262,591, an increase of £31,950; the net profit being £81,846, against £38,845, an increase of £43,001. The net revenue charges for the ½ year were

1898, against £88,410 in 1897. There was, therefore, a deficiency in meeting the net revenue charges of £8,302, as compared with a balance of £17,074, being an improvement of £41,682. The above deficiency of £8,302 is payable by the G. T. Co., under traffic agreements. The number of passengers carried during the half-year was 530,084, against 529,177, an increase of 9,907, or 1.87%; and the passenger train receipts, including mail and express receipts, were £84,806, against £79,795, an increase of £5,011, or 6.28%. The quantity of freight moved during the half year was 1,122,161 tons, against 809,368 tons in 1897, an increase of 312,793 tons, or 38.64%, and the receipts from this traffic were £291,205, against £221,404 in 1897, an increase of £69,801, or 31.53%.

The gross receipts of the Detroit, Grand Haven & Milwaukee Ry. for the ½ year to June 30, '98, were £86,470, against £96,220 in '97, a decrease of £9,750; the working expenses were £71,379, against £78,634, a decrease of £7,255, leaving a balance of £15,091, against £17,586, a decrease of net revenue of £2,495 compared with the corresponding ½ year of '97. The net revenue charges for the ½ year were £37,373, against £37,670 in '97, so that there was a deficiency in meeting the net revenue charges of £22,282, as compared with a deficiency of £20,084 for the corresponding period of '97. The number of passengers carried during the ½ year was 228,832 against 242,963, a decrease of 14,131, or 5.82%; and the passenger receipts, including mails & express receipts, were £34,993, against £37,203, a decrease of £2,210, or 5.94%. The quantity of freight moved was 309,930 tons, against 288,394 tons in 1897, an increase of 21,536 tons, or 7.47%, and the receipts from freight traffic were £47,581, against £52,606 in 1897, a decrease of £5,025, or 9.55%.

The President & Vice-President have recently returned from a visit to Canada & the U.S., in the course of which they inspected various portions of the system & conferred with the General Manager & the other chief officers on many matters of interest to the Co. They also had conferences with the Canadian Pacific authorities for the discussion of the differences existing between the two Companies. Pending, however, a settlement of the transcontinental rate war between the C.P.R. & the American lines, no agreement could be reached. That controversy being now happily terminated, there would appear to be no valid reason why the local passenger fares reduced by the C.P.R. should not be restored, & all other points of difference in connection with the North Bay route be adjusted. Nego-

tiations with these objects in view are still in progress, which it is hoped may result in a settlement on a mutually satisfactory basis or in an agreement to submit all points of difference to arbitration.

On June 30, 1898, the G. T. Ry., including lines east of St. Clair & Detroit rivers, & the Detroit & Michigan air lines, comprised 3,506 miles of roadway; 408½ miles of 2nd track; & 759¾ miles of sidings, a total of 4,674¼ miles. Of this, all was laid with steel, except 26 miles of track & 58¼ of sidings which have iron rails.

English financial papers generally comment most favorably on the report.

The Financial Post & the Bullionist both predict a future of prosperity for the Co.

The Financial News says the report undoubtedly is a very satisfactory showing, & that the shareholders must admit that they owe a heavy debt of gratitude to the new management.

The Financial Times says it exhibits a healthier condition than for years past, & affords justification for regarding the future with cheerfulness, but adds that the Co., in granting running arrangements to the Intercolonial, has deliberately invited into its territory a competitor which may be able to give more trouble than was bargained for. Neither the Wabash nor the Intercolonial, it thinks, has so far had the worst of the running arrangements.

THE HALF-YEARLY MEETING.

This was held at the Cannon St. Hotel, London, Eng., Oct. 13, Sir C. Rivers-Wilson presiding. As the directors entered the room they were loudly cheered by the large number of shareholders present. After reading the report Sir Rivers-Wilson referred at length to the revenue & working expenses of the line, remarking that the ½ year under consideration was the best the Co. had had since 1890. He referred to the very advantageous agreement with the Wabash, which had proved satisfactory to both roads, & said the Government had acted most wisely in its agreement with the G.T.R. regarding the entry of the Intercolonial Ry. to Montreal. The G. T.'s arrangement with the Central Vermont Ry. was virtually completed. The G.T. had secured all it had fought for. A trifling offer had been made to make the disused belt line at Toronto a bicycle track, but no satisfactory offer had been received for the purchase of the land. He regretted he had no message of peace & conciliation to bring from the C.P.R. The G. T.'s offer to submit the whole question to arbitra-

tion was refused, & the C. P. would continue to cut rates in Ontario & Quebec until the G.T. had come to an agreement on the question of passenger transportation to the North-west territories. It was absolutely impossible for the G.T. to accept the conditions imposed. They must leave Sir Wm. Van Horne's action to be judged by public opinion, & perhaps, also by the C.P. shareholders. The G. T. Co. was capable of taking care of itself. While in Canada he had noticed a great augmentation of traffic in the Muskoka district. He spoke in the highest terms of General Manager Hays & his staff. American interests would not allow the removal of the bonding privilege existing between Canada & the United States. He hoped that as a result of the deliberations of the International Commission, just adjourned at Quebec, bonding privileges would be included in a treaty, so as to remove the question from the field of American politics. He was frequently applauded during his speech.

Vice-President Jos. Price, endorsed Sir Charles' eulogy of the General Manager & his staff & said he found the track & other property in excellent condition.

Wm. Baker struck a discordant note by asking a number of questions, to which curt answers were given. These answers, however, satisfied the meeting, which adopted the report almost unanimously.

On the day after the meeting The Financial Times said editorially that Sir Rivers-Wilson's speech was not altogether cheerful, though it was optimistic in parts. The outlook for the G.T., it added, did not appear so rosy as it did a few days before, a fact made evident by the market.

The Financial News said it was a great pity that Sir Wm. Van Horne did not realize the great change that had taken place. The G.T. would no longer submit to the dictation of the C.P.

MEETINGS OF AUXILIARY COMPANIES.

The annual meetings of the various companies which make up the Grand Trunk system west of the Detroit & St. Clair Rivers were held during the 1st week in October, General Manager Hays attending them all. The following officers were elected:—

DETROIT, GRAND HAVEN & MILWAUKEE.—President, C. M. Hays; other directors, E. W. Meddaugh, C. Buncher, J. Pridgeon, jr., & W. J. Spicer, Detroit; G. B. Reeve, J. Hobson, C. Percy & F. H. McGuigan, Montreal; Secretary-Treasurer, J. H. Muir, Detroit.

CINCINNATI, SAGINAW & MACKINAW.—President, A. W. Wright, Alma; Vice-president,

INSURE IN

The Canadian Railway Accident Insurance Co.

OTTAWA, ONT. A PURELY CANADIAN CO.

Authorized Capital - - \$500,000.
Subscribed Capital - - \$175,000.

J. W. McRAE, President.

HON. E. H. BRONSON, Treasurer.

JOHN EMO, General Manager.

JOHN P. DICKSON, Secretary.

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Special Cars for Coal, Ore,
Lumber, &c., with Ball-
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Car Wheels, Castings, Forgings, &c.
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C. M. Hays, Montreal; other directors, W. B. Burt & G. M. Stark, Saginaw; S. O. Fisher, Bay City; F. H. McGuigan, Montreal, & E. W. Meddaugh, Detroit; Secretary-Treasurer, J. H. Muir, Detroit.

TOLEDO, SAGINAW & MUSKEGON.—President, C. M. Hays; other directors, L. G. Mason, Muskegon; C. J. Church, Greenville; E. W. Meddaugh, Detroit; G. B. Reeve & F. H. McGuigan, Montreal; W. Cotter, Detroit; Secretary-Treasurer, J. H. Muir, Detroit.

MICHIGAN AIR LINE.—President, C. M. Hays; other directors, J. Bell, Belleville, Ont.; E. W. Meddaugh, W. J. Spicer, J. H. Muir, Detroit; Secretary-Treasurer, C. Percy, Montreal.

CHICAGO, DETROIT & CANADA GRAND TRUNK JUNCTION.—President, C. M. Hays; Vice-president, J. Bell; Secretary, C. Percy; other directors, E. W. Meddaugh & W. J. Spicer.

ST. CLAIR TUNNEL CO.—President, C. M. Hays; Vice-president, John Bell; other directors, Senator Vidal & C. Mackenzie, Sarnia, Ont.; W. J. Spicer & E. W. Meddaugh, Detroit; F. H. McGuigan, Montreal; Secretary-Treasurer, C. Percy, Montreal.

CHICAGO & GRAND TRUNK.—The old directors were re-elected, except W. Beasley, who was replaced by A. Dixon.

GRAND TRUNK JUNCTION.—No change was made in the directorate.

Grand Trunk Earnings, Expenses, &c.

The following figures, supplied from the Montreal office, include the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.

	1898.	1897.	Decrease.
July.....	\$1,800,881	\$1,907,008	\$106,127
August.....	1,992,802	2,091,235	98,433
Sept.....	2,261,148	2,341,960	80,812
	\$6,114,834	\$6,425,823	\$310,989

The following figures are issued from the London, Eng., office:

GRAND TRUNK COMPANY.

Revenue statement for August:

	1898.	1897.	Increase.	Decrease.
Gross receipts (less cartage, &c.).....	\$333,542	\$351,892	.....	\$18,350
Working expenses...	218,588	232,319	.....	13,731
Net Profit.....	114,954	119,573	.....	4,619

Aggregate for the 2 months to the end of Aug.:

	1898.	1897.	Increase.	Decrease.
Gross receipts (less cartage, &c.).....	\$642,023	\$692,573	.....	\$50,550
Working expenses...	460,091	470,280	.....	10,189
Net Profit.....	215,862	232,293	.....	20,431

CHICAGO & GRAND TRUNK COMPANY.

Revenue statement for Aug.:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	\$55,482	\$57,540	.....	\$2,058
Working expenses...	46,045	50,388	.....	4,343
Net profit.....	9,437	7,152	.....	2,285

Aggregate for the 2 months to the end of Aug.:

	1898.	1897.	Increase.	Decrease.
Gross receipts (less cartage, &c.).....	\$113,112	\$110,144	.....	\$2,968
Working expenses...	92,650	99,223	.....	\$6,573
Net profit.....	20,462	10,921	.....	9,541

DETROIT, GRAND HAVEN & MILWAUKEE.

Revenue statement for Aug.:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	\$20,454	\$20,055	.....	\$399
Working expenses...	13,066	13,550	.....	484
Net profit.....	7,388	6,505	.....	883

Aggregate for the 2 months to the end of Aug.:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	\$40,715	\$40,072	.....	\$643
Working expenses...	26,322	27,099	.....	777
Net profit.....	14,393	12,973	.....	\$1,420

An official note adds: "There were 27 working days in Aug., 1898, as compared with 26 in 1897."

RECEIPTS OF THE SYSTEM.

From July 1, to Sept. 30, the receipts were:

	1898.	1897.	Increase.	Decrease.
Grand Trunk.....	\$1,025,605	\$1,097,083	.....	\$71,478
Chicago & G. T.	175,207	167,827	.....	\$7,380
D., G. H. & M.	55,661	55,459	.....	202
Total.....	1,256,473	1,320,369	.....	63,896

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases over 1897 from Jan. 1, 1898, are as under:

	Earnings.	Expenses.	Net Profits.	Increase on decrease.
Jan. \$1,674,372.04	\$1,156,744.45	\$515,627.59	\$142,284.49+	
Feb. 1,403,596.98	1,070,929.62	423,667.36	38,844.28+	
Mar. 2,070,479.06	1,326,245.55	753,233.51	233,020.67+	
April 1,542,888.88	1,113,770.99	429,117.89	113,710.89+	
May 2,233,999.16	1,326,336.85	926,662.31	51,092.47+	
June 2,324,101.41	1,377,144.67	946,956.74	98,144.67+	
July 2,053,363.27	1,320,674.48	732,688.79	183,670.08+	
Aug. 2,216,865.29	1,327,838.41	883,026.88	121,380.23+	

\$15,858,247.72 \$10,090,855.22 \$5,767,392.50 \$181,433.02+
+ Increase. - Decrease.

The approximate earnings for September, 1898, were \$2,341,000, against \$2,279,000 in September, 1897, an increase of \$62,000.

AUXILIARY LINES.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—The approximate earnings for Sept. were \$485,947, as compared with \$393,573 for corresponding period, an increase of \$92,374. For the 9 months ended Sept. 30, they were \$2,931,528.24, as compared with \$2,625,853.49 for corresponding period, an increase of \$305,674.75.

DULUTH, SOUTH SHORE & ATLANTIC.—The approximate earnings for Sept. were \$169,648, as compared with \$152,756 for the corresponding period, an increase of \$16,892. For the nine months ended Sept. 30, they were \$1,375,009.26 as compared with \$1,184,880.27 for the corresponding period, an increase of \$190,128.99.

MINERVA RANGE, HANCOCK & CALUMET.—The approximate earnings for Sept. were \$35,304.45 as compared with \$26,943 for the corresponding period, an increase of \$8,421. For the nine months ended Sept. 30, they were \$265,001.57 as compared with \$213,341.05 for the corresponding period, an increase of \$51,660.52.

Canadian Pacific Railway Land Sales.

	Acres.	\$.	Acres.	\$.
Jan.	22,047	9,111	27,411	11,364
Feb.	20,650	8,400	20,650	8,400
Mar.	33,421	13,767	33,421	13,767
April.	43,145	17,258	43,145	17,258
May.	43,148	17,259	43,148	17,259
June.	49,203	19,681	49,203	19,681
July.	49,203	19,681	49,203	19,681
Aug.	19,449	7,779	19,449	7,779
Sept. ....	.....	.....	50,936.00	20,374.40
Totals	288,579	114,133	288,579	114,133

White Pass & Yukon Railway.

As mentioned in our Sep. issue, pg. 179, the British public were recently invited to subscribe for \$7,500,000 of debenture stock for the construction of the line, the American Manager of the Co. informing us that the issue had been successful. The prospectus which has since reached us was issued by the British Yukon Mining, Trading & Transportation Co., offering £250,000 of debenture stock, which will be a 1st charge on the 1st division of the line, from Skagway over the White Pass to Lake Bennett, about 50 miles. The rate of interest is 6% & the contractors guarantee to build the line to the summit of the mountain, which has an elevation of 2,800 ft. The Co. is work-

ing under 3 charters, one obtained from Canada, another from British Columbia, and a third from the U. S. The first surveys were made in 1896. Since then Sir T. P. Tancred has had charge of the surveys. C. J. Hawkins, C. E., & J. C. Christie, C. E., endorse the opinions of the experts employed. J. Price, Vice-President of the G. T. R., is one of the directors; Hon. S. C. Glynn, director of the North London Railway Co., is another besides other equally prominent business men in England. Canada is represented by E. Hanson, of Montreal. An act of the U. S. Congress, giving bonding privileges to Alaskan ports, was signed by the President May 14 last. The railway, when completed, will go to Fort Selkirk. It is intended to build a telegraph also. "The great advantage of the White Pass route," the prospectus claims, "is that the navigable waters flowing to the Yukon River are reached in less than 50 miles from Skagway Harbor, & through communication will be obtained with Dawson & the Yukon & Klondyke gold fields by boat in summer & by sledges in winter, even before the completion of the line to Fort Selkirk."

Financial Notes, &c.

Alberta Ry. & Coal Co.—The annual meeting will be held in London, Eng., Oct. 17.

Calgary & Edmonton Ry. Co.—The company operating for Aug. was \$3,017.68, as against net earnings of \$12,057.38 for the corresponding period. This loss was caused by the large increase in expenses, \$14,878.97 being spent in maintenance of way & structures. Total expenses for Aug. were \$21,737.88, as compared with \$13,274.71 for corresponding period.

The annual meeting called for Oct. 5 was adjourned till Oct. 17, & then was again adjourned till Oct. 26, at Toronto.

Canada Atlantic.—At the annual meetings of this Co. & its auxiliary, the Ottawa, Arnprior & Parry Sound Ry. Co. at Ottawa Sep. 27, the only business done was the re-election of the old boards with the same executive officers. The meetings were adjourned until Nov. 29, "awaiting the receipt of certain reports."

Canada Central. Twenty-five \$100 mortgage bonds of £500 & 64 of £100 each, in all £16,000, have been drawn for payment at Speyer Bros., London, at £105 per £100.

Central Vermont. A re-organization was made by which all opposition to the immediate re-organization of the Co. will be withdrawn. The plan accepted by the 1st mortgage bondholders & the Grand Trunk will be carried out, with such modifications as will give the 1st mortgage bondholders par value in the new 1st mortgage 4% gold bonds. The interest will be guaranteed by the traffic contract with the G. T. (July, pg. 177.)

Dominion Atlantic. The company's earnings were \$58,600, compared with \$55,400 for corresponding period. For the 9 months to the end of Aug. they were \$320,068, as compared with \$310,790.

The annual meeting of the company will be held at Toronto, Nov. 9.

Great Northwest Central. The annual meeting will be held at Toronto, Nov. 9.

Kootenay Ry. & Navigation.—The remaining 60% on issue of \$1,000,000 of debenture stock payable in equal instalments Oct. 10 & Dec. 10.

Northern Ry. of N.B.—The company's earnings for the 9 months to the end of Aug. were \$1,000,000, as against \$875,000 for the corresponding period. The annual meeting will be held at Richibucto, N.B. J. D. Pinney is Secretary.

Qu Appelle, Long Lake & Saskatchewan.—The net loss in operating for Aug. was \$2,728.78, compared with net earnings of \$236.06 for the corresponding period.

Quebec & Lake St. John.—The earnings for July were \$5,022 over corresponding period.

Quebec Central.—The net earnings for the 8 months to Aug. were \$80,995, compared with \$716,207 for corresponding period.

Quebec, Montmorency & Charlevoix.—A special general meeting will be held at Quebec Nov. 2 to ratify & confirm the resolution passed at the special general meeting Sep. 13, whereby the directors were authorized to issue 1st mortgage bonds for \$1,000,000 in part payment of the purchase price of the property of the Montmorency Electric Power Co.

This Co. will apply to the Governor-General in Council at Ottawa, Dec. 2, for approval of the purchase made by the Co. of the property of the Montmorency Electric Power Co., on Sep. 15.

Toledo & Ottawa Ry.—The following item is going the rounds of the daily press: "A Company that is being formed to purchase the Toledo & Ottawa Ry. is said to be backed up by the Grand Trunk. This line is now being built between Toledo & Detroit, & the idea is to have it connect with the G.T. at Detroit & make it a G.T. line. This would give the Grand Trunk an entrance to Toledo. The road is at present in the hands of a receiver." We are informed that there is no truth whatever in the statement that the G.T.R. is connected with the matter, & further that the line is merely an electric one, which is being built as a speculation by people who think they can dispose of it to some of the railways connecting with it at Toledo or Detroit.

Victoria & Sidney.—The annual meeting was called for Oct. 19 at Victoria, B.C.

White Pass & Yukon.—The remaining 50% on issue of 6% 1st mortgage debentures was due in London, Eng., Sep. 30.

RAILWAY PROJECTS.

Ashcroft to Cariboo.—A British Columbia paper says the charter for a line from Ashcroft, on the main line of the C.P.R., 204 miles east of Vancouver, to Cariboo, a distance of about 220 miles, which has been in existence for some years, has been taken over by an English Co.

Elk River to Revelstoke.—British Columbia papers say application will be made for a charter for a railway to connect with the Crow's Nest Pass Line of the C.P.R. between Wardner & Elk River, to run up the east side of the Kootenay River to Windermere, thence west to cross the river & up Toby Creek, then over the Selkirk Range to the foot of Lake Duncan, then up the Lardo River to Trout Lake, & from there north-west in as direct a line as possible to the Arrowhead Branch of the C.P.R.

Kootenay Railway & Navigation Co.—A Kootenay paper says this Co. will locate a line from the foot of Houser Lake to the Upper Duncan River, up as far as Hall Creek, which will open up an immense district.

Taku & Atlin Lake Tramway Co.—F. G. White, L. P. Duff & F. A. Bennet give notice of application for incorporation of a company under this title, under the British Columbia Tramways Co. Incorporation Act, to build & operate a tramway from the junction of the waters of the Atlin River & Taku Arm, Cassiar District, along the north side of the Atlin Valley, to the junction of the Atlin River & Atlin Lake, with power to build & operate branch lines, also telephone or telegraph lines.

Trail to Salmon River.—Gallagher & Wilson, solicitors, Nelson, B.C., give notice of

application to the B.C. Legislative Assembly for the incorporation of a company to build a railway from, at or near Trail to Sayward on the Columbia River, thence to Salmo, thence following the Salmon River to its junction with the Pen d'Oreille River, with power to build branch lines, telegraph & telephone lines, & to carry on an express business.

Toronto Elevated Ry.—McPherson, Clark, Campbell & Jarvis, solicitors, Toronto, give notice of application to the Ontario Legislature for the incorporation of The Toronto Elevated Ry. Co. with power, subject to the consent of the municipalities affected, & subject to all other existing rights, to construct & operate a system of elevated railways in Toronto & adjoining municipalities, & in conjunction therewith a system of surface street railways in Toronto & other municipalities within a radius of 50 miles of the city.

The Winnipeg & Stony Mountain Ry. Co. has been incorporated under The Railway Companies Incorporation Act (Manitoba) to construct & operate a line from the main line of the C.P.R. west of Winnipeg, between Winnipeg & Bergen Stations, northwesterly about 2 miles. The capital is \$10,000. The directors are C. H. Campbell, D. E. Sprague, W. McKenzie, W. A. Windatt & C. H. Erderton, Winnipeg.

Intercolonial Railway Changes.

The long rumored & well deserved promotion of J. E. Price, Superintendent at Truro, N.S., has come at last, General Manager Pottinger having issued the following circular on Oct. 14:

"J. E. Price has been appointed General Superintendent of the Intercolonial Ry., with headquarters at Moncton, N.B. The superintendents of districts, the superintendent of the parlor, sleeping & dining cars, & the Car Accountant will report to & receive their instructions from him.

"W. Rennels has been transferred to the Halifax & St. John District as Superintendent in the room of Mr. Price.

"G. M. Jarvis has been appointed Superintendent of the Moncton & Ste. Flavie District. "These changes take effect Oct. 17."

It is said Mr. Price's salary will be \$2,500 a year, & Mr. Jarvis' \$1,600.

G. M. Jarvis, who has been appointed Superintendent at Campbellton, N.B., has been Chief Despatcher at Moncton. It is said he will be succeeded as Chief Despatcher by H. B. Fleming, who will be succeeded by C. W. Price.

A. Le Blanc, of Shediac, has been appointed Freight & Passenger Canvasser.

Assessments In Toronto.

The assessment of a large number of corporations operating in Toronto has been considerably increased this year, as will be seen by the following examples:—

	1897-98	1898-99
Bell Telephone Co.	\$100,000	636,149
C. P. R. Telegraphs .....	.....	8,317
Metropolitan Railway Co. ....	.....	1,200
Tor. Ry. power house...	75,000	196,000
Tor. Ry. Co., Wards 1 to 6, rails, poles, wires, etc.....	537,137	596,380
G. N. W. Tel. Co.....	20,000	32,000
Toronto Ferry Co.....	.....	13,064
Toronto & Mimico Electric Ry.....	.....	10,410

Back Numbers Wanted.

We are anxious to obtain a few copies of the May & June issues of THE RAILWAY AND SHIPPING WORLD, the supply of both issues of which at our office has been exhausted, & through an oversight insufficient copies were retained for our files. If any of our readers who have copies of either or both of the numbers mentioned will mail them to the publication office, 33 Melinda St., Toronto, we shall esteem it a favor & will endeavor to return the obligation in some way.

W. H. Smith has been appointed General Auditor of the Canada Atlantic & Ottawa, Arnprior & Parry Sound Rys., vice A. G. Peden, whose resignation is referred to on pg. 205 of this issue.

Hamilton Abbott, of the Victoria, B.C., office of the C.P.R. has been promoted to the Passenger Agency at Portland, Oregon, vice B. W. Greer, appointed Freight & Passenger Agent at Victoria.

Established 1831.

Annual Capacity 1,000.

Baldwin Locomotive Works.

SINGLE EXPANSION AND COMPOUND LOCOMOTIVES.

Broad and Narrow Gauge Locomotives; Mine and Furnace Locomotives; Compressed Air Locomotives; Steam Cars and Tramway Locomotives; Plantation Locomotives; Oil Burning Locomotives.

Adapted to every variety of service, and built accurately to gauges and templates after standard designs or to railroad companies' drawings: Like parts of different engines of same class perfectly interchangeable.

Electric Locomotives and Electric Car Trucks with Approved Motors.

Burnham, Williams & Co., Philadelphia, Pa., U.S.A.

RAILWAY APPOINTMENTS, &c.

Bellingham Bay & British Columbia.—J. J. Donovan, who is Vice-President & General Superintendent of the Bellingham Bay & Eastern, has also been appointed General Superintendent of the B. B. & B. C. R., to succeed C. L. Anderson, resigned.

Canadian Pacific.—B. W. Greer, Passenger Agent at Portland, Ore., has been appointed Freight & Passenger Agent at Victoria, B. C., succeeding G. L. Courtney, appointed General Freight & Passenger Agent of the Esquimalt & Nanaimo Ry.

Grand Trunk.—General Superintendent McGuigan issued the following circular Sep. 26: F. C. Kenny having resigned, the office of Trainmaster is abolished. A. S. Begg is appointed Superintendent St. Clair Tunnel & Terminals, embracing Port Huron Tunnel & City, & Fort Gratiot yards in Michigan, also Sarnia Tunnel & City & Point Edward yards in Ontario. He will also assume the duties of Agent at Port Huron Tunnel, at present performed by Mr. Kenny. Office Port Huron Tunnel station. His orders will be obeyed accordingly. Effective Oct. 1.

Sumner Hopkins, Manager Grand Trunk Despatch, announces that J. P. Faurot has been appointed Travelling Agent of the same, with headquarters at Brush St. Depot, Detroit. Appointment effective Oct. 1.

Trainmaster F. L. Corwin, Detroit, announces that C. H. Bevington is appointed Chief Train Dispatcher of 27th, 28th, 29th Districts & C. S. & M. portion of 25th District, vice V. A. Cooper resigned. Effective Oct. 1.

General Superintendent Loud announces that C. J. Haigh having been appointed Manager Reading Despatch, Fast Freight Line, A. E. Rosevear is appointed Freight Claim Agent, with office at Montreal. Effective Oct. 1. Mr. Haigh came to Montreal from Buffalo as Freight Claim Agent. Mr. Rosevear was Accountant of the Reading Despatch at Detroit.

Intercolonial.—Wm. Robinson, Division Freight Agent at St. John, N.B., has been transferred to Toronto as General Travelling Agent in place of N. Weatherstone, who will be retired. Mr. Weatherstone has been in the employ of the Government railways for many years & much sympathy is expressed for him among railway men, it being felt that the removal is entirely owing to political reasons. Mr. Robinson was at one time G.T.R. Agent at Ingersoll, Ont., & afterwards Agent of the Great Eastern Line at Detroit, which position he gave up to enter the Government railway service when A. H. Harris became Traffic Manager last year. It is said Mr. Harris gave Mr. Robinson a 5 year contract, at \$2,000 a year. We are informed that it is probable the division office in St. John will be continued. It is said the duties pertaining to it will be discharged by Mr. Robertson, who has been agent of the I.C.R. at St. John for many years.

B. A. Ward, Chief Train Dispatcher at New Glasgow, has been transferred to the dispatcher's office at Moncton; L. S. Brown, of Campbellton, succeeding him at New Glasgow, & A. Dunn, of Moncton, succeeding Brown at Campbellton.

Queenston Heights Bridge.—Beatty & Co., Solicitors, Toronto, give notice that application on behalf of the Queenston Heights Bridge Co. will be made at the Department of Railways & Canals, on Nov. 21, for the approval of the Governor in Council of an agreement between this Co. & the Lewiston Connecting Bridge Co. of New York State, in relation to the bridge to be constructed across the Niagara River at Queenston Heights, under the Act of Incorporation of the Queenston Heights Bridge Co. as amended.

Personal Mention of Railway Men.

J. H. Burgis has been appointed acting city passenger & ticket agent of the G. T. R. at Chicago, vice L. R. Morrow.

F. S. Brown, M.C.R. Yard Master at Montrose, has been appointed Trainmaster with headquarters at St. Thomas, Ont.

F. C. McLeod, foreman in the G. T. R. erecting shop at Toronto, will be located in London, where he will be associated with Locomotive Foreman Mauer.

Lady Pauncefote & Miss Pauncefote, wife & daughter of the British Ambassador at Washington, were the guests of Sir Wm. & Lady Van Horne in Ottawa recently.

J. S. Glassford, of Brockville, general agent & yard master at Brockville for the past 2 years, has been given a position under G.T.R. Superintendent Cotter at Detroit.

Mrs. T. G. Shaughnessy & Miss Alice Shaughnessy, of Montreal, were passengers on the Parisian for Liverpool the first week in Oct. Miss Shaughnessy goes to complete her education in England & on the Continent.

On Oct. 8, on the eve of his marriage to Miss M. Marshall, J. J. Rose, Travelling Passenger Agent of the C.P.R. at Toronto, was presented with a cabinet of silverware by the town & outside agents of the Co. in Western Ontario.

F. P. Macdonald, recently promoted from the Assistant Superintendency of the C. S. division of the M.C.R., to the Superintendency of the Middle Division, has removed with his family from St. Thomas, Ont., to Jackson, Mich.

R. H. Cushing, C. E., has been appointed temporarily assistant engineer on the I.C.R. It is said he will look after the terminal work at St. John, N. B. He was employed as Assistant Engineer on the I. C. R. some 10 years ago.

Wm. Kingsford, C.E., who died recently at Ottawa, aged 79, was connected with the building of the Lachine Canal, the Hudson River Ry. & the Victoria Bridge at Montreal. He was also a historian, having written the "History of Canada up to the Union of the Upper & Lower Provinces in 1841."

J. McVeigh Lumsden, who died Sep. 27 at Galt, Ont., where he lived for many years after retiring from farming in that county, was a brother of H. D. Lumsden, of the C. P. R. engineering staff, & of Sir Peter Lumsden, the gallant soldier who did splendid work in India, & of the late Sir Henry Lumsden.

Collingwood Schrieber, Deputy Minister of Railways, left Ottawa at the end of September, going by the C.P.R. to the Pacific Coast, inspecting the Crow's Nest Railway en route, & intending to return by way of San Francisco. He had as guests on his private car Hon. Mr. & Mrs. Dobell, of Quebec; Mrs. L. K. Jones, & Miss Gwynne, of Ottawa.

The Editor of the Northwest Magazine writes:—"I hope that D. C. Corbin, of Spokane, in retiring from railroading, takes with him a competency. He is a man of energy, courage & mental capacity, & as a developer of new regions he has made a mark in Idaho & Washington, & also in British Columbia, which will cause him to be long remembered. When he began to build his railway to the Coeur d'Alenes, there was absolutely no way of getting into that region except over a bridle-trail or by poing a boat up Pritchard Creek from the river. He afterwards opened the Trail Creek & Kootenay mining regions in B.C. by building his Spokane & Northern Ry. As a promoter of legitimate transportation enterprises, he took a high rank. He did not build railways to speculate in their stocks, but to develop the country where he lived."

A Tribute to Sir Wm. Van Horne.

The Winnipeg Tribune of Oct. 4 had the following:—"Sir Wm. Van Horne, the distinguished head of the C.P.R., is once more in the city on his annual tour of inspection over the Co's property. Whatever differences of opinion may exist as to the policy pursued by the Co. there is but one opinion with regard to the singular ability with which the great railway is managed, & the feeling of our people towards the President, & indeed towards all the chief officials, who are men of marked ability, is one of kindness & respect. That feeling, we believe, is to a large extent emphasized towards the President himself. In administering the affairs of the C.P.R., Sir William has in no way departed from the general ethical standards that prevail in the financial world.

"Sir William is something more than a railway man; he is a patron of & a connoisseur in art. Indeed, he is no mean artist himself, as all who have either examined his pictures or spent an hour in his studio recognize. It is a pleasant sight to see the man whose capacious mind has been deeply engrossed all day in the consideration of railway matters, spending his evenings in his studio, busy with his brush, producing excellent works of art, which he takes pleasure in distributing amongst his most intimate friends. His fine home in Montreal is a veritable art treasure house, Sir William having surrounded himself with many of the beautiful things of the earth. He has one of the most valuable collections of Japanese pottery that is to be found on the continent. Many of the specimens are very rare & of great value. Many an evening has Sir William spent painting a catalogue of his collection, reproducing on paper the rich, rare & varied tints of the pottery itself. Sir William is a many-sided man, being thoroughly posted on the various questions of the deepest material concern to the public, & being an excellent & voluble talker, an evening spent in his company is profitable & enjoyable. Personally there are few more amiable & enjoyable companions than Sir William. The public see the brusque, business side of the man, but those who enjoy social intercourse with him, recognize & appreciate his amiable, social, liberal & charitable qualities."

Spokane & Northern Changes.

In our Aug. issue, pg. 147, we gave particulars of the changes in the directors & officials of the above-mentioned line, consequent on its transfer under the control of the Great Northern (U.S.). At the end of September meetings were held at Nelson & Rossland, B.C., at which the directors of the two auxiliary lines of the system which are situated in B.C. were changed as follows:

NELSON & FORT SHEPPARD RY.—President, W. H. Thompson; Vice-President, C. Shields; Secretary-Treasurer, F. W. Bobbett; Directors, W. H. Thompson, F. H. Mason, A. Allen, Major Dupont & C. Shields.

RED MOUNTAIN RY.—President, W. H. Thompson; Vice-President, C. Shields; Secretary-Treasurer, F. W. Bobbett; Directors, W. H. Thompson, F. H. Mason, J. D. Farrell, Major Dupont & C. Shields.

Mr. Thompson is Division Counsel of the G.N.R. at Seattle; Messrs. Mason, Farrell & Allen are all of Spokane, & were stockholders in the B.C. roads under the Corbin regime. Mr. Shields is already known to our readers. Mr. Bobbett is J. J. Hill's appointee & has his office at Spokane.

Trainmaster Cunningham of the G.T.R. at London, Ont., has resigned.

THE QUEBEC BRIDGE.

Preparations for Early Construction.

At the recent annual meeting of this Co. in Quebec the financial statement showed capital stock subscribed, \$216,300. Receipts, \$50,303.00; expenditure, \$21,044.82. The following were elected: President, Hon. S. N. Parent; Vice-Presidents, R. Audette & Hon. R. R. Dobell; other directors, H. J. Beemer, J. Breakey, V. Boswell, J. B. Laliberte, G. Le Moine, Hon. G. A. Paquet, H. M. Price & N. Rioux; Treasurer, J. Breakey; Secretary, U. Barthe.

It was decided to at once invite tenders for the construction of the work.

THE DIRECTORS' REPORT

was as follows:—The last 12 months have been well employed. A good deal of preliminary business had to be despatched to put the Co. in such a shape as to enable it to call for tenders for the construction of the proposed bridge. The capital stock had to be completed, & calls on same made in compliance 60-61 Victoria, cap. 69. The financial statement which will be submitted will show that that part of our duties has been successfully accomplished.

There were also to be completed the technical studies & surveys essential to the execution of our enterprise. The surveys then in progress to connect the bridge with the railway systems on both sides of the River St. Lawrence, & of the bridge site itself, have been completed, with the plans and profiles of the same, & also those required by the Railway Committee of the Privy Council before approving of the bridge site, so as to show width of spans & clear headway required for navigation purposes; which have since been deposited according to the law, & approved by the Railway Committee & the Governor-General-in-Council.

Considerable expenditure has been forced on the Co. for making test-boring of the river bed at the most suitable points for pier locations, which work has been completed, & without which it would have been impossible to design any part of the foundations of the structure, particularly as all previous investigations and reports on the local conditions of the river at the bridge site were erroneous & entirely misleading.

General plans showing certain limiting dimensions & other essential data, with printed circulars, forms of tender, complete specifications for foundations, piers, & superstructure are now being sent to intending contractors, notice having been received on Sep. 1 that the specification for superstructure had been finally approved by the Chief Engineer of Railways & Canals.

It was your directors' intention to invite tenders at an earlier date this season, but they had to wait until the test borings were completed, in order to be able to furnish full specifications & data to the tenderers. The unavoidable long time spent in the submarine test borings which were commenced last winter well demonstrates the excessive hardness of the bottom of the river at the boring points. It is quite evident that, if that bottom was sand, as reported by some, it would not have taken 6 months of continuous work, from Feb. to Aug., to bore 9 or 10 useful holes at the different pier spots. As a matter of fact, the samples of material taken out from those holes through the core drills show that the bed of the St. Lawrence, where borings were made, is almost entirely composed of boulder gravel, the same material as that on which were built the immense cantilevers of the Forth Bridge in Scotland. Such river beds are so tough that the ordinary drills used at first last year could not penetrate through more than 4 or 5 ft.; wherefore the directors decided to secure the services of a specialist, Mr. Stearns, of Brooklyn, with a powerful plant of steam pumps & diamond drills. Even with that improved machinery the work went on with such difficulty that in some cases it took 3 weeks to bore a single hole.

This work being to the general advantage of the country, as it is designed to complete an important network of railways, is entitled to the generous assistance of the federal & provincial governments & of the city of Quebec. The sacrifices made by the Co. in the past, but more especially since last year, give it so much more right to such help. It can boast of having done its full share by taking bravely the initiative of a work of such importance & elaborately preparing all the preliminaries. Your directors are firmly convinced that when the time comes to face the financial question they will be substantially supported by those whose assistance was promised.

They have recently petitioned the Dominion Government for a subsidy of 33⅓% on the cost of the enterprise, & they have been assured that the subsidy will be voted next session.

Your directors might also take this opportunity of recalling the reasons which have caused the selection, since ratified by the Government, of the Chaudiere site in preference to all others. It is not a question of feeling, nor of preference, but purely & simply a question of engineering, on which most people must admit their incapacity to deal with the question. It is quite natural to desire that the proposed bridge be built as near as possible to the actual limits of our city; but it is equally obvious that when undertaking the construction of such a costly bridge, one should look to the narrowest point of the

river, & as a matter of fact the Chaudiere site is the narrowest point of the St. Lawrence on its whole length. The first consideration is the opening of a direct & constant all rail communication, in all seasons, & at all hours of the day, between the two shores of the St. Lawrence, which for a long distance east & west are deprived of that sort of connection. Business interests in this part of the Province are constantly complaining that railway tariffs are discriminative against them. A bridge at the Chaudiere will remove this objection by connecting the railways of both shores, by increasing traffic & consequently creating a legitimate competition in freight rates, & it will considerably reduce the freight account of the city & district of Quebec. It is the intention of the Co. to have its own independent line to give all railways access to the city. The location question is one of engineering, on which we must take the opinion of professional men. It is fully covered by the reports of Messrs. Shanly, Schrieber, Gauvin & Hoare, from which extracts are annexed to the present report.

Your directors have but a few remarks to add to these authorities. They would be the first to rejoice if it was practicable to build the bridge nearer the city. But it is a manifest impossibility. The question has been sufficiently considered, with all the elements of sound comparison, the local conditions such as the depth & width of the river at the different proposed sites, being well-known facts which cannot be altered by civil engineers. A bridge opposite the city would require a clear channel span of over 3,000 ft., supported by gigantic piers which could not even be built outside of navigable waters; it would moreover require a tunnel line underneath the city through the promontory, & on both shores trains using the bridge would have to make long & useless circuits to connect with the existing railways & to get at the shipping level. As to the Island of Orleans, that route is at once thrown out of consideration by a simple comparison of its 15,000 ft. of steel structure with the 3,310 ft. of metal as required for the Chaudiere bridge. The capital of this Co. & its range of resources are too limited for such gigantic schemes to be entertained. Before having the necessary capital subscribed, the revenue prospects have first to be determined, & your directors consider they have safeguarded the stockholders' interests when they decided to keep within practical limits. Their only choice was whether a bridge at Chaudiere, or no bridge at all.

They preferred the former, because they were convinced that what retarded the progress of the city & district of Quebec was the lack of free all rail connections the year round, which object would be as well gained by a bridge at Chaudiere as opposite the city,



Successful American RAILWAY DEVICES
made in Canada and sold at United States prices.

Bryant Portable Rail Saws
Pearson Jacks
Taylor Steel Tired Wheels
Chicago Grain Doors
Security Brackets
National Hollow Brake Beam

F. E. CAME - Montreal

Office—17 Place d'Armes Hill

Office of the Quebec Bridge Company
(Limited.)

QUEBEC, September 20th, 1898.

Sealed proposals for the construction of a combined Railway and Highway bridge across the River St. Lawrence, near Quebec will be received by the undersigned, until noon, Monday, January 2nd, 1899.

Forms of tender, with circular of conditions, specifications, &c., can be had on application to the undersigned.

The Company does not bind itself to accept the lowest or any tender.

ULRIC BARTHE,
Secretary.

& at all events certainly better attained by a bridge at Chaudiere than by no bridge at all. It is obvious that when the railways on the south shore can come to Quebec they will not lose the opportunity, & that the centre of gravity of such a well-situated seaport as ours cannot be displaced. Since 1891, the estimated cost of the bridge has been very materially reduced in consequence of the reduction in price of all kinds of bridge material.

Accompanying the report were the following professional reports.

OPINION OF WALTER SHANLEY, C.E.

In 1889 the Co. had a report made by W. Shanley on the three routes as designated below. Here are the comparative figures given by Mr. Shanley:

WIDTH OF RIVER HIGH WATER.	
The Citadel.....	4,281 ft.
Pointe a Piseau.....	5,468 "
Chaudiere.....	2,590 "
EXTREME DEPTH OF WATER ON PIER SITES.	
The Citadel.....	132 ft.
Pointe a Piseau.....	125 "
Chaudiere.....	43 "
EXTREME HEIGHT OF PIERS FROM BOTTOM OF RIVER TO UNDER SIDE OF BRIDGE.	
The Citadel.....	282 ft.
Pointe a Piseau.....	275 "
Chaudiere.....	193 "
STEEL BRIDGING, RIVER SPANS AND SHORE VIADUCTS.	
The Citadel.....	5,291 ft.
Pointe a Piseau.....	6,850 "
Chaudiere.....	3,100 "

Mr. Shanley continues as follows:—"The figures set out above make it plain to be understood that in respect of all natural difficulties the 2 lower sites, the Citadel & Pointe a Piseau, stand at an immense disadvantage when compared with the upper, or Chaudiere crossing. Construction plans applicable to each place have been sufficiently far advanced to allow of fairly correct comparative estimates of costs being made and the result leaves no room to doubt that the river could be bridged on the Chaudiere line for several millions less than at either of the two lower points. The difference between the cost of the Chaudiere project, carried out in its entirety, and that of either of the other proposed bridges is so immense that to speak of the two latter as rivals of the former would be a misnomer. . . . Except at Chaudiere, any attempt to bridge the river must be attended with risks; notably the risk of under estimating cost because of the great height (upwards of 130 ft. in clear water) of the under surface portions of the structure which would have to carry the vast piers, or towers, rising to a height of 150 ft. above high tide level. In view, then, of the many millions certain expenditure that a bridge anywhere below the Chaudiere would involve in excess of a bridge at that point and in view of the risks and uncertainty of cost sure to attend the attempt to bridge the river anywhere else, and, finally in view of the commercial aspects of the project, I feel compelled to record my belief that the construction of a bridge either on the Citadel line or on the Pointe Piseau line is practically impracticable. In these days of great bridge spans by means of the Cantilever system, or principle, there are, so to speak, no engineering obstacles to prevent the bridging of the St. Lawrence on the Chaudiere site. The one main Cantilever span would have a stretch of 1,400 ft. The great bridge over the Firth of Forth, now nearing completion, has two openings of 1,700 ft. each."

OPINION OF COLLINGWOOD SCHRIEBER.

Following is an extract from a report prepared by the Chief Engineer of the Department of Railways & Canals, Feb. 18, 1891, after a special visit to Quebec. Speaking of E. A. Hoare's estimates on the cost of a bridge at the Chaudiere, the Chief Engineer says in substance:—"This site is really, it appears to me, unobjectionable."

At the Pointe Piseau & Point Diamond sites 2 piers will stand in the channel, which may be objected to by the shipping interests. That at Point Diamond strikes me as very objectionable. The proposed site at the Island of Orleans may, I think, fairly be ruled out, as it would undoubtedly be very costly to construct. That it is feasible to construct a bridge over the river near Quebec, there is no manner of doubt."

The comparative figures given by Mr. Schriber are as follows:—

	Chaudiere.	Pte. Piseau.	Pt. Diamond.
Extreme length of bridge...	3,420 ft.	6,754 ft.	5,866 ft.
Width of river (water edge to water edge) high tide...	2,300 "	5,600 "	4,200 "
Width of river (water edge to water edge) low tide...	1,800 "	4,000 "	3,000 "
Deepest water in channel at low tide...	43 "	122 "	123 "
Height above high water...	150 "	170 "	170 "

ISLAND OF ORLEANS SITE.

	High Tide.	Low Tide.
Width of south channel	5,000 ft.	4,000 ft.
" " north	8,000 "	2,000 "
	13,000	6,000
Deepest water in south channel at low tide...	92 ft.	48 "

OPINION OF C. E. GAUVIN, C. E.

In his annual departmental report, dated Nov. 2, 1896, Hon. E. J. Flynn, then Premier of the Province & Commissioner of Public Works, made a very favorable mention of a report prepared under his instructions by Mr. Gauvin, Superintendent of Surveys in the Crown Lands Department, which was a very complete review of the different sites proposed for the Quebec Bridge. After summing up the different bridge plans then submitted, Mr. Gauvin concluded as follows:—"To simplify this examination I will, first of all, eliminate two sites which can have no chance of success in the selection which will eventually be made: 1st, That of the Island of Orleans, owing to the great length of the two bridges, that over the north & that over the south channel; to the consequent very heavy cost of maintenance of these two works, whose total length would be 15,075 ft., nearly 3 miles, that is to say about 5 2-3 times the length of the Chaudiere Bridge; to the serious obstacle to the navigation of large vessels which would be presented by the bridge over the south channel, with its 16 piers in the river, which would, moreover, greatly impede the movement of the ice; finally to the drawback which would result, especially for a line of such importance as that of the Quebec Bridge, of having to cross the River St. Charles over a drawbridge to enter the city, a drawbridge being the only means of crossing that river; 2nd, That at Pointe a Piseau (Sillery), because if an expenditure of \$12,500,000 is to be incurred, it would be as well for a few hundred thousands of dollars more to build the bridge at Quebec itself. The choice, therefore, remains between the site at Cape Diamond & that at the Chaudiere. From a technical point of view, the Chaudiere site is far superior to its Quebec rival; the length of the bridge there would be only half that of the bridge before the city, and the foundations of the piers of the first would reach only a depth of 40 ft. below the highest waters, while the supports of the 2nd would have to go down to 135 ft. below the same level. As a result, it is also the Chaudiere site which offers the most advantages as regards expense. According to E. A. Hoare, the cost of the bridge there would be only about 4-10 of that of the bridge before Quebec."

Further on the same engineer says:—"A bridge thrown over the river at Cape Diamond would undoubtedly present a magnificent appearance, and would, beyond contestation, possess advantages, as regards communication between Quebec & Levis, which a bridge at the Chaudiere, for instance, could never have. In the case of a construction of such importance, I would not have the aesthetic

question entirely put aside; but as the bridge would not be thrown over the St. Lawrence merely to produce an artistic effect, or for the purpose of establishing a constant means of communication (not by railway) between the population of Quebec & Levis, I doubt very much whether consent would be obtained to spend from \$5,000,000 to \$6,000,000 for those two considerations, which, after all, are but secondary. What is the chief, I may say the only, object of a bridge over the river St. Lawrence at Quebec? Is it to have direct & uninterrupted communication between the populations of Quebec & Levis? No. The chief object of the bridge at Quebec, or in its vicinity, is to connect the networks of railways on the north & south shores, & also to provide for the three great lines, the Grand Trunk, the Intercolonial & the Quebec Central, a means of reaching the port of Quebec itself, that is to say, those vast docks which have been built at such great expense in the estuary of the river St. Charles, & which possess so many advantages for loading & unloading cargoes, & which are so admirably situated with a view to future enlargement. This is the main object of the bridge. Now, the Chaudiere site is, beyond doubt, that which will enable us to attain that end at the lowest cost. The importance now possessed by the steam ferry between Quebec & Levis is chiefly due to the fact that there is no junction at Quebec between the railways of the north & those of the south shore. When this junction will be affected—whether at Quebec or at the Chaudiere matters little—when freight & passengers for Quebec by the Grand Trunk, Intercolonial & Quebec Central can reach their destination without transshipment, & likewise when freight & passengers from Quebec destined for points on those lines can take the railway at Quebec itself & avoid the transshipment to which they are now exposed, it will be seen that what will remain of the traffic between Quebec & Levis will be inconsiderable; too inconsiderable, in fact, to justify an additional expenditure of from \$5,000,000 to \$6,000,000. It is quite probable, moreover, that a bridge at Cape Diamond would only very imperfectly accommodate the purely local relations between Quebec & Levis; for to reach by the bridge from the commercial part of Quebec, the lower town, to that of Levis, the portion situated at the foot of the cliff & vice versa, it would be necessary to make a long detour, to ascend a height of 170 ft. above the level of the river on one shore & descend the same height on the opposite one. We may thus believe that, in most instances, it would be much quicker & consequently more economical to cross the river in a steamboat, as is now done, than to make use of the bridge. It is therefore certain that, in the question of the selection of a site for the bridge, the consideration of purely local communications between Quebec & Levis can have but a slight influence."

Mr. Gauvin then answers certain objections brought up against the Chaudiere site in the report of Mr. Bonin in 1890, in which it was contended that during the construction of the bridge a new centre of population would form at a certain distance from Quebec which would become a connecting point of railways. Mr. Gauvin refutes that statement as follows:—"If the bridge be built before Quebec, during its construction a new centre will be formed in the vicinity of the work on the heights of Levis, which are admirably adapted for the purpose—the fact must not be overlooked that, on the Quebec side, a tunnel will immediately follow the bridge—when the work is ended this centre will become a terminus of the line; there will be the real junction of the C.P.R. & the other lines on the north shore with the railways of the south shore. Quebec will then, as it were, be served only by a secondary line ending in a cul-de-sac

& the trade of Quebec will be transferred to the new town so formed. To such an objection against the bridge before Quebec, the supporters of the latter will assuredly not fail to answer that the thing is impossible; that in any case at whatever spot the bridge may be built, Quebec, the seaport, must be the terminus & the point of junction of the railways on both shores; & they would probably add that if the transatlantic steamers & a flotilla of small vessels could reach the heights of Levis as easily as they reach the wharves of the Harbor Commission, it would then be very different, & that under such circumstances only, could Levis dispute, with any chance of success, Quebec's claim to the honor of becoming the great commercial centre of the eastern portion of the Province. Now, in this order of ideas, what is not possible for Levis is not more possible for Cape Rouge, & this fear of seeing the trade of Quebec transferred to Cape Rouge, in the event of the bridge being built near the latter place, seems to me unfounded."

Another objection, that, with a bridge at Chaudiere, railway trains would only pass through Quebec, is thus answered by Mr. Gauvin: "We may be certain of one thing, that, even with the bridge before the city, freight or produce from the west shipped to points east of Quebec, or vice versa, would proceed direct to their destination. These goods would not have to undergo an unnecessary stoppage or transshipment merely because they passed through Quebec. We must not lose sight of the fact that freight trains merely passing through Quebec would bring in nothing to the city. Let us suppose, for instance, that the traffic on the eastern section of the C.P.R. should increase to such an extent that that line would bring an average of 100 freight trains daily to the port of Quebec. It would be a very fine thing for Quebec; but, I ask, what good would these hundred freight trains passing through ancient Lorette do to that place? None whatever. What advantage would the city of Quebec derive from trains merely passing through it? I do not see any. They would rather be a drawback on account of the noise, the smoke & the impeding of traffic in the streets through which the bridge line would run. I am told that in Toronto a movement has been commenced amongst its population to compel trains which merely run through the city without stopping to pass outside of its limits, the people being absolutely deafened by the noise caused by an almost uninterrupted succession of trains from which they derive no benefit. As to freight trains from Quebec, they will proceed to their destination as well if the bridge be at the Chaudiere, as if it were in front of the city itself."

"The junction line of the Quebec Bridge on the north shore has a peculiar feature which deserves special mention: that is the tunnel. Tunnels are always costly works (the one in question would probably cost not less than \$1,000,000), & they are very costly in maintenance, owing to the artificial ventilation which has sometimes to be kept up in them, & also to the constant watching they require. In my opinion, tunnels, & above all, curved ones, such as that needed for the Quebec bridge, should be avoided as much as possible. It is true that the final location of the junction line of the Chaudiere bridge with the C.P.R. has a tunnel under St. Foye Hill; but in this res-

pect there is a marked difference between the Quebec site & the Chaudiere site, which is to the advantage of the latter. The Quebec tunnel is inevitable, while for the Chaudiere bridge it can easily be dispensed with by slightly lengthening the junction line, & this solution, a much more economical one than the tunnel, would suffice for a long time for traffic requirements."

OPINION OF E. A. HOARE, C.E.

Under date of Sep. 3, 1898, the Bridge Co's Chief Engineer, reported: "As instructed by the board of directors, I beg to report on the results obtained from test boring at the site chosen for a bridge to be built across the River St. Lawrence above the Chaudiere basin, & to state the effect that the formation of the river bed will have on the pier foundations. The formation within the limits of high water was found to consist of rock underlying compact boulder gravel, with pockets of finer gravel nearer the surface. On the south side, above high water mark & extending from the cliff for a distance of about 150 ft., a pocket of clay containing boulders was found overlying the rock at a depth of about 80 ft. The minimum depth to the rock below river bed at any point within high water mark was found to be about 40 ft. The piers for the short approach spans will be on surface rock. The 2 main piers & a third pier will be the only piers that will be built within the limits of high water mark, & they will all be clear of the navigable channel. The piers for the centre span will be in 20 ft. of water at low tide, the foundations for which will be sunk from 50 to 60 ft. into an unyielding bed of boulder gravel by the pneumatic caisson process, which, comparatively speaking, is not uncommon for bridges of a similar size. The 3rd pier will be close to the north shore where the river bed is above low water. The foundations for this pier will be constructed in open caisson sunk about 16 ft. below river bed into the boulder gravel. Pier foundations on the south side between high water mark & the cliff will be of ordinary construction on dry land founded on the hard clay already mentioned. If it should be considered advisable to increase the channel span beyond the minimum allowance of 1,600 ft., to about 1,800 ft., & change the general design to suit, the 2 main piers would then be in 7 ft. of water, & it would only be necessary to sink the foundations from 30 to 35 ft. below the river bed. The plan to be finally adopted will depend upon the comparative merits of the proposals to be received from bridge construction companies. There appears to be a prevailing impression in some quarters that the maximum depth of the borings indicate the levels at which the foundations must be laid, that such is not the case is obvious from what has already been stated."

"It should be unnecessary to refer again to the old story of the best bridge site after so many well known opinions have been given in official reports. Nor should it be a perplexing question to conclude from the figures below that the Chaudiere is the only site that is not a commercial impossibility. The physical features of the Chaudiere & city sites compare as under:

Total length of bridging at	Chaudiere...	3310 ft.
	Quebec....	5100 "
Width of river at low water at	Chaudiere	1900 "
	Quebec	"
	(between wharves)...	3942 "

Width navigable water at Chaudiere... 1400 ft.
Quebec..... 3900 "

"The above figures should be self convincing without further comment. No reference, however, has been made to depth of water at any other site than the Chaudiere. The deepest water at low tide at Quebec for piers of channel spans equal in length to that proposed at Chaudiere will exceed 120 ft. Two piers would have to be placed in navigable water, which I have reason to know would not be permitted, thereby placing advocates of the Quebec site upon the same footing as the Co. formed for bridging the Hudson at New York were placed by the U. S. Government, the latter being compelled to design their bridge for unobstructed navigation between pier heads which required a clear span of 3200 ft. between towers; & even with this limiting span for the Quebec site 2 piers would still remain in navigable water but closer to shore. What I have stated applies equally to the advocates for the bridge at the Island of Orleans. Assuming an allowed limited channel span of about 3500 ft. at either of the 2 sites the supporting towers at either place could not be built in less than 40 to 50 ft. of water at low tide, & just consider the comparative cost of such a long span. The Chaudiere site has superior advantages for railway connections, which is of paramount importance to the City of Quebec. It is not the highway of foot passenger traffic that is going to enhance the commercial prosperity of the city, although this may be a very desirable convenience if it could be had at a reasonable outlay. The Chaudiere line will connect at a concentrated point with all the railways on the south shore, traffic from which can be taken to Quebec by either of 2 lines, one passing into the city along the coves on the north side of the river, & the other by St. Foye Village entering the city by the St. Charles River valley. The grades on both will be very favorable for all kinds of traffic. When this is accomplished a union station should be established for all railways centering at Quebec. With reference to the railway connections with a bridge at Quebec. You may not be aware that a costly tunnel will be required to connect the north end of the bridge with suitable ground to reach the terminus, & the elevation of tracks at the south end of the bridge will be about 160 ft. above the Grand Trunk, making a connection with their system impossible except by a very round about way."

It may be added that Chaudiere is up stream from Quebec about 6 miles. It is expected the bridge will cost from \$3,000,000 to \$4,000,000.

The Co. has invited tenders for the work to be sent in by Jan. 2 next. The tenders are to be accompanied by designs, & the Co. will consider tenders for a suspension bridge with stiffening trusses, & for a cantilever bridge with ordinary viaduct approaches; for the former tenders are to be accompanied by specifications adapted to that class of construction, with stress diagrams & other plans sufficiently detailed to enable a proper comparison to be made with other designs. The tenders & designs for both cantilever & suspension bridges are to be based upon the specifications prepared by the Co.'s Engineer. The Co. requires the option of dispensing with the 2nd railway track, electric tracks & roadways for the present.

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CANADIAN ROADMASTERS ASSOCIATION.

At a meeting of roadmasters held at Smith's Falls, Ont. Sep. 15, 1897, it was decided to organize The Canadian Roadmasters Association, the membership to be confined to roadmasters & assistant roadmasters in good standing on any regularly operated railway in Canada, members to be admitted by a majority vote of the Executive Committee. The membership fee was fixed at \$2. The officers elected were: President, W. Shanks; Vice-President, J. Jelly; Secretary, J. Drinkwater; Treasurer, J. Brennan. Other members of Executive Committee: A. McAuley, J. Shanks, W. Kelly, R. Shanks.

The 2nd meeting of the Association was held at Ottawa Sep. 20, 1898, President W. Shanks in the chair, there being a fair attendance of members.

In opening the meeting the President said: It is generally known that roadmasters are good speakers. It is customary for the chairman of such a meeting as this to open the proceedings with an address, but I am relieved very much on this score because I see many other better speakers than myself here to-day, & I will therefore make my address very short. I would say before proceeding to routine business that I am very pleased to see the large attendance at our meeting, though I would rather it had been a good deal larger. There is no doubt that meetings of this kind, if properly conducted, will prove beneficial both to ourselves & to the roads we represent. As I am not a speaker myself, & there are many here who are, I will not take up your time further, but will proceed with the regular order of business.

The Secretary read the minutes of the first meeting, also the Treasurer's statement, both of which were adopted. The roll was then called.

COMMUNICATIONS.

The Secretary reported having written to the management of the various Canadian railways requesting that facilities be given their roadmasters to attend the meeting, & read a number of replies, including the following:—

C. M. HAYS, General Manager G.T.R., wrote:—"I am sorry to learn that the Association did not select a more central location, convenient to the officers of our line, as in that event we should have been glad to have had as many of our roadmasters attend as could be conveniently spared from their work, but in view of the fact that the latter part of September, the date set for the meeting, is an unusually busy period for all of our roadmasters, of which you are doubtless aware, I fear that most of our men will not find it convenient to attend, as, with the exception of 1 or 2, it would mean an absence from duty of 3 or 4 days at least. If the next meeting could be arranged to be held at a more convenient time & place, central to our line, I would be glad to have as many of our roadmasters attend as could find it convenient."

D. POTTINGER, General Manager Government Railway System, wrote:—"There is no objection to our roadmasters attending the meeting of the Association if they desire to do so, & if the Chief Engineer can spare them from the work. We have a good deal of work going on at this season of the year & it will not be closed up in September, & it is not always convenient for the men looking after such work to be away from it."

W. WHYTE, Manager C.P.R. Western Lines, wrote:—"The date of your meeting is about the very worst time of the year for our roadmasters to leave their tracks, as our fall rush of traffic will then be on us. However, applications from any of our roadmasters will, no doubt, be considered by their Superintendents."

T. TAIT, Manager C.P.R. Eastern Lines, wrote:—"I am very glad, indeed, to hear that

the roadmasters in Canada have formed an Association with the object of discussing matters in connection with the maintenance of roadbed, &c., as I think that such discussions & exchange of experience & opinions cannot but be productive of good results. I have written our general superintendents asking them, on application from their roadmasters, to give as many of them as they can spare leave of absence & transportation to enable them to attend the meeting at Ottawa."

E. J. CHAMBERLIN, General Manager Canada Atlantic & Ottawa, Arnprior & Parry Sound Rys., wrote offering to extend the courtesy of those lines to roadmasters attending the meeting.

T. HICKEY, Roadmaster Michigan Central, wrote regretting inability to be present owing to the Roadmasters Association of America meeting at Denver, Col., Sep. 13 to 15, & suggesting that future annual meetings of the Canadian Association should be fixed so as not to clash with meetings of the U.S. Association.

OFFICERS ELECTED.

The following were elected by acclamation: President, W. Shanks, C.P.R., Carleton Jct., Ont.; Vice-President, J. Leslie, O. A. & P. S. Ry., Ottawa; Sec.-Treas., J. Drinkwater, C.P.R., Winchester, Ont. Other members of Executive Committee: J. Shanks, C.P.R., Montreal; W. Wallace, C.P.R., Ottawa; M. Keefe, O. & N.Y. Ry., Ottawa; J. R. Brennan, Gatineau Valley Ry., Ottawa.

The Secretary's report showed a membership of 31, the following line being represented: Canadian Pacific, Intercolonial, Canada Atlantic, Ottawa, Arnprior & Parry Sound, Gatineau Valley, Pontiac & Pacific Jct., Central Ontario, Michigan Central, Manitoba & Northwestern.

THE DUTIES OF SECTION FOREMEN.

The committee, J. Shanks, J. Brennan & J. Leslie, reported as follows: The duties are in summer to keep track in proper surface, level & line, renew ties, also change broken & worn-out rails, keep switches & frogs in good order & keep same properly blocked to prevent trainmen from getting caught in them, to keep all track bolts properly tightened, keep all farm & all public crossings in repair, also do light repairs to right of way fences, keep track to good gauge & adze down ties on curves where rails roll outward, keep ditches properly cleaned out. In winter to keep track properly shimmed up & prevent same from spreading, keep all switches & frogs & sidings clear of snow & ice, see that snow plough signs are put up & kept up all winter at crossings, keep the right of way clean & tidy & free of old ties, brush, weeds, &c. Foremen should ride over their sections on passenger, light or freight engines when opportunities occur, say once a week.

MR. JELLY.—Is this report supposed to cover the whole of a section foreman's duty?

THE PRESIDENT.—This report was drawn up that it might be discussed & amendments proposed if necessary.

MR. JELLY.—In moving the adoption of this report I would like to make a few remarks. I presume that different roads have different rules in connection with these matters, & I also presume that none of them have more for their foreman to do than the C. P. R. has. However, I think the report as a whole, as far as I can see, is all right. Nevertheless, the duties of a section foreman very often exceed those mentioned, but I think the chief duties are enumerated.

MR. MORIN.—I notice one very good idea in this report; that is the suggestion that foremen be permitted to ride on engines over their sections. Permission should be given to section foremen to ride on engines or passenger trains over their sections, so that they will be able to see all the bad spots on the sections. If this could be arranged with the

superintendents it would be a great benefit to the roadmaster & to the company. Another thing, I think that section foremen should visit all of their sections after a storm or high wind, & should go over the section personally both day & night. Just at present I do not notice anything else that calls for special mention.

MR. DRINKWATER.—Referring to the point taken by Mr. Morin, as to foremen riding over sections on engines, I may say that this has been the custom on our division for about a year. It was an understanding arrived at with the General Superintendent, and the Locomotive Department were advised to allow section foremen to ride over their own sections & such parts of adjoining sections as was necessary, on engines pulling passenger trains. This has been practiced on our division for about a year, & I find that it has been very beneficial. Of course you sometimes get a foreman who is afraid to ride over any section but his own (laughter), but there is much difficulty experienced in picking out bad spots without doing so. We all know how difficult it is for a foreman to locate a bad spot unless he knows within half a mile or so of where it is, & this new arrangement has brought about a great deal of help to section men, & gives roadmasters considerably less to do, & of course that is what we are all after. (Laughter.) I was under the impression that this was being practiced all over the system.

MR. JELLY.—Might I ask if it was through the order of the Superintendent that this was arranged?

MR. DRINKWATER.—It was arranged through an order of the Superintendent & Master Mechanic to allow section foremen to ride on engines over their own sections from one station to another, & we have instructions to have them ride over their sections at least once every 2 weeks.

MR. MALLOY.—I approve of this report as a whole, but, like Mr. Jelly, I think there are many duties of a section foreman other than those named. Besides these duties it is certainly the duty of a section foreman to go wherever his duty calls him, & at any time. However a section foreman's duty is very well expressed in the report, though there are many unforeseen duties which are perhaps hard to get at & express. I am in favor of adopting the report as it stands.

MR. KELLY.—I have very little to say, but like those who have spoken I think there are many duties of a foreman which are not included in the report, though I am in favor of adopting it as a whole, & think perhaps that it is not necessary to name all the duties which a foreman may be called on from time to time to attend to. For a foreman to ride on an engine over his section once a week is a very good thing, & as Mr. Morin has said, I think all foremen should go over their sections after a heavy storm.

MR. KEEFE.—I favor the adoption of the report as it stands, as I think it covers practically all the duties of a section foreman. It is a standing rule with some companies that a sectionman is at liberty to ride over his section on an engine, & as far as visiting track after storms or high winds is concerned, it is the usual custom, I suppose, to go over the section if there is any prospect of danger whatever.

THE PRESIDENT.—I think that the report covers about what our rules cover, with the exception of riding on engines. I think this would be a very good feature.

The report was then adopted.

REMARKS ON THE REPORT.

The committee, R. Shanks, W. Kelly & J. Jelly, reported as follows: We believe in close supervision of our sections & that the supervision should commence to run off at the same point on the track that the section commences.

mentees, the elevation to run off $\frac{1}{2}$ in. to each 25 ft.

On very sharp reverse curves perhaps this might not be enough if the distance between curves would permit more, & where this distance is not long enough the speed should be reduced.

We are not in favor of elevating any curve more than 6 ins., where trains do not attain a maximum speed of 35 miles per hour.

For a rate of 35 miles an hour we would elevate the curve 1 in. for each degree up to 3 degrees. For 4 degrees add $\frac{3}{4}$ in. & $\frac{1}{2}$ in. for each additional degree above 4 degrees.

We consider no rule can be laid down that will meet all cases, & the elevation may have to be varied according to circumstances. For a rate of 50 miles an hour elevate the curve $1\frac{1}{2}$ in. to the degree up to 3 degrees. For 4 degrees add 1 in. & for each additional degree add $\frac{3}{4}$ in.

On all curves raise the outer rail rather than depress the inner.

The adoption of the report having been moved, it was discussed.

MR. DRINKWATER.—I do not wish to be too inquisitive, but there are a few portions of the report that I do not understand very well. I can raise no objection to the substance of it, but the 1st paragraph is not very plain to me. I do not thoroughly understand it, nor the following: "Elevation to run off $\frac{1}{2}$ an inch to every 25 ft." On very sharp curves, or reverse curves perhaps this would not be enough. I believe in curve easement at the tangents, & that elevation should commence to run off at the same point on the curve that easement commences.

MR. R. SHANKS.—That is, your elevation would start to decrease at the point where your curve starts to ease off?

MR. DRINKWATER.—Yes. I think this report meets my views fairly well, judging from my small experience of curves, for I have been fortunate enough to have a road so straight that I can see from one end of it to the other. It is true that no rule can be laid down that will meet all cases. Any of us who have had any experience—we have all had some I suppose—know that this is the case. On a curve on a $1\frac{1}{2}$ grade, or whatever grade it may be, a train going down grade, whether freight or passenger, will run 45 or 50 miles an hour, & going in the other direction will run maybe 15. In other cases trains run from 45 to 65 miles an hour in both directions. There are many instances of this kind in 150 miles of road that only close attention & practical experience can deal with properly. This has been my experience, & I think that one clause in the report covers that point.

MR. MORIN.—I am waiting for some of the older heads to say something on curves. I think there is a good deal of judgment to be used in ascertaining correct elevation. It depends a good deal on where the curve is located. If it is on a down grade it would, of course, require more elevation than on the top of grade where the speed would not be so

great. I believe the elevation mentioned is not too much for sharp curves, where the outside rail gets worn. I believe that in a case of that kind the curve should be well elevated & well braced on inside & outside. I would like to hear from some of the old hands who have been at the business a long time.

MR. KEEFE.—From what experience I have had of curves, & we have some pretty bad ones on the other side of the river, I would say that I have been accustomed to give from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch to a degree, & found that sufficient. In many cases I have had to take elevation out of curves on a grade down to $\frac{1}{2}$ an inch, sometimes less. The fast trains would require more elevation, but the slow trains dragged over the top of the inside rail. In regard to running out elevation on curves, I have struck places where we have had to run out at the rate of an inch to the rail, but I presume you do not get that on the C.P.R. or some other lines, & in fact on the new line which we are building here the curves are very light. I have always found that wherever track was elevated from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch that we had to take the elevation out on account of tipping the inside rail. As Mr. Drinkwater says, it is necessary to use a good deal of judgment on account of the different speeds of trains.

MR. R. SHANKS.—Have you had no trouble with the outer rail cutting on grades of which you speak, with $\frac{1}{2}$ to $\frac{3}{4}$ inch elevation?

MR. KEEFE.—Yes. Also with the inch elevation; with the inner rail.

MR. JELLY.—Would it not be better to tip the inside rail, instead of having the rail cut?

MR. KEEFE.—It does not make any particular difference.

MR. LESLIE.—There are some very considerable curves in our line. I find that to elevate for 50 or 60 miles an hour for 8 degrees is as near as we can come at it. We have curves between Depot Harbor & Eganville 8 degrees, & between Eganville and here the sharpest curves are four degrees. I elevated them for 60 miles an hour & found it sufficient. The inner rail is now showing slight signs of wear on heavy grades. I elevated for 45 miles an hour & found it too much for heavy freights crawling up grade at a slow rate. I think this question is a pretty hard one to decide on, & it depends, of course, on the circumstances what elevation must be given. Passenger trains running at 60 miles an hour & freights crawling along at 15 to 20 miles require different treatment, & it is hard to provide for both. We feel like giving more elevation when trains are running fast.

THE PRESIDENT.—On what speed is the report based?

MR. R. SHANKS.—On a speed of 35 to 50 miles an hour.

MR. DRINKWATER.—What do you take for a basis in starting easement of curves?

MR. R. SHANKS.—The only way that you can work it successfully is that you can hold your curves in. Of course the proper way to get easement is to put it in in constructing the

road. If you do not ease your curve in you will certainly sharpen your curve.

THE PRESIDENT.—How you are going to ease a curve without changing the whole curve I do not understand.

MR. DRINKWATER.—Would it not be simply taking work away from the engineer that he had left undone at construction to do that.

MR. R. SHANKS.—We are not disputing that the work should have been done by the engineer.

MR. DRINKWATER.—If you take a 3 degree curve it is easier than a 4 or 5 degree, but the points are the same as the centre. If you ease the curve you make the points of curve easier than you make the centre; you can ease it in either way. If you line the whole curve in you make another curve; you do not change that one at all, you make another one. I do not take the position that the curve is not easier, but you do not make the points any easier than the rest of it. If you put in easement you do not leave the same curvature at the points as in the centre, & leave the centre where it was. That is exactly what the engineer would have done if he had made that style of curve when the road was under construction.

MR. R. SHANKS.—We do not recommend the changing of all curves, but the easement of curves.

MR. JELLY.—The curve could be lined all the way around, & then easement could be made on the end, & curvature made the same as formerly, & have an easement on the end as well. But of course if you ease portions you certainly make the balance of it sharper.

THE PRESIDENT.—If the easement is put in when the road is constructed then you have something that is worth something. Then you commence to slacken elevation where easement commences, so that your train will pass on to curves without getting that knock which it is so customary to get when striking curves. First your car comes over on a straight line where it should not come over, & there is no question in my mind, but that if we had roads laid out with easement they would ride much better, but I fail to see how you can get this & have curve ride well unless the whole curve is eased. That is my opinion in connection with easements. So far as elevation is concerned I find that I cannot get good results at 50 miles an hour with less than an inch to a degree up to at least 4 degrees. If you get beyond 4 degrees I would not be in favor of putting an inch to a degree. I am of the same opinion as one of the road masters (I forget his name) of the New England Roadmasters' Association, that is that after you get a certain elevation, I think it is 7 inches, that I would not elevate over that. Where it is necessary to elevate over 6 or 7 inches, you must reduce speed.

The report having been adopted, the meeting adjourned till the following day.

RAIL JOINTS.

The committee, J. Drinkwater & W. Shanks, reported as follows: In connection with our

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work there is no one thing of so much importance, or that affects tracks so much, as the joints. Considering from this fact the importance of the subject & the amount of money, time & study that has been expended on attempting to perfect rail joints, & yet your committee are strongly of the opinion that the best that has been produced that they have had practical experience with is still lacking, or has failed to fully meet the requirements. Our experience is from the old wrought iron chair to the plain fish-plate with the tie directly under the joint. Then came the 2 tie angle bar & later the 6 hole 40 ins. angle bar supported with 3 ties, & later still the 44 ins. angle bar supported the same as the 40 ins., with 3 ties, & at present we have a 4 hole angle bar supported on 2 ties.

Our experience has been that wherever joints have been supported with a tie directly under them, whether with the plain fish-plate, or the 3 tie 6 hole angle bar, the results have been better than with the 4 hole angle bar with the joint suspended between ties. The new angle bar with 4 bolts & 2 ties, suspended joint, is, we consider, a decided improvement over the old one in its general make-up. Instead of slats in the edges for spikes the holes are through the web or flange. This gives the full benefit of the 4 spikes against spreading, but with the improvements in this joint over the old 2 tie suspended joints we have been unable to see where the defect has been remedied, or the cause removed, or the necessity provided for that we have found to exist with a suspended joint.

The 40 & 44 ins. angle bars have the appearance of a waste of material, & this of course means expense for which no benefit is derived.

Up to the present our experience is & we beg to report, based on experience, that the suspended joint has been a failure, & even with the improvements on the present suspended joint we do not feel free to recommend it as being all that it should be, but, to the contrary, believe that they must get their support from underneath, and we consider that the energy spent & the efforts put forth to produce a satisfactory joint have not been productive of the result desired.

The adoption of the report was moved:

MR. JELLY.—I have had in use the 44-inch angle bar supported joint, also the 4-hole joint non-supported, & I find so far that the supported joint 44-inch angle bar is the best I have used. I do not at all approve of the suspended joint. With the old style we have had in use 56-lb steel, & have had the suspended joint & also the plain angle bar, & you could tell the very first rail length when you had left the suspended joint. The rails with the supported joint were in good order when the others were all battered down in the joints & in very bad shape. I consider that there is a difference of at least 3 years in the life of the rail between the supported & the suspended joints in favor of the supported joints. Of course, so far as the joint is concerned, I do not know that the long angle bars meet with my entire approval. I find that it is too long & that the quarter gets down at the back about 5 or 6 ft. from the joint, & I find that is the weak point. Of course you cannot shorten up the angle bar so long as you have 3 ties under it, but, so far, that is the best rail joint I have had anything to do with.

MR. R. SHANKS.—From what experience I have had I do not favor the suspended joint, but at the same time I cannot altogether approve of the 44-inch bar. I find that in quite a number of cases you have to tighten up bolts. Like Mr. Jelly, I have had a good deal of trouble with the rail giving back from the end of the bar about 2½ ft.

MR. KELLY.—I am much of Mr. Shanks' opinion. I find some difficulty with the 44-inch angle bar. The expansion is the greatest difficulty. I do not find the rails giving

so badly in the quarters, but the expansion is very troublesome. The 73-lb rail has a much higher neck than the lighter one, & with it the suspended joint makes a fairly good joint when well-tested, but with the light rail I think that the suspended joint is a complete failure.

MR. LESLIE.—We have about 80 miles of 44-inch angle bars & about 50 miles of suspended joints on our Eastern Division. My opinion is that the long angle bar with supported joint makes the better joint. We have not had a very great experience with either long or suspended joints, & do not know what the results may yet be; but up to the present the long angle bar has in my opinion proved to be a good substantial joint. Of course, as Mr. R. Shanks said, there may be a tendency to prevent the expansion from closing, thus causing the rail to sink where the shoulder is weak. I find that this is the case very often. Still it comes nearer to making a good substantial joint than anything I have had anything to do with.

MR. MALLOY.—In regard to the question of joints, I am of the same opinion as many others who have spoken, that is that we have not a perfect joint yet. The 40-inch angle bar, though, I find is the nearest perfect that I have yet seen in my experience as a foreman. The only objection I have to the 40-inch angle bar is that I have to expend extra labor on our rails back from about 2½ to 6 ft. from the end of fish plate to give it more support. We always give that part of the rail the preference in order to keep it from sagging down. Otherwise this is the best joint I have ever used. I have always found that the supported joint was the best & gave the most satisfaction, & have always noticed the difference when you got on to the suspended joint, even when sitting in a coach. As far as expansion is concerned, I have had very little experience with the 40-inch bar where the shoulders were narrow, but I did find that the bar hugged the rail the tightest of any angle bar I had anything to do with. However, I do not altogether approve of it, as there is far too much support for the rail back from the end. The full strength of the fish plate is in that part of the rail more than it is at the extreme point. Otherwise I believe it is the best joint we have as far as I have had any experience.

MR. BRENNAN.—I would prefer the plain strap to any other for my part, but I have had little experience with suspended or supported joints.

MR. J. SHANKS.—I have had some experience with the iron angle bar used on 60-lb. rails, & find it to be a complete failure, as the rails cut into the angle bars so badly that they are split right up & down the same as if there was no support under the head of the rail at all. Of course the old plain fish plate did very well with the 56-lb. rail when supported by a good joint tie. As for the angle bar, for the heavier 72-lb. rail, I could not really find any fault with that. As far as I have had any experience of it it has answered the purpose very well. I have not been bothered any with rails bending, but I think it is a waste of material, & might be shortened up to about 40 inches or as short as could be used on 3 ties to prevent the creeping of the rail. As for throwing out of line on account of hot weather, I have not been troubled with anything of that kind, but this may be caused from a number of trains going over the road, which shakes them around considerably & causes rails to creep. With only a few trains it might possibly be worse, & in using the 40-inch angle bar, or something as short as we can use to use slots on the next side to the joint, I think it would be an improvement to use the ¾ bolt with a square nut. As to the hexagonal nut I do not think very much of it, as it is impossible to keep wrenches in good enough condition to tighten up the bolts properly, & it is only a matter of time until

some of them will become nearly round, which would make it impossible to tighten them, & they would have to be renewed. As for the suspended joint that we use on the 73-lb. rail, there is no doubt it is a great improvement over the old iron ones we used to use on the 60-lb. rail, as we get the strength of our inside spikes on account of being directly through the angle parts of the fish plate. At the same time I think that the rail as a general thing batters worse on a suspended joint both on heavy & light rails.

MR. MORIN.—I have not had much experience with 72-lb. steel rails. I have only been a little while with Mr. Shanks, & have not had much time to learn about joints. Of course I have always had the old 56 & 60-lb. rail with straight fish plate & angle bar fish plate, & find the old angle bar of very little use. The old fish plate answered fairly well with the 56-lb. rail. I have not had much experience with these new fish plates. With double tracks I think it would be a very good idea not to have both ties the same size on the joint, but have one large & one small, because when the wheel gets off one end of rail the other goes down more. Where there is good ballast we used 73-lb. rail with 4 bolt holes, & results are pretty good as long as the joints are properly fixed & the ties pretty well together—not more than 4 inches between each. There is a good deal of trouble on account of ties not being properly fixed up & bad ties being used. Of course the old straight fish plates would answer better for such places.

An amendment by Messrs. Jelly & Graham, that the report be laid over for future discussion, was carried.

MISCELLANEOUS BUSINESS.

MR. LESLIE.—Some years ago the New England Roadmasters' Association adopted the principle of putting the big end of tie in side of curves. No doubt some of the roadmasters here can enlighten us as to this practice. I have been trying that method & would like to ask gentlemen here what their opinion of this is.

THE PRESIDENT.—I think it would be well to have this subject brought up at our next annual meeting.

MR. CARON exhibited to the members his patent nut lock.

It was decided to hold the next annual meeting of the Association at Toronto on the third Wednesday of September, 1899, & the following subjects were decided on for discussion, the names appended to each being those of the Committees appointed to report on them.

1. TRACK TOOLS.—J. Drinkwater, A. McAuley, & W. Shanks.

2. EXPANSION OF DIFFERENT WEIGHT OF RAILS.—J. Shanks, J. Graham, & J. Leslie.

3. PLACING OF TIES & TRIMMING BALLAST.—E. Murphy, T. Hickey, & J. Malloy.

The question of publishing the proceedings in pamphlet form was left to the Executive Committee.

On motion of Messrs. Jelly & Graham it was decided to recognize THE RAILWAY & SHIPPING WORLD as the organ of the Association.

On the motion of the same members a resolution was adopted expressing condolence with the family of the late Mr. Thomas Newman, C.P.R. Roadmaster at Schriber, Ont.

THE PRESIDENT.—Before closing I would like to say a few words in connection with the Association. I believe it was organized for the purpose of getting together & discussing railway matters, which would eventually prove a benefit to each member & also a benefit to the roads represented by roadmasters who attend these meetings. Now, I think the roadmaster is in perhaps a little different position than any other employe of a railway. In fact, he is in rather a peculiar position. He is all right when he starts from the beginning as

section hand & can look up to the foreman to get advice & information. If he is a bright, intelligent man, in the course of time he will become capable of taking charge of a section. Then, when he has charge of a section, he has the benefit of the experience of the roadmaster & can get information from him in regard to railway work which will help him very much in his progress. But when he gets to be a roadmaster he is in a different position altogether. I fail to see who we are going to look to to get any information from that will be of any benefit to us with regard to the practical side of our work. I do not wish to say anything that will seem to throw any reflection on superintendents or engineers, but as you all know, as a rule at least, superintendents, managers of roads & engineers & all such officials have not started at the foot & worked up. Of course there may be a few exceptions. I know of one at least who became manager of a road who started as a brakeman; & I know of one, in the United States, who reached the position of manager who started as a section hand. But that is not the rule. Our superintendents start as a rule as operators. From that they become despatchers, & from despatchers, trainmasters, superintendents, etc., but they never have any experience in connection with our work. On some roads roadmasters come directly under the engineer. The engineer, as a rule, has the theory of his profession from schools & colleges, but he has not practical experience, & therefore the roadmaster has no one to go to for advice in connection with his work, & for this reason I believe that this Association will open up a way in which roadmasters can get together & receive the benefit of the views & experience of other roadmasters who have perhaps been in the business many years longer & placed in such circumstances as to be able to gather together more information. Some roadmasters are placed off on side lines where there is no chance of seeing neighboring roadmasters, & cannot get information that they very often would like to have. I trust that this Association will, to a large extent, rectify that loss, & I think we will work together harmoniously & try to benefit each other, & that the Association cannot fail to result in a benefit to all of us. I do not think there are any of us who feel as though they had learned the whole business & cannot learn any more. There are none of us but can keep on learning from year to year. I would like to have our officials know that it is the object of this Association to improve roadmasters along these lines, & I think that when they know this they will only be too glad to assist us & to do all they can to further the objects of the Association. Now, there is another point I want to refer to, that is that roadmasters are, I think, tied up a little too closely. It is very seldom that a roadmaster gets out on another line to see how another man is doing his work. I think if a roadmaster could get out once or twice a year that he would take more pride in his own work & would certainly get the benefit of, perhaps, in a great many cases, more experienced men, men who have been in the business longer, & I think if our railway officials saw it in that light they would make it a point to let us get out a little more than in the past. I know that I never have passed over a line but I have noticed things that I did not consider any improvement on what we had on our own line, but, on the other hand, I never passed over another line but I saw improvements, & I think that as a rule roadmasters make a point to see how other roadmasters are doing their work when passing over other roads. There is another point, of course it would not affect all roadmasters, but in a great many cases it does, that is that roadmasters are kept in their offices doing office work when they should be out on the road. Of course there are a great many who have clerks, but a great many more

who have not. I think it is a mistake on the part of officials that roadmasters are not furnished with clerks, so that they can spend the whole of their time on the line, where they are supposed to be. In a great many cases roadmasters are kept in their offices for 2 or perhaps 3 days from the first of the month until returns are all in & work is completed. To my mind during these 2 or 3 days it is very easy to lose more to the company than it would cost to pay a clerk for the whole month. I would like to hear the opinion of other members regarding these matters.

MR. KELLY.—I think you have expressed our views so fully as to make it unnecessary for us to say anything more on the subject.

MR. J. GRAHAM.—Our company furnishes clerks.

MR. J. SHANKS.—What mileage has the Canada Atlantic?

MR. J. GRAHAM.—183 miles of track.

MR. LESLIE.—I have 130 miles, & am supplied with a clerk.

MR. MALLOY.—I would like to ask if it would be constitutional for roadmasters of electric railways to become members of this Association?

THE PRESIDENT.—On looking over the constitution I do not see anything to prevent this; it would entirely depend upon the definition of the word "railway;" but I think the duties of roadmasters on electric & steam railways are widely different.

The meeting then adjourned.

Constitution & By-Laws.

The following were adopted at the first meeting at Smith's Falls, Ont., Sep. 15, 1897:

The object of the organization is to secure more perfect harmony among roadmasters, to impart more general information, & to promote the general welfare of each other & of the roads represented by the members.

ARTICLE I.

Section 1. The name of the organization shall be the "Canadian Roadmasters' Association."

ARTICLE II.

Section 1. The officers of this Association shall be a President, Vice-President, Secretary & Treasurer, & Executive Committee of seven, including the President, Vice-President, & Secretary & Treasurer. The President shall be Chairman of the Executive Committee.

Sec. 2. All the officers shall be elected by ballot at the annual meeting. A majority of all the votes cast shall be necessary for a choice.

Sec. 3. The President, or, in his absence, the Vice-President, shall preside at all meetings. In case of the absence of both President & Vice-President, the members may elect a President to act pro tem.

Sec. 4. The Secretary shall keep the records of the Association & Executive Committee, audit all correspondence, & issue notice of all meetings of the Association & Executive Committee, & collect all fees & dues, pay them over to the Treasurer, taking his receipt therefor.

Sec. 5. The Treasurer shall keep the accounts & be charged with all the funds of the Association, & disburse them under the direction of the Executive Committee. He shall, at the annual meeting, or at any other time, if required by the Executive Committee, furnish a statement of funds, income & expenditures to the Association.

Sec. 6. All bills against the Association must be approved by three members of the Executive Committee before they shall be paid.

Sec. 7. The Executive Committee shall have the general management of the Association. Three members of this Committee shall con-

stitute a quorum at any regular or special meeting of the Committee.

Sec. 8. Vacancies can be filled pro tem by the President, or permanently by a majority vote of the members present at any regular or special meeting.

Sec. 9. All officers of the Association shall continue in office until the close of the meeting at which their successors are elected.

ARTICLE III.

Section 1. Regular annual meetings of the Association shall be held at some place in the Dominion of Canada, on the ... Special meetings may be called by the Executive Committee, or by vote of the members at any regular or special meeting. Seven members shall constitute a quorum of all meetings of the Association.

Sec. 2. The order of business shall be as follows:

1. Reading of minutes of last regular & intervening meetings of the Association.
2. Secretary's Report.
3. Treasurer's Report.
4. Roll Call.
5. Enrolment of New Members.
6. Reading of Communications.
7. Election of Officers.
8. Report of Committees.
9. Unfinished Business & Miscellaneous Business.

Sec. 3. The place of holding next annual meeting shall be decided by a vote of members present, or by the Executive Committee, of which all members shall receive due notice.

ARTICLE IV.

Section 1. Any Roadmaster or Assistant Roadmaster, in good standing on a regularly operated railroad in the Dominion of Canada, on securing the majority vote of the Executive Committee present at any meeting of that Committee, or majority vote of members present at any regular or special meeting of the Association, and signing the Constitution and By-laws, paying an entrance fee of two dollars, shall become a member of the Association, & shall remain so as long as he pays all dues and assessments promptly, unless expelled.

Sec. 2. Whenever the fee shall prove insufficient for the current & necessary expenses of the Association, then the Executive Committee shall cause to be levied on each member a further assessment, the whole to be approved by a majority vote of the members present at any regular or special meeting.

Sec. 3. Every member of this Association shall be notified by the Secretary at least two weeks previous to a special meeting of the Association & of his assessments; if he shall fail to pay the same on or before the next annual meeting, he shall then cease to be a member of this Association, unless his dues are paid or remitted by a vote of the members at any regular or special meeting.

Sec. 4. Any member may be expelled from this Association by a two-thirds vote of the members present at any regular meeting.

ARTICLE V.

Section 1. Any portion or the whole of these By-laws may be amended or others substituted instead, by a two-thirds vote of all members present at any regular or special meeting of the Association.

Canada Metal Co.—W. G. Harris, the enterprising proprietor of this Co., has shown commendable enterprise in restarting after the disastrous fire which destroyed the premises on William St., Toronto, on Sep. 18. The Co.'s 7 furnaces were buried under 15 ft. of debris, but are again in full blast, & the Co. will very soon catch up with its orders for solder, babbitt, piano-key leads, stereotype, linotype, & monoline metal.

THE APPLICATION OF ELECTRIC POWER ON TRUNK-LINE RAILWAYS.

By George Forbes.

In accepting the invitation of the Editor to write an article upon electric traction with special reference to its probable extension to trunk lines, it is not my purpose to instruct engineers in the duties of their profession, or to suggest to manufacturers any new directions in which to work, but simply to give those who are financially interested in railways the results of disinterested and careful study and extensive calculation. After casting a retrospective glance over what has been accomplished I will endeavor to indicate the directions in which electric traction is advancing, & to state in broad & general terms the conclusions that I have arrived at as to the cost of works & facility of carrying them out.

In dealing with this subject, it must be borne in mind that circumstances differ. The street railway has developed to a marvellous extent in America, whereas in some European countries it has not found general favor. The cause of this lies largely in the differing circumstances. Countries are also affected in varying degrees by the amount of their suburban traffic, while the introduction of electric traction must also depend on the amount of underground communication in large towns. And other special features arise, such as the facility of obtaining water power for generating electricity, or the difficulty of getting water for the generation of steam.

The first town to be thoroughly equipped with electric street railways was Richmond, Va. (in 1878, on the Sprague system), & from that date their development has been by leaps & bounds. Moreover, it has been continuously in the same direction, & while competitive systems have at various times come forward & may prevail at some future time, yet the overhead trolley system has so far almost monopolized the field. The consequence is that the general methods of working have remained tolerably uniform, although there have been decided improvements in the details of machinery. In the U. S., where this development has been most rapid, the systematizing of methods has become as complete as in the case of steam railways, & this applies to construction as well as equipment. The figures showing the present state of development are startling to those who have not yet realized them. It is impossible at present to get details of what has been done up to the present moment; the following figures are for 1895, up to which date sufficiently correct estimates have been prepared. At the end of 1895 in the U. S. there were 12,583 miles of electric street railways in operation. The capital invested in electric street railways at the same time was \$1,400,000,000; the net gross receipts, \$164,250,000; expenses, \$113,500,000; number of passengers carried, 3,000,000,000. These figures alone are sufficient to impress anyone accustomed to deal with the development of large industries.

A good many years ago I was in attendance at a meeting of electrical engineers in New York, & after numerous statements had been made about the progress of electric street railways in the United States, I was invited to give information as to what was being done in England. I then confessed that progress in electric tramways on the other side of the Atlantic had been very slow, but I described the principal development of electric traction which had taken place, & characterized it as being on new lines, saying that possibly this single instance might turn out to be almost equal in value to the street railway work which had already been described. I referred to the City & South London Railway, which cannot be looked upon as a tramway in any sense of the word, but

is a solid railroad properly constructed, its great distinction from the electric tramways being in the fact that the trains were hauled by electric locomotives. Several of my brother engineers in America grasped this fact at once, & were quite prepared to admit that, in the development of the electric locomotive, of which this was the first step, there might be a future worthy of comparison with what had been done in the propulsion of individual cars on street tramways. No assertion was made that the adoption of the locomotive was opening a new era; the statement was simply that the London experiment was one of great interest to all electrical engineers who wish to have a hand in moulding the future of this department of engineering. Since that date electric locomotives have been used on many railways. The facts are not generally known to the public, & it is not out of place here to refer to special cases.

NIAGARA FALLS PARK AND RIVER RY.

This railway is 12 miles long, of double-track, resembling in every way the standard adopted by the Canadian Pacific Ry. The maximum speed attained is 30 miles an hour. Trolley wires are used. There are 2 motor houses: one at the falls, worked by water-power; the other a small auxiliary station at the Queenstown end of the road, with steam plant. There is 15 minutes headway between cars, the average speed, including stoppages, being 13 miles an hour. Locomotives, in the ordinary sense of the term, are not used, but 22 motor cars supply this service, & are followed by trailers, etc. Some of the cars, when fully loaded with passengers, weigh more than 20 tons. There are 8 regular stopping-places along the line, furnished with platforms.

This railway has been referred to, not because of any special merit which it possesses, but because it is not a street railway, & because it shows a method of working. In fact, reference is made to it partly to draw attention to the extremely objectionable feature of it. When water power was available, it was not good policy to use steam power at a distance of 12 miles. Of course, if the electric pressure were only 500 to 600 volts, there would be a great waste of energy or an enormous expenditure of copper in carrying the current to even that short distance; but there would have been no difficulty in transmitting electrical power at high pressure, transforming it down, & converting it into a continuous current. This would have saved nearly the whole expense of working the steam plant. It is important to give attention to this matter of the use of water power on trunk railways. There has been an absurd hesitation to undertake the transmission of power to great distances. If engineers who have had experience in the transmission of power & in the conversion of alternating into continuous currents would look into this question they would be convinced that where water power is available it is generally economical to transmit electrical power hundreds of miles for working railways. As an example it can be proved that, if the railway companies of Scotland were to combine to work their trunk lines by means of electric motors, the electric current being developed by the water power which exists in that country, then the whole of that service might be carried on without the use of steam locomotives.

Another lesson to be drawn from a careful consideration of the subject is that the waste of coal on steam locomotives is not by any means compensated by the extra cost & loss of power in electrical transmission. Estimates have been prepared which show that not only is the cost of copper prohibitive, but that the efficiency of the electric system renders the consumption of coal with stationary engines about as great as with locomotives. This is certainly not the case. The cost of electric

transmission, when properly affected, is not comparable with what it is as calculated on the lines adopted in the past; & on the other hand, the efficiency of dynamos & motors has not been sufficiently considered in street railway practice in the U.S. A very large part of the success of the Liverpool Overhead Ry. is due to the high efficiency of the electrical machinery.

THE BALTIMORE TUNNEL.

This is a section of the Baltimore & Ohio Railway which it was found desirable to work electrically. The tunnel runs under Baltimore city, & is 7,339 ft. long, 27 ft. wide, & 22 ft. high. There is a steady grade of 0.8% from south to north. The passenger trains are pulled through the tunnel, & the freight trains are pushed the entire distance, steam locomotives in the latter case assisting them in the open. The calculations were for a maximum weight of 500 tons per passenger train, including locomotive, with a speed of 35 miles an hour; for freight trains, a weight of 1,200 tons & a speed of 15 miles an hour. The locomotives have 4 gearless motors, 2 to each truck. All the freight & passenger trains are run through the tunnel by electric locomotives. The following are examples of what has been done on this line: A train weighing 1,125 tons was hauled up a gradient of 42 ft. to a mile by the electric locomotive. At the end of 1 minute the train was moving at 10½ miles an hour. In another case, with a total weight of 1,068 tons, the electric locomotive gave a drawbar pull of 25,000 lbs. as measured by a dynamometer; with a speed of 11½ miles per hour, & a train of 1,600 tons, the drawbar pull was 45,000 lbs. On another occasion a train weighing 1,900 tons was started in the tunnel, & the maximum drawbar pull was 60,000 lbs. at 12 miles an hour. This case is cited as showing that electric locomotives are capable of doing all that can be done by steam locomotives. The first locomotive has been running steadily since Aug. 4, 1895.

NANTASKET BEACH ELECTRIC RAILWAY.

The electric railway is a branch of the New York, New Haven & Hartford Ry. It is 7 miles long, with some sharp curves, & there is a gradient of 34 ft. to the mile. There are stops about every quarter of a mile. Motor cars are used with trailers, with a drawbar pull amounting in some cases to 8,000 lbs. Further extensions of this railway in the same direction have been made, with the use of a third rail between the ordinary rails as a conductor for electricity. These extensions are from New Britain to Berlin & from Hartford to New Britain. There are 22 grade crossings, at each of which the third rail is replaced by underground cable. This electric railway is cited as the first instance of the supplanting of steam by electricity on a standard American railway.

LIVERPOOL OVERHEAD RAILWAY.

The length of this line is 6¼ miles, of standard gauge. A third-rail conductor is laid between the ordinary rails. There are 2 motors on each train, 1 at each end, each motor being of 40-horse power. This line was designed with the utmost care. The machinery was not taken from stock patterns, but specially designed to give high efficiency, the benefits from which have been thoroughly appreciated. This line deserves consideration as comparable with the one next to be considered, & as illustrating the advantage of applying motive power to the wheels of the train instead of to a locomotive, wherever possible. It can be shown that the greatest advantages are attained when the electric power is applied to every axle of the train, & this is the direction in which engineers 10 or 15 years ago expected that electric traction on railways might be developed. The inconveniences & expense, however, of replacing the whole of the old

rolling stock by new, & the unsuitability of the system generally to existing lines as worked by steam, have rendered the use of a locomotive of the utmost importance in all applications to railroads where steam has been used.

CITY AND SOUTH LONDON ELECTRIC RAILWAY.

This railway has $3\frac{1}{4}$ miles of double line. It is driven by electric locomotives, each of which has 2 motors, giving in all 100 horse-power. A third rail is used for the electric conductor. This was the first electric railway introduced in London, & its operation has been studied by engineers & railroad men with great interest.

The remarkable economy of operating the Liverpool Overhead Ry. has surprised all those whose experience in electrical traction has been limited to street railways. The reasons for this excellent performance lie partly no doubt in the cheapness of fuel & of labor, but far more in the good quality of the track & the care taken in designing & supplying efficient machinery.

The examples chosen must not be looked upon as an exhaustive list of cases where electric traction has been successful in competition with steam. They are typical cases, each illustrating some point which it is desirable for the public interested to have knowledge of. There has been no example of a long trunk line worked electrically, but, from the examples already given, it can be taken as thoroughly established that this is not due in any way to want of capability in the electric locomotive. The reason why trunk lines have not been worked by electricity is that, rightly or wrongly, those who have had the matter to decide have considered the cost of transmitting electric power too great. There would be nothing experimental in carrying out such a work, & the estimates of cost can be made out with the greatest accuracy. In an article like the present, intended for business men, as well as technical experts, such estimates should not be introduced; but it is necessary to draw attention to the fact that, in a great deal that has been written on the subject, it has been assumed that the electric pressure upon the feeders is only some 600 or 700 volts. Without assuming to advance any new idea upon the subject, I may cite as indisputable the fact that the feeders may be supplied with current at 10,000 volts or more, which may be in the form of continuous current, but which is more manageable as an alternating current. At different stations along the line it would be reduced in pressure by means of transformers, & converted into continuous current by means of a commutating machine. It is in this point that machinery for working the proposed system has been the least developed. The commutating machine now on the market, introduced first by Mr. Shuckert in Germany, & applied in various factories at the Niagara works, is usually called a rotary transformer. It does its work admirably, but it is expensive, cumbrous & requires continual attention. This last fact renders it impossible to lay such machines along a trunk line at distances of a few miles. But I have prepared the designs for a transforming & commutating machine free from all the defects referred to, which can be manufactured at small cost. For years I have impressed upon manufacturers the desirability of such a machine, & it is only a matter of time when they will find that it is to their own interest to provide it. Viewed in the light of the adoption of very high electric pressures, the cost of transmitting the power electrically is not at all the serious matter that it has been considered, but, in spite of this fact, human inertia may prevent rapid progress in the direction of working trunk lines electrically. After wide experience & a laborious study of the whole question, my opinion is that, as a rule, electric locomotives, with the power de-

veloped by steam, would, if the work were carried out on proper lines, be cheaper than the steam railroad up to a distance of between 40 & 50 miles from the power station. If water power were available for generating the electricity, the distance at which steam power would begin to be the cheaper on a busy line is several hundred miles. These statements are the result of calculations with coal at \$1.50 a ton. This economy arises from the well-known fact that in the best trial tests of locomotives 5 lbs. of coal are required for the horse-power hour, & from the fact equally well known, that so good a result is rarely attained, in nearly every case the consumption of coal being several times as much as that indicated. These conclusions, however, do not give much encouragement for the substitution of electricity for steam, except in special cases. A time may come when special railroads will be built over long distances to be worked electrically, & in that case there are advantages of a totally different character which will favor electricity, depending upon the fact that the locomotive will be abolished & power applied to every axle of the train.

In 1881, in the course of some correspondence from the Paris Electrical Exhibition to the London Times, I drew attention to the possibilities of electric traction on railways. That article was really the summary of a lecture which had been delivered before Anderson's College, in Glasgow, in 1879. In that article I drew attention to the remark made by Captain (now Sir) Douglas Galton, in the concluding paragraph of his report on experiments conducted by himself & Mr. Westinghouse on the air-brake when used with trains going at high speed. In that report Sir Douglas Galton said: "The advantage which thus evidently ensues from utilizing the adhesion of every wheel of a train suggests the further consideration as to whether it would not be a more scientific arrangement, as well as more economical in regard to the permanent way of railways, to utilize the adhesion of every wheel of a train for causing a train to move forward, instead of depending for the moving force upon the adhesion of one heavy vehicle alone—namely, the locomotive." I then pointed out that this fertile suggestion might be carried out by the employment of electric motors on the wheels or axles of each carriage. I further pointed out that such a system would result in a saving of wear & tear of the permanent way, a diminution of shocks & injuries to passengers & goods, & a facility in going around curves. Besides this, the wheels would not slip when going up steep inclines, & in starting from a station, speed could be obtained in a small fraction of the time now required. As a secondary advantage, the construction of the permanent way would be very much less costly. This is undoubtedly the way in which an electric railway should be worked. It was supported by able engineers, & many of us can remember the admirable writings of Mr. Sprague upon the subject, in which he made it abundantly clear that such a system of traction would be beneficial in every way.

Although the method of working just described is ideal, it can be applied only to a trunk line about to be constructed in total independence of existing steam railroads. If anything is to be done on a large scale with trunk railways, it must be by means of locomotives, & the advantages of an electrical system using locomotives are not nearly so great as in those cases in which electricity is applied to every axle of the train. It is owing to the great importance of these considerations that so much money has been spent on, & attention devoted to, the Heilmann locomotive, in which steam is generated on the train for the purpose of creating an electric current to be applied to motors driving all the wheels of the train. Without saying that this compli-

cated system has proved a success, still there is no doubt that those who have invested capital in the experiment have been satisfied that there is enough advantage in this method of propulsion to justify the carrying on of extensive experiments. The whole of the advantage lies in the fact that power is delivered to every wheel of the train, no advantage being gained from the cheaper use of fuel at a stationary engine.

The examples given, while they indisputably show that electric traction, under certain conditions, is well able to compete with steam, are not sufficient to overcome the natural conservatism which holds to existing methods.

Hitherto reference has been made chiefly to the great trunk lines, but special attention must be given to the conditions of suburban traffic. Most of us remember, not so very many years ago, the surprise with which we learned that several short steam railways were having to give way to the electric tramways which had been started. In later years it is the great steam railway companies which have been noticing with alarm that their receipts are being largely diminished by the competition with electric tramways for suburban traffic. That this competition is so successful is due to several causes. One is that the natural roads & streets have been employed for the purpose, so that little or no purchase of land has been necessary. But, perhaps, the most important cause is the rapid succession of independent cars which becomes possible under this system, affording a great convenience to the travelling public, & enabling them in many cases to start from their places of business in town & be landed at the doors of their houses in the suburbs. These are very serious matters from the point of view of the railway companies, because many of the companies are really dependent for their profits upon suburban traffic, & if this source of revenue is to be taken away, it will seriously endanger the financial position of the railroads as a whole. These matters have become more evident in the U.S. than in any other country.

At the first glance it seems almost impossible for a railway with fixed railway stations to be able to compete in convenience with an electric tramway, passing along the ordinary thoroughfares, picking up & letting down passengers at all parts of the journey. Most persons, however, who know the conditions of traffic in the neighborhood of large towns in the U. S., will probably agree that this matter of convenience does not apply to every household, & that householders want, so far as this point is concerned, would be fully met if the stopping places on the trunk line were in direct communication with the local street railways of the place.

A great deal has been written upon the comparative cost of working the suburban traffic upon trunk lines by steam & electricity. The question of a slight difference in cost one way or the other is of far less importance in the matter than the question whether it is possible for the suburban lines to run independent trains at a shorter headway—a system practically impossible with steam locomotives, but advantageously workable from a central electric power station. If the public felt certain of being able to find a car or train ready to take them along the well-laid trunk railroads to their destination, so that they would never have to wait more than a few minutes at the station, there is no doubt that a great preference would be shown for travelling along these well-equipped lines. This appears to be the only solution that affords the railway companies a hope of escape from the competition which they now have to face.

It must not be forgotten that there are some cases where electric traction is perfectly certain to take the place of steam, but, as a rule, there are special cases. Such super-

sedure will never be possible with trunk lines, except where water-power is easily available. For a railway through a desert there cannot be the slightest doubt that electric locomotives would facilitate, not only the construction but the working of the lines. During a recent visit to, & inspection of, the military railways on the Upper Nile I was impressed with the enormous difficulties of carrying the railway from Wady-Halfa across the desert, where no water could be obtained for a distance of 230 miles, to Abu Hamed. The difficulty consisted in the fact that, after the first 150 miles had been laid, for every train carrying rails & sleepers there had to be 3 or 4 trains carrying coal & water to supply the locomotives. I took occasion to impress the fact upon the authorities, & to show that, if the construction were to be entirely carried out as proposed, from the Wady-Halfa end of the line, it would be almost essential to work by means of electric locomotives. While these pages are being written, the Sirdar has succeeded in capturing Abu Hamed, & doubtless the most important result of this success is that it enables him immediately, during the flood-season, to carry rails & sleepers to Abu Hamed, & to carry on the construction of the line from both ends, so diminishing the difficulty which threatened.

Another case in which electricity is bound to supplant steam is that of underground railroads, especially in London; & the great increase in the number of electric railroads in London is the surest evidence that before long the whole of the underground system will change from steam to electricity. This change would have been accomplished long ago were it not for the expense of the transition stage, & certain difficulties which attached to the necessary change from steam to electricity on trains coming from the country into the underground system of London. These difficulties have been much exaggerated, & there is really nothing to prevent the immediate introduction of electricity in the underground system of London.

The conclusions derived from study extending over many years are as follows:

In cases where water-power is always available within a few hundred miles of a trunk line of railway, it is probable that economy would be served by introducing electric traction.

In the case of an independent system of railway to be constructed in a new country utterly unaffected by the traffic from steam railroads, power can be applied to every axle of the train; wherefore it will be economical in such a case, in construction & in operation, to use electric propulsion in preference to steam.

For desert railways, where water cannot be obtained, electric traction is eminently suitable.

In underground railways, such as the Baltimore Tunnel & the London underground system, where economy is not so important as convenience & comfort, electricity must be employed; & where such railways are to be constructed, economy makes electricity advisable.

In cases of suburban traffic electricity would help to overcome the competition with street railways by supplying the public with separate & independent cars running at very frequent intervals on a well-maintained track.

Engineering Magazine.

The Miles Canyon Tramway, which was built by an English company under a charter obtained last session of the Dominion Parliament by A. A. Clark, of London, Eng., has been in operation this season & is reported to have done well. It was built to avoid the rapids of the Lewes River between Marsh or Mud Lake & Lake Labarge. It is worked by horse power & has wooden rails.

ELECTRIC RAILWAYS.

British Columbia Electric Ry. Co.

Last month we published the speech of the Chairman of this Co. at the annual meeting in London. The directors' report was not then before us, but has since come to hand. It is the 1st annual one & the accounts appended to it are up to Mar. 31 last. Copious extracts from it will doubtless interest our readers & are appended.

The Co. was formed & commenced business in April, 1897, when it took over the management, but the railway & lighting business was purchased as a going concern as from Oct. 15, 1896. After discharging the liabilities & collecting the book debts, & the payment of working & special management expenses & of the $\frac{1}{2}$ years' interest, due April 15, 1897, on the debentures, the revenue for this interim period showed a surplus of £836. 10s 7d., which the directors transferred to reserve account. During the year the purchase of the business & property which the Co. was formed to acquire has been completed. Non-cumulative 6% income bonds, to the amount of £44,200, up to Mar. 31, & since to the amount of £56,100, have been issued at par, & the proceeds devoted to improvements. Little revenue, if any, was derived from these improvements until Dec., as the first works of any importance were only then completed, & by far the larger portion of the works, namely, the installation of water power at Victoria, was only completed in Sep. of this year. The future increase in revenue from this latter source is estimated by Mr. Campbell at \$44,365 a year.

Although the directors had before them reports of several experienced engineers employed by the Co.'s predecessors, strongly recommending the installation of water power in Victoria from the falls at Goldstream, as a means both of effecting large economies & of greatly increasing the amount of electrical power, they decided to have an independent report before proceeding to the very large expenditure involved, & asked F. Nicholls, of Toronto, President of the American Institute of Electrical Engineers, as to the most reliable engineer to employ for this special purpose. Mr. Nicholls recommended J. M. Campbell, whose services were secured, & he entirely confirmed the experts who had previously reported, & placed the additional profits to be derived from the installation as above. A careful examination of the various other water powers near Victoria showed them to be impracticable, & the lease from the Esquimaux Water Works Co. for the exclusive use for electrical purposes of their power at Goldstream, on which Mr. Campbell's estimate is based, was concluded for 40 years. The Co. has recently secured the permanent services of Mr. Campbell as Chief Engineer.

The custom of reading electric light meters at the end of each month made it inconvenient to close the books on April 14, when the Co. completed its first year, & Mar. 31 was adopted as a more convenient date. In consequence, in the period under review, only 11½ months are included. The net profits in B.C. for the 11½ months amount to \$97,692 @ 4.85 £20,142. 14s. 1d. From this the directors declared in Mar. last the full dividend of 6% on the income bonds; & after deducting the interest on the debentures, the expenses in London & fees of the trustees of the two issues, there remains £5,098. 13s. 5d. available for distribution. The directors do not recommend a dividend on the shares, but propose that £1,218. 8s. 6d. be applied to writing off 20% of the preliminary expenses, & £8. 15s. 9d. to writing off the small item for office furniture in London; that £3,663. 9s. 5d. be transferred to the reserve account, making that up to £4,500, & the balance of £207. 19s. 9d. be carried forward to next year.

The progress made in the year under review, & since Mar. 31, has been most encouraging, & is about equally distributed between the railway & lighting departments, & between the branches at Vancouver, Victoria & Westminster; it is also well spread over all periods of the year.

Following is a statement of earnings & expenses for the 11½ months from April 15, 1897, to Mar. 31, 1898:

Railway, Vancouver	\$12,281	
Westminster	6,000	
Victoria	73,888	\$187,274
Lighting, Vancouver	57,000	
Victoria	14,870	71,870
Total Earnings		\$259,144
Expenses		161,452
Net Profit		\$97,692

Percentage of expenses to gross earnings 68.01.

The directors are aware that the proportion of operating expenses is very high compared to many other similar companies, but this is due to abnormally large expenditure on maintenance account, owing to the Co's predecessors having allowed the rolling stock, road bed, &c., to get into a bad state of repair. In the period under review there is a steady improvement in this respect, which the directors hope will be still more accentuated this year. The following comparison with the statistics of some of the leading companies known on the London Market and carrying on the same business will be of interest:

	Receipts	Expenses	Profit	Percentage of working expenses to gross receipts
Montreal S. R. Co.	\$1,342,367	736,428	\$605,939	55.3
Ottawa Elec. Ry. Co.	224,501	151,402	72,999	67.6
Toronto Ry. Co.	1,077,012	573,891	503,121	48.8
London S. Ry. Co.	101,365	58,451	42,914	57.66
Twin City Rapid Transit Co. (Minneapolis & St. Paul)	2,009,120	1,068,550	940,570	53.18
B. C. Elec. Ry. Co.	136,441	97,757	38,684	68.1

The rolling stock has been put in excellent condition, all the cars having been thoroughly done up & where needed, the old type of truck replaced by modern trucks of the most approved pattern, and the motors renewed. The road bed & track on the Vancouver & Westminster branches are in excellent condition, & with a few small alterations, now nearing completion, the Co. will have an excellent permanent way throughout these two branches. With very slight exception the road is laid with 40-lb. rails, & where the old 25-lb. rails remain they are in such good condition that the management has not considered it wise to discard them; whenever they are worn out they will be replaced with heavier metal. On the Victoria branch the road was not in good condition & the rails are light, but as they & most of the ties will do good service for some years yet, the road has been brought into a temporarily efficient state, & a system of improvement has been entered upon by which the road bed & track will be entirely renewed over a period of a few years.

The Co's land grant & town lots have increased in value during the year, owing principally to the expansion of trade, which has been experienced in Victoria, Vancouver & Westminster. The population of these cities has largely increased. Building operations have been undertaken on a large scale to satisfy the new demands for business premises & residences, & consequently the unoccupied town lots have increased in value. Settlement along the line between Vancouver & Westminster has also increased; & the settlement of Central Park has sprung into a place of considerable size, yielding substantial traffic. Other stations on the railway at which there have been extremely few residents, & scarcely any business, are now developing.

The plant & machinery have been maintained in good condition during the year, but the increase in business will necessitate much rearrangement in Vancouver during the coming year. The improvements & extensions authorized to June 30 involve the expenditure of \$240,770, say £50,879, of which £24,095 4s. 3d. has been already charged to account at Mar. 31, 1898. The larger part of this is on account of the installation of water power at Victoria, & the re-organization of that branch in accordance with Mr. Campbell's recommendations, which absorbs approximately \$120,000. The double tracking of Government Street, re-arrangement of switches & other improvements were completed towards the end of Feb., but the branch was not worked by water power before Sept. The Oak Bay suburb of Victoria, hitherto unreached by the Co.'s lighting system, is being added to the area of its operations, & a large number of new subscribers has been secured.

On the Westminster branch new trolley wire & feeder copper has been added to increase the capacity of the leads, & the whole line has been put in excellent order, the old motors have been replaced by modern ones of approved pattern, & additional switches have been put in, greatly reducing working expenses, & enabling a more frequent train service as the increase in business justifies it. A considerable increase in the freight business, & in the sale of fire-wood obtained from the Co.'s lands, has been secured by the purchase of 2 additional special cars. A station has been built at Central Park. A long distance telephone has been erected between Vancouver & Westminster, & the intermediate stations.

In Vancouver an extension of the railway to Stanley Park, via Pender Street about 1½ miles, was completed in Nov., which enables the Co. to handle efficiently the large summer holiday traffic to the Park on Saturdays, Sundays & holidays. New engines & dynamos were purchased & installed towards the end of Mar., thus enabling the Co. to take fresh lighting business, which it would not otherwise have been able to cope with next winter.

Besides the installation of water in Victoria, the following improvements are now under construction:—In Vancouver a double track is being laid on the small portion of Hastings Street which remained with a single track, & also along Westminster Avenue. This will complete the double tracking of the whole of the main line in the business & more important residential sections of the city. The Co. is also extending its line through Powell Street, with a view of securing traffic from the east end of the town, & the important manufacturing, foundries & sugar refinery situated along that part of the water front.

During the present year, the directors propose to carry out the following improvements, which they are advised will prove remunerative:—The reconstruction of the Vancouver power-house is urgently needed, as it is now cramped with the new machinery recently placed in it, & is for other reasons at present unsatisfactory & uneconomical. Acting on the advice of the General Manager & Mr. Campbell, the directors propose to put up a suitable building in stone & brick, with all modern improvements, & to do away with the 2 existing power-houses on the Vancouver & Westminster lines, combining their machinery & driving both branches from one house. This will effect a considerable economy. It is also proposed to install a separate metallic circuit of large capacity for the purpose of supplying electrical power, for which there is a demand. The management estimate that the increase of business during the current year will justify the expenditure of from £6,000 to £8,000 in extending the lighting plant & mains, & a further £2,000 will be needed to thoroughly rearrange the lighting circuits in Vancouver on a more economical & scientific basis than that at present employed. The present circuits

were designed when the business was very much smaller, & are unable to cope economically with present requirements. The directors propose to build an extension from the Westminster city line to Sapperton, on the Fraser River, which has been petitioned for by the inhabitants, & which the General Manager recommends as a profitable investment, in view of the traffic created by the salmon canning industry. They also propose to extend the Vancouver line along Denman Street to the beach. This is a very short extension, but one, it is believed, which will produce considerable increase of traffic in the summer, when the beach is thronged by bathers. The approximate cost of the foregoing programme is estimated at £30,000, which the Directors propose to raise by the sale of shares, & in addition they propose to redeem the £56,000 of 6% income bonds by the same means. They therefore recommend the shareholders to increase the ordinary share capital by £100,000, & to authorize them to dispose of the shares as, & when they think it to be in the best interests of the Company to do so.

All the foregoing propositions made by the directors were adopted.

The authorized capital of the Co. when established was £250,000, of which £200,070 was subscribed. Up to Mar. 31 last the Co. had issued 4% 1st mortgage debentures amounting to £250,000 & non-cumulative 6% income bonds amounting to £56,100 being part of an authorized issue of £75,000.

The directors are: R. M. Horne-Payne, Chairman; F. S. Barnard, J. Horne-Payne, A. C. Mitchell-Innes, R. Northall-Laurie, G. P. Norton & R. K. Sperling. Mr. Barnard resides in Victoria, the other directors being in England. The head office is at 1 & 2 Great Winchester St., London, E.C.

The officials in Canada are: J. Buntzen, General Manager, Vancouver; J. M. Campbell, Chief Engineer, Victoria; E. H. Wilcock, Asst. Comptroller, Vancouver; A. T. Goward, Asst. Comptroller, Victoria; C. Aird, Supt. of Traffic, Vancouver; H. Gibson, Supt. of Traffic, Victoria.

Under date of Oct. 8 General Manager Buntzen wrote us that it had not then been definitely decided to build either the Sapperton branch or the Denman St. line in Vancouver.

In the directors report reference is made to the installation of water power at Victoria from the falls at Goldstream. About 16 miles from Victoria, the waters of the Sooke Mountains form a lake covering 150 acres, into which empties Goldstream River, which is tapped 3 miles from its source by an artificial lake or reservoir covering 7½ acres, 1,122 ft. above sea level. From this reservoir the water passes through a steel pipe, 33 in. in diameter, 6,700 ft. to the electric power house which is 460 ft. above sea level, thus giving a fall of 1,000 ft. from the main lake, through which 15,000,000 ft. of water pass every 24 hours, forming 1,500 h. p.

Maritime Province Lines.

Dartmouth, N.S.—A proposition has been made to the Minister of Railways to run the Dartmouth Branch of the I.C.R., by electricity. This branch extends from Windsor Jct. to Dartmouth, 13 miles.

St. John, N.B.—The Co. has spent about \$100,000 this year in enlarging & adding to the equipment of its Union St. power house, so as to concentrate there all the power for the railway & for electric lighting, & to abandon the Wentworth St. power house. The equipment of the Union St. power house now includes 12 engines from 250 to 600 h.p. each, & boilers rated 1,250 h.p. The new smoke stack is 175 ft. high. The Co. has added 5 open motors & 2 closed cars to its rolling stock this year. There have been no extensions of track.

Yarmouth, N.S.—It is said the Yarmouth Electric St. Ry. will be extended to Port Maitland next spring.

Ontario Lines.

Brantford.—At a recent meeting of the City Council the Clerk was instructed to notify the St. Ry. Co. that unless the terms of the charter were complied with steps would be taken to forfeit it. This was the result of complaints as to the service.

Galt, Preston & Hespeler.—J. W. Leonard, General Superintendent of the O. & Q. division of the C. P. R., has been elected a director of this Co.

The Hamilton, Grimsby & Beamsville has issued a pamphlet describing its line & the tributary districts. The reading matter is well prepared, but unfortunately it is printed with a pale ink. It is profusely illustrated & no doubt the original photographs from which the illustrations were made were very attractive, as there are some charming views along the line, but they have been spoiled in the lithographic reproduction. Our advice to the management is to suppress the balance of the edition, if it has not all been distributed, & to get out for next season an up-to-date pamphlet with first-class half-tone illustrations.

A deputation of farmers & fruit growers from Vineland and Louth Township recently waited on the H. G. & B. directors to urge an extension of the line from Beamsville to St. Catharines. The directors stated that the cost of building a line over the ravines, either on the stone road or the middle road, would be great, & they would not think of undertaking it without a substantial bonus from St. Catharines & also from Louth Township. It would also be necessary to get the Co.'s charter amended. J. Paterson, C. E., has since reported to the directors that 11 big ravines would have to be crossed between Beamsville & St. Catharines, which would cost over \$100,000. When Mr. Paterson's estimate for the whole work for the extension is before the board a decision will be come to. At present there is considerable doubt as to whether the work will be gone on with.

The Co. recently applied to Barton township council for permission to change its route by running a line along Main St. to Trolley Avenue. As the Hamilton St. Ry. Co. contemplates extending its line to Barton Hill, the Council agreed to pass a by-law to have the line used in common by the 2 companies, but this did not suit the H. G. & B. people.

The village of Grimsby is trying to get an injunction to prevent the H. G. & B. from obstructing Murray St. by leaving cars standing on the crossings.

Besides having increased its passenger traffic the Co. is doing a very heavy freight business this year. Fruit growing has developed marvellously along the line. Strawberry shipments commenced in June, & the season for other fruit shipments will extend to Christmas. The road has handled as many as 100 tons of grapes a day.

Hamilton Street.—The term extension by-law having gone into effect, it is said some improvement will be made in the system as soon as financial arrangements are completed.

Hamilton Radial.—It is said the line will be extended east to the Guelph Road, near Port Nelson.

London.—A board of county judges having confirmed the assessment of the Co.'s cars by the City, the Co. has taken the matter to the Court of Appeal.

Ottawa.—The crowds during the recent Central Canada Exhibition were so large that the Street Railway had difficulty in handling them, the equipment being insufficient. A number of open cars will be built during the winter.

Port Arthur.—W. Phillips, Manager of the Niagara Falls Park & River Ry. has been inspecting the Port Arthur & Fort William Electric Ry. on behalf of the Dominion Government.

St. Catharines & Niagara Central.—Haines Bros., of New York, who recently bought this line, have paid over \$3,529.91, being 10% of the purchase price under the judicial sale. As we mentioned last month their intention is said to be to electrify the road & make a number of improvements. An extension from St. Catharines to Beamsville, to connect with the Hamilton, Grimsby & Beamsville Electric Ry. is talked of. Haines Bros. have applied to the Council of Niagara Falls, Ont., for permission to extend the line from its present terminus on Bridge St. to the Mowat Gate. (July, pg. 118; Sep., pg. 179 & 193.)

Thamesville to Rondeau.—At a meeting at Ridgetown, Oct. 10, of which R. Ferguson, M.P.E., was Chairman, & W. E. Gundy, Secretary, it was decided to apply for a charter for an electric railway from Thamesville to Ridgetown, Morpeth & Rondeau as soon as the necessary funds were secured.

Toronto Ry.—The gross earnings of this Co. are as follows:—

	1898	1897	Increase.	Decrease
Jan.	\$80,562.36	\$71,545.55	\$12,016.81	.....
Feb.	82,402.19	69,744.61	12,657.58	.....
Mar.	92,818.12	78,891.45	13,926.67	.....
April.	86,898.83	73,756.38	13,142.45	.....
May.	92,670.35	82,461.51	10,208.84	.....
June.	94,119.32	91,533.44	2,585.88	.....
July.	104,302.92	105,381.64	.....	\$1,078.72
Aug.	110,300.54	93,224.33	17,076.21	.....
Sep.	138,021.74	113,672.44	24,349.30	.....

On the September earnings the city received \$10,900.37 as percentage, compared with \$9,137.87 in Sep., '97, & \$8,522.36 in Sep., '96.

The Co. recently sued the Seimens & Halske Electric Co., of Chicago, for the recovery of \$20,326.27, amount paid for a large generator for its power house. The Co. got the machine in 1896, & found after using it a time that it was not up to the guarantee given, & cost a large amount to keep it in repair. The Co., therefore, concluded it was useless, & sought to recover the amount paid for it. No defence was offered, & the evidence of a couple of the Co.'s officials was sufficient to cause the Chancellor to give judgment for the full amount with costs. J. Bicknell appeared for the Co.

Province of Quebec.

Montreal Park & Island.—The sale of this line, advertised to take place Sep. 22 in the sheriff's office, did not come off. It was stopped by a large number of oppositions by parties having claims against the road. Oppositions were filed, among others, by W. B. Lambe, Collector of Provincial Revenue, J. Cousineau et fils, & the Maison St. Joseph, of Sault au Recollet, E. N. Senecal & others. The Court will have to pronounce on the value of these oppositions before the sale can take place.

At the recent annual meeting the old board was re-elected as follows: H. S. Holt, W. Strachan, A. Brunet, Hon. A. A. Thibadeau, J. R. Thibadeau, D. Morrice & Hon. L. Beaubien. The annual statement was read & adopted without discussion. It is said it was very satisfactory & showed increased earnings.

Montreal Street.—The gross earnings are as follows:—

	1897.	1898.	Increase.
Oct.	\$116,292.09	\$109,110.38	\$7,182.71
Nov.	110,029.60	103,578.37	6,451.23
Dec.	113,128.91	103,116.02	10,012.89
1898.			
Jan.	110,140.83	89,620.55	10,520.28
Feb.	102,073.16	86,311.08	15,762.08
Mar.	114,077.90	96,441.57	17,636.33
April.	103,801.16	91,111.33	12,689.83
May.	133,008.59	109,222.93	23,785.66
June.	123,164.61	130,076.78	2,487.83
July.	143,986.62	129,245.92	14,740.70

Aug.	143,891.09	131,431.77	12,459.42
Sep.	136,564.80	120,634.57	15,930.23

\$1,449,641.51 \$1,323,431.97 \$1,200,209.44
The Co. declared a dividend of 2½% for the quarter ended Sep. 30, payable on & after Nov. 2. The annual meeting will be held Nov. 2.

The question of the liability of the Co. for accidents indirectly attributable to the narrowness of the space between the double track & the sidewalk on both sides of Notre Dame Street, Maisonneuve, has been decided by Judge Loranger in a sense favorable to the Co. The action had been brought by the Dominion Transport Co., the complaint being that one of that Co.'s waggons, loaded with iron beams, was being driven along Notre Dame Street, destined for the asylum at Longue Pointe. The waggon was being driven on the tracks on the right side. A car came up behind, & the driver of the waggon, being unable to turn to the right of the track on account of the space being occupied by another vehicle, turned to the left track, leaving the way clear for the electric car. When that car came alongside, however, the wheel of the waggon—the driver continuing to drive to the left—caught in one of the tracks. One of the iron beams, sticking out behind, struck the electric car. The shock frightened the horses, & they bolted, one running against a post & receiving injuries which made it necessary to shoot him. The Transport Co. sued for the value of the horse; but the court exonerated the Street Ry. Co. No negligence had been proven against that Co. or its employees. The space between the tracks was at the disposal of the public, but it was only reasonable that vehicles should give way to street cars, the latter being handled with proper prudence.

The West India Electric Co. which is a Canadian Concern, the principal stockholder being Jas. Ross, of Montreal, expects to have about 22 miles of electric railway in operation at Kingston, Jamaica, by March next. Mr. Holgate is Manager & Chief Engineer, & F. P. Brothers is Manager of Construction.

SHIPPING MATTERS.

Iron Shipbuilding in the Maritime Provinces.

The Maritime Board of Trade is composed of delegates from the various Boards of Trade in New Brunswick, Nova Scotia & Prince Edward Island, 17 of these boards being represented on the Maritime Board by delegates. At a recent meeting at Truro, N.S., the question of iron shipbuilding in the Maritime Provinces was discussed. It was introduced by J. M. Carmichael of New Glasgow, N.S., who began by presenting the following figures to show the decline of shipping in the Maritime Provinces during the past 20 years. He selected for comparison 1878, when the shipbuilding industry had reached its zenith, & 1895, which was the last of which he had any official record. The figures were as follows:

	1878. Tons	1895. Tons	Loss. Tons
New Brunswick	335,965	122,417	213,548
Nova Scotia....	553,368	343,356	210,012
P. E. Island....	54,250	19,323	34,927
	943,583	485,096	458,487

The enormous decline in our mercantile marine revealed by this statement was, he said, surely calculated to arrest the attention of all interested in the development of the trade of these Provinces. Indeed, it was a marvel that this great industry had been permitted to go so far on the way to extinction, without some effort on the part of the press or the public men of the country to arrest its backward progress. The fact was that,

whereas, in days not long gone by, the ships built & owned in these Provinces not only monopolized the foreign trade from our own ports, but were also competitors for the carrying trade in all parts of the world; to-day most of our large ships had disappeared, & the tonnage remaining upon our registry books was made up largely of the small craft around our coast.

The reason of this alarming decline in our shipping was perfectly obvious. Iron & steel had superseded wood, & sailing ships had given place to steamers. But it was evidence of small enterprise on the part of Provincial shipowners that they allowed the march of progress in this direction to drive them out of a business in which they had been eminently successful, & for which the people of these Provinces were so well adapted. A few Provincial shipowners had not been content to abandon a business to which they had devoted their lives, & finding it impossible to get ships of iron built in this country they had gone to Great Britain for their tonnage. Had this practice been more generally adopted there would now be a constituency of shipowners of the larger class, which would warrant the erection of extensive plants capable of turning out ships of 4,000 or 5,000 tons capacity. This advantage we have lost, but inasmuch as there is evidently a growing disposition to purchase ships in the British market for the home & foreign trade, we may hope that in a few years the situation will be entirely changed so far as large tonnage is concerned. This is a practice that should be encouraged by those who desire to see steel ships of the largest class built in the Maritime Provinces. The more quickly our people get back into the carrying trade, no matter where they get their ships for the first few years, the more quickly will large ship-yards be established here.

In the meantime there is nothing to prevent the construction of a smaller class of steel vessels immediately. Indeed, such had already been built by the firm with which the speaker is connected, & the experience gained had demonstrated that vessels of moderate dimensions could be built in the Maritime Provinces at this hour as efficiently & as cheaply as anywhere else in the world. He had no doubt that vessels of any size could be built to compete with British builders whenever we had a demand for them sufficient to warrant the undertaking. But our duty at the moment in these Provinces was with the class that we were able to build to-day. Numbers of small vessels such as fishing vessels, tugs, ferry boats, barges & coasting craft were constantly being required. Owners were content with wooden hulls for such purposes whereas steel was a better material, & for equal efficiency, quite as cheap, if not cheaper. The chief thing to be done was to convince the owners of such craft to build their vessels of the better instead of the inferior material. There was also a large trade in the West Indies done by small steamers of from 1,000 to 1,500 tons capacity. This trade to-day was largely in the hands of the Norwegians & was a profitable business. There was no reason in the world why our people should not take it up & have their boats built in the Maritime Provinces.

It was a mistake to suppose that there was any great difficulty in building iron ships. It might be a formidable undertaking for some people, but not for Nova Scotians who had built ships for half a century. The very men who are best qualified to undertake the actual work are the ship carpenters who are accustomed to building wooden ships. Such men would find it easier to turn out a iron ship in a week, whereas the work of rivetting & fitting could be done by less skilled hands. In fact, we have the very men to carry out iron shipbuilding, & in every way they are superior to the old country workmen. Indeed, one of the chief advantages we possess is in

the safety & versatility of our workmen, & in the fact that we could get the very best men for wages considerably less than are being paid to platers, rivetters, &c., in the British yards, where it is not uncommon for men to earn 15s. to 25s. a day.

The question was often asked whether a very expensive plant was not required to build steel ships. Much, of course, depended upon the size & character of the ships to be built. For battle ships & fast Atlantic liners a very large & very expensive outfit was certainly wanted, but to build cargo vessels of 500 to 2,000 tons capacity, which was as much as was within our reach at the moment, a very modest plant was needed. Indeed, the plant of a shipbuilding yard is a very elastic thing, & the department in which we find ourselves weakest is the engine & boiler department. We can build bigger ships at this moment than we can machinery to run them.

There is no difficulty whatever about material. We can purchase our angles & plates either in Britain or the U.S., & lay them down in our yards practically at the same price as the Belfast shipbuilders buy theirs. It is a mistake to suppose that the steel is such a large factor in the cost of a ship. In a steel vessel of 180 tons register built by his firm he had made a calculation & found that the angles & plates cost less than 10% of the whole ship. It would be well if these materials could be manufactured at hand, but so far as the shipbuilder was concerned it was of little consequence where they were made, so long as he got them cheap enough. There was no trouble whatever about angles & plates. The other materials, such as forgings, castings, brassware, canvas, &c., gave him more concern, as there was a heavy import tax upon them. This import tax was the chief hindrance to the advancement of shipbuilding, & some means should be adopted by the Government to relieve the shipbuilder from such a handicap. There was not an ounce of protection given to ships built in the country. It was well known that ships built in Britain were admitted into Canada free of duty, consequently it was not asking any special advantage from the Government to ask them to make the materials composing ships at any rate as free as the ships themselves. When this matter was properly represented to the Government they would doubtless remedy this anomaly in the tariff. But the main thing required to advance shipbuilding interests in these Provinces was to restore the interest of the mercantile class in the shipping trade which had been the glory of these Provinces in past years. When the people became aroused to the loss we had sustained by our apathy towards this great business we would see scores of ship yards established in these Provinces.

In conclusion Mr. Carmichael moved: "This Board recognizes that the business of wooden ship-building, which, 20 years ago, was a flourishing industry in the Maritime Provinces, has become practically extinct. It is of opinion that no insuperable obstacle to the construction of steel shipbuilding exists, but on the contrary it is a business peculiarly suited to the genius of our people. The Board, therefore, urges the importance of this matter upon the attention of all persons interested in the development of the resources of the Provinces, & that the Government be requested to remove any hindrances now in the way of the prosecution of iron shipbuilding in the Maritime Provinces."

GEO. ROBERTSON, St. John, N.B., seconded the resolution. He recognized that the men who had engaged in wooden shipbuilding were well-adapted for iron shipbuilding. He believed there was as cheap labor here as on the Clyde. He referred to the growth of Belfast as due largely to her iron shipbuilding industry, & he thought the Government might do for the iron & steel shipbuilding industry what it is at present doing for other industries.

If anything in the tariff was an obstacle, they should ask the Government to ameliorate that condition.

HARVEY GRAHAM, New Glasgow, N.S., followed, emphasizing the fact that steel shipbuilding cannot be successfully carried on in Nova Scotia till all the material is made in this country, & it cannot be made without a protective duty. That is where we are, but there is a way out of it. Let there be a bonus to the shipbuilder, as there is a bonus to the butter maker or others who have such an inducement to develop business. The great difficulty is not in putting the materials together, but in the engineering department for the manufacture of articles required. He showed how greatly beneficial to the country would be the establishment of such an industry as steel shipbuilding to Nova Scotia.

G. J. TROOP, Halifax, thought this iron shipbuilding must be overcome by individual enterprise—all agreed that it would be a grand boon for the country. The difficulty of cost of construction must be overcome. To make a complete success of iron shipbuilding in the Maritime Provinces, the firm which starts the enterprise must be able to build as cheaply as firms in Scotland build. Parties who want iron ships built will go where they can get them constructed the cheapest. He was in favor of starting this enterprise, but to be practical, it must be shown how cheaply, comparatively, iron ships can be built in these Provinces. If the Government is in any way hampering this industry, the Board should try to have the obstacles removed.

The resolution was unanimously adopted.

In this connection it will be of interest to reproduce the remarks of Ex-Mayor Geo. Robertson, of St. John, N.B., on this subject in a report he recently presented to the city council there on a visit he paid to England this year in connection with matters relating to that port. He said:—"A word or two with respect to iron shipbuilding. After having been shown through one of the noted yards on the Clyde, & having seen the scientific skill, the machinery capable of doing almost every part of the work, the vast army of mechanics & skilled artisans employed building vessels for the British navy, for the navies of the world, you may say, & for the mercantile fleets of the world, why should not the citizens of St. John give serious thought to the possibility of her citizens taking up this great industry & prosecuting it with success? It is along the line of the past history of our city & the genius of our people. We have the coal & the iron & the need for ships (the ever-increasing ocean commerce of the world can only be carried by iron steamships now & in the future). It is not a mere day dream, it is not an impossibility, it is not something that we cannot hope to attain because we have neither the material, resources or the name; but it is well within the legitimate hope & aspirations of our people, & it only requires a beginning—a beginning made by determined men, men of enterprise & pluck, to make iron shipbuilding in the port of St. John a success, & doubtless the results in time, aye, maybe in a very short time, would not be less than the results that have already accrued on the Clyde & in Belfast & at other great centres of the iron shipbuilding industry in Great Britain."

At a recent meeting of the Maritime Electrical Association at Halifax, F. A. Hamilton read a paper on electric gong buoys, audible vs. visual signals. The idea formulated was briefly as follows: To connect by means of a submarine cable a system of buoys fitted with powerful electric gongs. The buoys to be placed in the offing in such position that vessels could, without risk, run to leeward of them & consequently come within range of the gong signals.

The Baltic Insurance Case.

On Jan. 2, 1897, the Great Northern Transit Co., of Collingwood, commenced action in the High Court of Justice for Ontario against the companies mentioned below, claiming payment for loss by fire to the S. S. Baltic which was covered by fire policies in each of the companies, and which was destroyed by fire Sep. 5, 1896, while lying at the town dock in Collingwood harbor. The Insurance was as follows: Commercial Union, \$2,500; Alliance, \$2,500; London Assurance, \$2,500; Atlas, \$1,000; Waterloo Mutual, \$1,500; National of Ireland, \$1,500; Keystone, \$2,000.

Each of the policies contained the following description printed on a small slip attached to the body of the policy:—"On the hull of the S. S. Baltic, including engines, boilers, etc., etc., on board said steamer whilst running on the inland lakes, rivers & canals, during the season of navigation. To be laid up in a place of safety during winter months from any extra hazardous building. Ordinary outfit to be allowed in winter & spring."

The Baltic, at the time the insurances were effected, was laid up at the town wharf in Collingwood, & had not been in commission since the close of 1893, i.e. during the currency of any of the policies. The insurance companies claimed that they were not aware of the fact that the steamer was not in commission. The insurance was effected through a broker, & no applications were made to the companies. The case was tried before Chief Justice Armour with a jury, at Toronto, Sep. 23 & 24, 1897. The only questions submitted to the jury were as to the value of the boat & of the salvage. The defendants moved for a nonsuit on the ground that the policies never attached, owing to the fact that the Baltic was not in commission & did not therefore come within the definition of the risk "whilst running," &c., contained in the policies. The Chief Justice, however, directed judgment to be entered for the plaintiff, holding that the word "inland" was the emphatic word, & that the proper meaning to be given to the whole clause was that it distinguished inland from ocean insurance.

The cases were carried by the defendants to the Court of Appeal, which gave judgment Oct. 4, instant. The court of 4 judges was evenly divided & the judgment of Chief Justice Armour therefore stands, the appeal being dismissed with costs. Burton, C. J. O., & Osler, J. A., agreed with the contention of the defendants & held that the words "whilst running" mean "in commission" & that they form part of the definition of the risk & form a condition precedent, so that they were of opinion that in this case the policies had never attached. MacLennan & Moss, J. J. A., held that the policies were time policies in force for one year & that as it was obvious & admitted by the defendants that a strictly literal meaning could not be given to the words "whilst running" that they should not be held to form part of the definition of the risk in the manner laid down by the two other judges. They held further that if the words "whilst running" must be considered to constitute a condition, that such a condition must be held to be void as not being indicated on the policy as an addition or variation to the statutory conditions in the manner required by the Ontario Insurance Act R. S. O., 1897, cap. 203.

The amount involved in each individual case is not sufficient to entitle the defendants to go direct to the Privy Council, but it is apparently probable that they will carry an appeal to the Supreme Court of Canada. McCarthy, Osler, Hoskin & Creelman acted for the Great Northern Transit Co., & Beatty & Co. represented the insurance companies.

The Port Stanley-Conneaut Ferry.

The illustrations on this & pg. 221 give 2 views of the car ferry Shenango No. 1, which is being run between Port Stanley, Ont., & Conneaut, Ohio, in connection with the Lake Erie & Detroit River Ry. The ferry formerly ran between Port Dover, Ont., & Conneaut, connecting at the former point with the G.T.R. To accommodate the ferry the L. E. & D. R. Co. has built docks at Port Stanley, costing about \$45,000, the approaches costing about \$10,000 more. The main object is to get a good connecting link between the coal & iron regions of Ohio & Pittsburg respectively, & the west, by means of the ferry & the Port Stanley Ry. to London. During the past 2 years the Co. has handled a large quantity of coal & iron for London by the lake route, but the greatest drawback, especially in the coal trade, was experienced in the trouble of having to transfer it from schooners to cars, entailing considerable expense & loss of time.

The Shenango No. 1 is a large vessel, costing \$150,000, & has a capacity of 26 cars,

The Atlantic Steamship Service.

At a meeting of the Dominion Cabinet, Oct. 12, a contract for the winter Atlantic mail service was awarded jointly to the Allan & Dominion lines for 6 months up to May 1, 1899. The service will be a weekly one from St. John, N.B., to Liverpool, calling at Halifax both ways. The Allan steamers used will be Parisian, Numidian & Californian, & the Dominion steamers will be the Labrador, Vancouver & Scotsman. The subsidy is £500 a trip. Tenders are now being invited for a 2 years contract from May 1, 1899, & it is said that when that is disposed of negotiations will be commenced for a fast service.

Henry Norman, the English press correspondent, proposes an International fast Atlantic line. Great Britain & Canada & the U.S., ought, he thinks, to join in establishing a really first-class service. The U.S. is paying pretty dearly for a fast service of its own which sails from New York, and it is not, after all, the fastest service. The contract, which carries a subsidy of about \$1,250,000 annually, has

John's, Nfld., to which the southern fogs reach, & that in this clear zone Green Bay & its sea route to Galway is. It is said that a Turbinia steamship, making all allowances for delays, would do the sea voyage between the two ports well inside of 3 days. The London Spectator, which has always been a stout advocate of the railway tunnel project between Scotland & Ireland, sees in this fast Atlantic service proposal a strong argument in favor of the immediate carrying out of its favorite work, which it believes would unite the interests of Ireland & Great Britain as nothing else has been able to do. From Green Bay, in Newfoundland, a short branch line would connect with the Newfoundland & Western Railway to Port au Basque, giving an almost direct route to Sydney, & by way of the Intercolonial & connecting lines to Boston & New York, & a short route via the C.P.R. main line from St. John, N.B., to Montreal & Canadian points.

In this connection it may be mentioned that 2 boats, now in process of construction at Wallsend-on-Tyne, are exciting the liveliest interest in naval circles, not only in England,



THE PORT STANLEY-CONNEAUT CAR FERRY SHENANGO NO. 1.

having 4 tracks, the 2 centre tracks holding 7 cars each, & the two outside ones 6 cars each. In addition to this she can carry 1,200 excursionists on her upper deck, & is fitted with staterooms for regular passenger business. She is propelled by twin screws, steered by steam, & lit by electricity, & is owned by the U.S. & Ontario Steam Navigation Co., of Conneaut.

The distance from Conneaut to Port Stanley is 58 miles; Port Stanley to St. Thomas 9 miles; & Port Stanley to London 24 miles. By this new route Western Ontario is practically placed in direct connection with Pittsburg & the central states, from which a large amount of business comes into Canada. The L. E. & D. R.'s direct connection at Conneaut is the Pittsburg, Bessemer & Lake Erie Ry. (largely owned by the Carnegie Co.), which works direct with the Baltimore & Ohio, the Pennsylvania & other railways running out of Pittsburg.

The schooner Delphine was seized at Port Gilbert, N.S., recently, with over \$2,000 worth of smuggled spirits on board.

yet a considerable period to run, & they are not likely to do anything more until they see how their present project develops. The U.S. people are very friendly towards the British people at present, but they have not ceased to be exceedingly anxious to look after number one in all matters of international trade, commerce & industry, & a proposition to support a fast passenger steamship service between Canada & Great Britain would strike the average United Stateser as out of the question, no matter how clearly it might be proved that such a line would best & most cheaply serve the U.S.

The newest thing in fast Atlantic steamship service projects, is, says the Montreal Witness, the Newfoundland and Ireland one. The idea is to secure vessels of the Turbinia type, which will steam between 30 & 40 knots an hour, & place them on the route between a port in Galway & Green Bay, on the north-east coast of Newfoundland. There would be on this route an almost clear, uninterrupted course of open sea navigation. It appears there is a zone which is seldom foggy, between a point south of Belle Isle, down to which the northern fogs come, & a point north of St.

but on the European continent generally. They are to be fitted with the new system of turbine propulsion, which proved so brilliant a success on the Turbinia. They are both much larger than the pioneer vessel, & both are guaranteed by the builders' contract to attain a minimum speed of 35 knots. It is hoped that they may reach 50. One of them is for the British admiralty, while the ownership of the other is uncertain.

A London, Eng., cable of Oct. 10 says three 17 knot steamships have been purchased for the Canadian line between Milford Haven & Pasbebiac, Que., the first sailing in Nov., & that satisfactory arrangements have been made for a special service of trains between London & Milford Haven.

The Ontario Court of Appeal has recently held, reversing the Court below, that while under the Merchants Shipping Act unregistered equitable interests can be enforced as between the parties immediately affected, a purchaser from the registered owner takes a title free from unregistered equitable interests even though he has notice of them.

Notices to Mariners.

The Dominion Department of Marine has issued the following notices since Sep. 1.

No. 51, Sep. 5.—British Columbia. 1. Rocks in Temple channel. 2. Denny Rock reported not dangerous. 3. Position of Mouse Rock. 4. Perrin anchorage. 5. Lighthouses in course of erection.

No. 52, Sep. 9.—Nova Scotia. 1. Pease's Island fairway bell buoy. 2. Lockeport fairway bell buoy.

No. 53, Sep. 12.—Nova Scotia. Buoy on Chester Rock.

No. 54, Sep. 10.—Ontario. Improvements in the entrance to Parry Sound. 1. Old, or north, channel adopted. 2. Gas buoy on Hooper Island Shoal. 3. Gas buoy on Spruce Island Shoal. 4. Gas buoy on Seguin Break. 5. Probable improvement of buoy on Knight Shoal. 6. Removal of lighthouse from Hugh rock to Carling rock, & establishment of lighthouse on Cousin Island. 7. Proposed buoys off Carling rock & on Davy rock. 8. Discontinuance of temporary range lights marking south channel. 9. Lighthouse on Depot Island. 10. Sailing directions.

No. 55, Sep. 16.—Prince Edward Island. Annandale range lights, wharf light, day beacon & sailing directions.

No. 56, Sep. 19.—Ontario. Range lights at Baymouth.

No. 57, Sep. 28.—Nova Scotia. Buoy on Gull Ledge.

No. 58, Sep. 29.—British Columbia. 1. Lighthouse on Cape Mudge. 2. Heights of Yellow Island range lights.

No. 59, Oct. 8.—Newfoundland. 1. Harbor light & buoy in Port-au-Basques. 2. Shoals between Cape Pine & Cape Race. 3. Cleopatra rock expunged from charts. 4. Telephone cable across St. Pierre roadstead.

No. 60, Oct. 8.—New Brunswick. New buoy entering Dalhousie Harbor.

No. 61, Oct. 10.—British Columbia. 1. Rock in Queen Charlotte channel. 2. Hydrographic notes, Active Pass.

No. 62, Oct. 11.—Nova Scotia. Improvement in light on Freestone Islet.

UNITED STATES MARINE NOTICES.

The Notice to Mariners for the Great Lakes, issued by the U. S. Hydrographic Office Sep. 15, contains the following among others:—

144. Lake Superior, Superior Bay, Duluth Harbor. Raising of dredge no. 4.

145. Lake Superior, St. Louis Bay, East & west ranges. Change in character of lights.

146. St. Mary's River, Middle Neebish cut. Government tug in attendance. Signals.

151. St. Clair River, Woodtick Island. Marine city shoal buoy established.

152. St. Clair River, Woodtick Island. Establishment of spar buoy.

153. Detroit River, Limekiln crossing dredged channel. Temporary substitution of lantern on float for lightvessel (south) no. 64.

Transfer of Lake Shipping.

The following from Seaboard, a New York marine publication, will be read with interest: "If the Canadian canals will accommodate vessels 270 ft. long, 45 ft. wide, & 14 ft. draught, next year, one of the most remarkable exoduses of vessels ever witnessed may follow. It is said that there are as many as 100 modern steamships on the Great Lakes, within the dimensions named above, capable of carrying cargoes of 3,000 tons on the coast or ocean, which are unprofitable to their present owners in competition with the more modern lake carriers, which carry cargoes of 6,000 & 7,000 tons on a draught of 16 & 17 ft. The latest of the lake carriers are the only ones that are able to earn profits in the lake trade. It is only in about 2, or at the most 3 months in the year

that the smaller carriers—those capable of carrying not to exceed 3,000 tons on the lakes—are able to earn anything, & their earnings during that short period do not permit them to pay dividends on their cost & repair expenditures.

"In our coastwise, our Central & South American & our West Indian trade, vessels of just the cargo-carrying capacity of these lake vessels are now engaged. It is unlikely that the lakers could successfully compete in the coastwise trade, for the reason that vessels better adapted to that trade, capable of making better speed, are now engaged therein. But in the other trade, the trade with the West Indian Islands, Central & South America, where British & Scandinavian ships now do the bulk of the carrying, our 3,000-ton lake carriers ought to be able to supersede them. There is no doubt that they would soon drive foreign ships out of our entire carrying with the islands & countries of this hemisphere, if Congress would give a preference to U. S. vessels in competition with foreign vessels in that trade. The lake vessel interests are very strong & powerful. The Lake Carriers' Association is one of the most successful, because the most influential, association of vessel owners ever organized in the U. S. A majority of its membership is made of men holding interests in lake vessels that are now unprofitable, living in all of the states bordering on the Great Lakes.

"The opening of Canada's canals to the safe passage of these at present unprofitable ships, would probably have the effect of relieving the Great Lakes of a class of vessels that have been superseded by larger carriers that could not pass through those canals. That there would be a rapid exodus of them if Congress would pass a bill extending a preference to U. S. ships engaged in the carrying of U. S. imports & exports, goes without saying, because there would be a profit to attract them from a trade in which profits have long since vanished. It would have the effect, too, of making the lake marine trade more profitable, because it would permit vessel owners to exact a living rate, instead of a losing one.

"If the trade between Cuba & Porto Rico is confined to U. S. vessels, & the coastwise trade of those islands also so confined, this legislation alone would provide a market for more than half of the lake vessels that are capable of much usefulness on the ocean, but which are unprofitable on the lakes. Sea board, therefore, urgently invites the attention of the Lake Carriers' Association to the possibilities of a profitable market for their at present unprofitable ships in the West Indian, Central & South American trade, under reasonable & necessary protective legislation by Congress—legislation that has been solemnly promised by the party which is in the majority in Congress & which is in full accord with the administration.

"It would be a most remarkable & gratifying result of the opening of Canada's canals to the passage of vessels 270 ft. in length next year, as is promised, if such a great boon were conferred upon the present owners of unprofitable modern lake carriers as we have suggested, & which, the more we contemplate it, seems attainable, if the powerful & influential association of lake vessel owners, of which Senator Hanna is a member, would exert itself to secure the passage of such long-promised & much-needed legislation as would provide profitable employment for U. S. ships in its foreign trade.

"Evidently the opportunity for rehabilitating U. S. shipping in a portion of our foreign trade is to be afforded through the enterprise of our Canadian friends in conjunction with a wise exertion of the potential influence of the Lake Carriers' Association. This would be a case, indeed, where the British have 'builted better than they knew.'"

Early in October a deal was effected whereby the Atlantic Transportation Co., of New York, secured the transfer from the Great Lakes to the Atlantic coast of 4 steamers & 39 barges, with an aggregate carrying capacity of 69,500 tons & an insurance valuation of \$1,184,500. The Marine Review publishes a list of the craft, showing that the steamers capacity in net tons runs from 1,700 to 2,500 & the barges from 1,000 to 2,500. All of the vessels are on their way by the St. Lawrence route, it being the intention at the time of writing to have them in Montreal by Oct. 15, though it was doubted if this would be accomplished.

Shipping & ship building interests on the Atlantic coast, which were at the outset decidedly apathetic regarding the effect of this accession of tonnage, have, says the Review, in some degree been aroused, now that its actual consummation has been recorded. Schooner owners & agents on the coast express the fear that the transfer of this large number of barges from the lakes will ruin the schooner business, & in justification of their opinion point to the number of coastwise vessels which have been laid up on account of freight rates.

Vessel men on the lakes, have, in some instances, been surprised by the statement that the older wooden vessels, such as have been chartered, although in some cases unable to secure insurance of any kind on the lakes, would have no difficulty on that score on the Atlantic coast. That such is the case is due to the route on which the vessels will be placed. From Newport News, the terminal, to Delaware breakwater is only 110 miles, & from Delaware breakwater to New York is only 125 miles. Above New York the vessels can, for a considerable portion of the distance, make use of the "inside" route, passing between Long Island & the mainland. It will thus be seen that the course is a remarkably safe one, whereas these vessels, when engaged in lake trade, would be obliged to make runs very much longer & decidedly more hazardous. In almost all cases the captains who have been on the vessels will be retained. Most of them are quite as pleased with the prospect of winter work as is the owner with the opportunity to draw checks for the use of his vessel during the months when, had she remained on the lakes, she would have been laid up.

Maritime Province Shipping Companies.

Dominion Letters Patent have been issued incorporating J. T. Hamilton, H. McC. Hart, G. Musgrave, C. W. Outhit, R. T. Braine, T. Dixon, W. J. Butler, F. J. Phelan, L. Hart, W. N. Wickwire & J. A. Johnson, of Halifax, as the Briardene Steamship Co., with a capital of \$60,000.

Notices of application for incorporation under The Companies' Act (Dominion) are given as follows:—

The Ship Harvest Queen Co., headquarters Wolfville, N.S., capital \$25,600. Incorporators, C. R. Burgess, Wolfville; N. V. & M. Munro, Bridgetown; A. E. Forsyth, Windsor; T. E. Blagden, Halifax; & J. A. McBride, of New York City. Directors, C. F. Burgess, N. V. Munro & A. E. Forsyth.

The Barquentine Skoda Co., headquarters Wolfville, N.S., capital \$16,000. Incorporators, C. R., R. E., & A. B. Burgess, Wolfville; R. Lee, Aylesford; C. E. Dixon, London, Eng. Directors, C. R. & R. E. Burgess, R. Lee.

The Ship Kambria Co., headquarters Wolfville, N.S., capital \$28,800. Incorporators, C. R. Burgess, J. F. Tufts, G. W. Borden, W. H. Chase, Wolfville; J. J. Brownell, Baie Verte, N.B.; W. Y. Fullerton, Port Williams; C. E. Dixon, London, Eng. Directors, C. R. Burgess, W. H. Chase, J. F. Tufts.

The Ship Kings County Co., headquarters Wolfville, N. S., capital \$32,000. Incorporators,

tors, C. R. Burgess, J. F. Tufts, G. W. Borden, Wolfville; N. V. & M. Munro, J. W. Salter, Bridgetown; C. E. Dixon, London, Eng. Directors, C. R. Burgess, J. F. Tufts, G. W. Borden.

The Barque Conductor Co., headquarters Wolfville, N. S., capital \$19,200. Incorporators, C. R., R. E., & A. B. Burgess, Wolfville; J. C. Lombard, Kingsport; C. E. Dixon, London, Eng. Directors, C. R. & R. E. Burgess, J. C. Lombard.

The Ship Canada Co., headquarters, Wolfville, N. S., capital \$32,000. Incorporators, C. R. Burgess, Wolfville; N. V. Munro, Bridgetown, T. E. Blagden, Halifax; J. A. McBride, New York City; C. E. Dixon, London, Eng. Directors, C. R. Burgess, N. V. Munro, J. A. McBride.

New Winter Steamer for P.E.I.

The Minister of Marine has awarded to Gourlay Bros. & Co. of Dundee, Scotland, a contract for a steamship to take the place of the Stanley on the winter run between Prince Edward Island & Pictou, N.S. The price is £36,050. The specifications call for a single-screw steamer. Length between perpendiculars, 225 ft.; breadth moulded, 32½ ft.; depth moulded amidships, 20½ ft. The engines are to be of not less than 2,900 h.p. As copious extracts from the original specifications were given in our July issue, pg. 131, we will merely refer to some of the most important changes which have since been made. The extreme draft aft is not to exceed 14½ ft. with all equipments on board, steam up, & 50 tons of coal in the bunkers.

To have a straight stem, forged of the best selected scrap iron, or cast steel with 5% nickel if preferred.

Cellular double bottom not to be made 6 ins. deeper than usual to give better room for cleaning, as originally provided.

Platforms to be provided for four 6-lb. quick firing guns, 2 forward & 1 on each quarter, instead of 2 only. Magazine to be provided 12 x 6 ft., zinc or copper-lined & fitted with sea cock for flooding.

Officer's bridge to be strongly built of steel angles, instead of galvanized angles.

Donkey boiler to be fitted in to stoke hole 5½ ft. diameter by 11 ft. high, 90 lbs. working pressure.

The vessel, when completed & finished, with steam up, 50 tons dead weight, coal & cargo on board, not to exceed in draught 14½ ft. The vessel to be tried at or near Dundee, & over a series of 4 consecutive runs, to ascertain the results as per contract, & that the requirements thereof have been complied with in all respects to the satisfaction of the Minister or his representative. The vessel to be finished in every respect ready for sea, & delivered with compasses adjusted, at Dundee Aug. 31, 1899.

Engines to be not less than 2900 h.p., H. P. cylinder 26 ins. diam., I. P. 41 ins., L. P. 65 ins., stroke 39 ins. Pistons extra deep to dispense with tail rods.

Crank shaft of Siemens-Martin steel, of sufficient increased size, not less than 20% over Lloyd's requirements to give the required strength.

The propeller to be of approved diameter, pitch & surface.

Boilers to be of such dimensions as to supply a constant full pressure of steam of 170 lbs. a sq. in. when the engine is working under the full pressure stipulated of 2900 h.p. Boilers to be fitted with forced draft on the closed stokehold principle, having 2 fans, & capable of working under natural draft at less power when required. The boilers to be designed to obtain the stipulated results with the forced draft.

The Minister has not yet decided on a name, but it is said to be probable the vessel will be called the Minto, after the incoming Governor General.

Mr. Tarte on Transportation.

Speaking in Montreal recently, the Minister of Public Works, Mr. Tarte, dwelt at length upon the question of transportation. The deepening of the canals to 14 ft., which he hoped would be accomplished by the opening of next season, would bring the grain fleets from Duluth & the west to Montreal. The

fast line service is not a sinecure, & experience shows that we must at least make efforts without delay to have a line, a business line, if I may so style it, in the sense of which I have spoken. I think this whole question of transportation is the question of the hour. But, you say, money will be needed. No doubt; but the people of this country are a thrifty people. They are also a people of progress & of enterprise. Other people spend money on their harbors. In Boston they are about to add \$20,000,000 to \$50,000,000 already expended. There have been only \$3,000,000 spent on the Montreal harbor as yet. If we want to contend advantageously with our competitors we must have the means."

Freight on the Great Lakes.

The season of navigation on the Great Lakes is, says the Marine Review, of Cleveland, Ohio, of Oct. 8, closing to the entire satisfaction of the vessel interests. The volume of business will again be largely in excess of previous years, & conditions attending the closing months of the season are such as prompt activity in the shipyards, not only in repairs, but also in new ships. The Atlantic Transportation Company, of New York, takes 43 ships (39 barges & 4 steamers) from the lakes to engage in the coal trade on the Atlantic coast. The combined capacity of these vessels is 69,500 net tons. They are all vessels of the past in the matter of earnings when compared with the modern steel ship, but they were nevertheless a factor in lake freights. A conservative estimate as to their capacity for a full season is 1,251,000 net tons of freight. This is based on 18 cargoes in a season for each of the vessels, & that number of cargoes is undoubtedly low when the steamers are taken into account, & when it is understood also that several of the barges—those of the Mack-Becker fleet, for instance—were so engaged that they would carry nearly double that number of cargoes in a season. The loss of these vessels will be felt especially in the coal trade at the so-called out-of-the-



REAR VIEW CAR FERRY SHENANGO, NO. 1.

Parry Sound Ry. was another great avenue of trade to which he had frequently drawn attention. The fight over the improvements to the harbor of Montreal was over, & the completion of those works assured, but more was needed. The channel between Montreal & Three Rivers must be deepened, & the system of buoys, lighthouses & pilotage must be improved. "When we have equipped, as I have told you," said Mr. Tarte, "our railways, our canals & our river route, we will want ships, & the C.P.R. will be obliged, if it wishes to keep its place, to fit up fleets of steamers on the lakes to transport to Montreal the grain received at Fort William. But we will also have to equip the fleets of steamers that will come to Quebec & Montreal in summer, & to St. John & Halifax in winter. I am not quite free to tell my whole mind, but there is one thing at least I may express, the desire to see ships arrive in Montreal like the steamer Canada. Do you not believe, if we had ships at 17 to 19 knots, with passenger accommodation & freight capacity, we should be sure to have an immense current of passenger & freight traffic? The establishment of the

way ports, & in the ore trade at places like Tonawanda, at all of which ports modern dock machinery must be provided to care for vessels of a larger class that will take the place of those leaving the lakes.

The advancing of freight rates, due mainly to a large grain crop, has more than equalled the expectation of vessel owners. The C.P.R. has taken care of all vessels offered for nearly a month past at grain rates based on 1¼c. for corn to Buffalo, & on the northwestern wheat crop, moving through Duluth, a rate of 2¼c. to Buffalo has been well maintained. Contracts covering 2,000,000 bush. of Duluth & Fort William grain, to be moved to Buffalo during the first half of Nov., were made in Duluth a few days ago at a 2½c. rate. It was said that 1,000,000 bush. of this grain was taken by the Bessemer Steamship Co. (Rockefeller fleet), and its management said that it would say nothing on the subject when inquiry was made regarding the transaction. Sep. ore shipments were about 200,000 tons short of shipments in Sep. of last year, & it is now expected that the supply of ore will be grossly deficient for a long time.

time ago, will not be reached. A general shortage of mining labor in the Lake Superior region & high grain freights are the causes of restriction in ore. The output will probably not exceed 13,500,000 tons. There is satisfaction in the shortage to both ore & vessel operators, however, as it means reduced stock prices on Lake Erie docks next May. Rates on ore up to this time have been held down to 75c. from the head of Lake Superior, 60 to 65c. from Marquette & 55 to 60c. from Escanaba, but at these figures, which are lower than the grain rates, the ore shippers have secured only a small part of their share of vessel capacity during the past 10 days. It is more than probable that quite a little chartering could be done from the head of the lakes at 80c. if vessels were to be had at that figure.

Yukon Navigation Matters.

The 2 sternwheel steamers, Dalton & Walsh, built at Port Blakeley, Wash., for the C.P.R., for the Stikine trade, but which did not go into commission owing to the slump in Yukon traffic, are to be wintered in the fresh water of the Fraser River, opposite New Westminster, where another C.P.R. steamer has been moored for some time. The Dalton is a passenger boat with accommodation for 200, & the Walsh was built to carry 300 tons of freight.

In our Sept. issue we mentioned that the Canadian Development Co. was running the steamer Anglian between Teslin Lake & Fort Selkirk. She made 1 trip from Teslin Lake to Dawson & 2 trips from Dawson to White Horse, & was returning to Teslin late in the season but could not ascend the Hootalinqua & had to turn back. On the way down she struck a rock & was beached at the mouth of the Hootalinqua. Capt. Foster, of Victoria, who took the steamer Canadian to Dawson, was sent to the Hootalinqua to attempt to float the Anglian, & to get her to Fort Selkirk for winter quarters.

A despatch to the Globe, dated Teslin Lake, Sep. 8, said:—"The last detachment of the Yukon force & supplies reached Teslin Aug. 24. The steamer Anglia, due by contract Aug. 25, not having returned, the remainder of the force, numbering about 140, with the officers & 3 Victorian Order nurses, left Teslin for Selkirk, a distance of 400 miles, in scows & small boats. Four large scows, with about 13 tons of freight, & 5 small boats constituted the fleet. The scows when loaded with supplies drew about 18 in. of water, & were navigated with sails & oars. Capt. Thacker, in a small boat, went half a mile in advance, seeking a channel; Major Young came 2nd, & was in signal communication with the 1st boat. There was a space of 100 yards between each scow, each being in charge of an officer & carrying about 30 men. The procession was considerably over a mile in length. It is expected an average of 25 miles per day will be made, & that a camp will be made on shore each night. Selkirk is expected to be reached in about 15 days. The down-river current on the Hootalinqua is 4 miles an hour."

Another dispatch, dated Dawson, Sep. 16, said:—"The scow fleet, carrying the main body of the Yukon force & supplies, have reached Selkirk, all well. The trip, 450 miles, was made in 13 days. The river was beautiful & navigation excellent. On Sep. 1 the steamers carrying the winter supplies were reported at Rampart, 700 miles below Dawson. They will probably arrive before winter sets in."

There is war among steamboat men, & if the breach widens much further the rates will be down so low that it will be cheaper to travel than to stay at home. Since the disruption of the Puget Sound Steamship Association in

September the breach between the different companies has been steadily widening, until now from day to day there is no prophesying what passenger rates between Victoria & Vancouver & Lynn Canal will be. The smaller companies have, in the main, stood by the first Skagway cut to \$25 & \$15 for 1st & 2nd class, which went into effect when the Association was dissolved, but it seems that the Pacific Coast S.S. Co. has stolen a march on them & been getting business at a much lower rate. The rates now quoted by them are \$15 & \$10 to Skagway & Dyce, & \$12 & \$8 to Juneau. The competitors soon found out that a cut had been made, & immediately met their rivals. Some have, it is said, gone the P. C. S.S. Co. one better, & there is promise, a well-known steamship man says, of more slashing, & people who have been watching the progress of events say they should not be surprised if one could soon go to the head of Lynn Canal for \$5, & have the best cabins at that. The rates down the inner passage have not had a fixed ratio in many weeks. Any figure that will sell tickets seems to have been the controlling influence of agents, & some passengers are known to have been brought to Victoria from Skagway for \$10 1st class. The Alki carried a number for \$12 & \$7.50 1st & 2nd class. The local agent at Skagway explained that the cut was made as a special rate to a crowd of railway men.

Should the rush northward of last spring be repeated next spring there will be no stronger competition in the transportation than that which the C.P. Navigation Co. has for the last year been making preparations for. The Co.'s fleet will probably be no larger next year than it is now, but it will be much better equipped & suited to the handling of crowds. The Danube was the first to receive attention after last spring's rush & her overhaul & improvements effected every part of the ship. Her deck-house was enlarged & alterations internally were made so that her passenger accommodation would be greatly increased. Afterwards, the Islander was laid up & considerable money expended in improving her. Now the Tees, which has been a busy ship from the day she arrived from England, is to be treated somewhat after the fashion of the Danube. Her deck forward is to be done away with & the little house on the after deck extended to where the pilot house is now, so that when the alterations are complete the upper works of the Tees will be very similar to those of the Danube. In addition to these 3 ships the Co. has now the Queen City & Beaver, neither of which were in service last spring. There are, too, belonging to the Co.'s fleet, the Yosemite, the R. P. Rithet, Charmer, Willapa, Transfer & Maude. The Yosemite has replaced the R. P. Rithet on the Fraser run & the latter has been retired to winter quarters.

Although the Pacific Coast S. S. Co. has cut B.C. out of its Alaska schedule, it has practically decided to reverse its decision to have its northern steamers give Victoria the go-by. The Puget Sound Superintendent of the Company was in Victoria recently looking over the situation, & came to the conclusion that the prospects for business from that port were too good to allow the boats to pass by.

There has been much talk on the part of the Boston & Alaska Transportation Co. of putting the Laurada on the Honolulu-Seattle route. Recently it was announced that she would not go to Honolulu, but was to make a trip to Vladivostok & other Siberian ports with freight. It was stated that she was to leave as soon as repairs were completed & the cargo taken on board. It now seems that the Co. has changed its plan, & intends to put her on the Lynn Canal route. There are at present 8 steamers on the run. The presence of another vessel is unwelcome to the other companies.

The Victoria steamer Barbara Boscowitz, was driven on a rock 4 miles above Kitkatlah, Sept. 16, while on her way northward, by the swift current, & is a total loss. At high tide she is all but covered. The passengers, crew & most of the freight were taken ashore in Indian canoes, the salvage party being still aboard when the Boscowitz keeled over & sank, until she rested on the rocks with only her upper works visible. She was built in Victoria in 1883 & was 120 ft. long, 23 ft. beam, & 10 ft. hold. She was built by Capt. J. D. Warren, her present owner, although she has not been in his possession ever since, having been sold about 12 years ago to Capt. J. S. Williams, for \$20,000. He cleared \$22,000 on her the first season. She was a money maker from the day she was launched.

The little Lynn Canal steamer, Lady of the Lake, one of the Pacific Coast Co's Northern fleet, lies on the rocks off Haines Mission, probably a total wreck. She went ashore in one of the storms that swept along the South-eastern Alaskan coast late in September. She was on her way to Skagway with 2 big barges in tow. The wind was so strong that she was compelled to anchor, but still held on to the barges. The wind veered round & her anchors began to drag. There was no way to keep her off shore & she went on the rocks taking the barges with her. The crew escaped with some difficulty. She may be raised, but she is under water entirely at high tide. The barges were not badly damaged. She was an 80-ton steamer of considerable power. 68 ft. long & 16 ft. beam. She was built at Seattle in 1897 & was considered a staunch craft.

The C.P.R. Co's steamer Yukoner is said to have made the fastest round trip in the history of the traffic between St. Michael & Dawson, doing it in 30 days, 14 days being occupied in going up the river, 9 days tied up at Dawson & 7 days returning. She was under command of Capt. J. Irving, the Co's Manager. The Midnight Sun says, that when leaving Dawson, the Yukoner backed out, & under full steam turned completely round, going ahead at a rapid rate. It was a fancy trick of Capt. Irving, & showed what could be done with her. On returning to St. Michael, Capt. Irving sold the Yukoner to P. Galvin for \$50,000.

Advices received at Vancouver, Oct. 11, stated that navigation on the Yukon had closed. The last steamer to leave for St. Michael was the Sarah. The steamer James Donville went aground near Rink Rapids & the steamer Clara is aground in a slough close to Indian River. Both steamers were going up the Yukon.

Three men left Lake Bennett, just over the White Pass, 5 months ago, in a galvanized iron boat 25 ft. long, rivetted & soldered, which they made themselves. In this they went down the Yukon, shooting White Horse Rapids, & calling at Dawson only for provisions. Nine hundred miles further along they replenished supplies at St. Michael's & continued their voyage across Behring Sea to Unalaska. Thence they were sailing to San Francisco, when overtaken by a gale which cost them their provisions. The Viva picked them up off Clayoquot, & they went in to re-outfit. Their voyage in the open boat covers more than 8,000 miles.

It is stated at Tacoma, Wash., on good authority, that the Northern Pacific S. S. Co. is arranging to put under the U.S. flag 6 British steamers which it is operating to China & Japan from Tacoma. These steamers include the transport Arizona, which was sold to the Government last July; the Tacoma, Olympia, Columbia & Argyle. It is believed that the Arizona will be transferred back to the Northern Pacific at Hong Kong when the Government no longer needs her.

Maritime Provinces Notes.

At the annual meeting of the Canada Atlantic & Plant S. S. Co. at Halifax Aug. 30, the following were elected: H. B. Plant, President; M. F. Plant, Vice-Pres. & Mgr.; R. B. Smith, Treasurer; H. L. Chipman, Secretary & Canadian Agent; H. E. Jacobs, Auditor.

The S.S. Halifax, of the Plant Line, running between Nova Scotia & Boston, carried a larger number of passengers during Sept. than in the corresponding month of any previous year. Her passenger list from Halifax to Boston averaged over 400 each trip. The Plant Line will add another steamer to its fleet next spring.

R. G. Reid, owner of the steamer Bruce, which runs between Sydney, N.S., & Port-au-Basque, Nfld., is said to be having several large & fast steamers built in Glasgow, to be ready by the spring. One of them, it is said, will run between St. John's, Nfld., Halifax & Boston, while the others are principally for the coastal service.

Geo. Robertson, of St. John, N.B., whose scheme to secure a dry-dock there was explained in our Aug. issue, pg. 185, recently visited Ottawa to see the ministers about a subsidy. A St. John's dispatch says that on his return there he was reticent, saying he got encouragement, but that he seemed to have no definite assurance.

It is rumored that the Sydney Ferry Co. has sold the S.S. Vega to the Richmond S.S. Co.; that arrangements are being made at Lunenburg for the construction of a steamship hull, & that the Richmond S.S. Co. will place the engine & boiler of the S.S. Vega in the new hull, & will secure a suitable steamer for the St. Peter's-Mulgrave route.

The steamer Newfoundland, of Halifax, caught in attempting to run the blockade at Havana, July 19, & condemned by the U.S. District Court at Charlestown, S.C., together with her cargo, to forfeiture as a lawful prize of war, has been released, but the case has not yet been concluded. Further evidence will probably be taken at Washington during the winter. In the meantime the ship has been delivered up to the owners on the personal undertaking of Capt. Farquhar.

The Yarmouth S.S. Co's steamer Express, which was wrecked off Port Latour, Sept. 16, as described in our Aug. issue, pg. 186, has been abandoned. Arrangements were made for an attempt to raise her, but the storms in the 3rd week of Oct. completed her destruction. She was insured for \$60,000. The Co. has put the steamer City of St. John on the south shore route, in her place, leaving Yarmouth every Friday at 7 a.m., & returning, leaving Halifax every Monday at noon.

The Tartar & the Athenian.

These steamships, which, since being taken off the Yukon trade have been lying at Vancouver, have afforded a fertile subject for the daily press. A few weeks ago it was stated in a Vancouver paper that the C.P.R. Co. had decided to establish a regular line between Vancouver & Vladivostok, & that the Tartar & Athenian would be put on that run. The information was incorrect. The two vessels have been put into the Co.'s regular Pacific trade between Vancouver, Japan & China, & incidentally on the first outward voyage they take some flour & merchandise from Puget Sound to Vladivostok, & will then proceed to Japan for freight.

A few days later the London correspondent of a Vancouver paper wrote that the C.P.R. Co. had sold both vessels at a profit of several thousand dollars. We are officially informed that "the statement has not a symptom of truth in it."

In British Columbia Waters.

A tug 85 ft. long, 16 ft. beam, is being built at Nelson, to handle the C.P.R. freight barges on Kootenay Lake & River between the temporary terminus of the Crow's Nest Ry. at Kuskanook & Nelson.

The wrecking tug Pilot, which was fully described in our June issue, pg. 104, made her first trip from Victoria Oct. 6, to Departure Bay, Nanaimo, & other points on the east coast of Vancouver Island. Capt. J. W. Butler has been given command of her, with A. Warren as Chief Engineer.

The lumber rafts which are sent from Puget Sound & the Columbia River to San Francisco, are looked on as a serious danger to vessels on the coast run, including those between Victoria, B.C., & San Francisco. Many of the booms are broken up by storms, the logs being sent adrift in every direction.

Under date of Oct. 6 the Canadian Pacific Navigation Co's management advised us of being in the midst of negotiations for a new steamer for the Vancouver-Victoria run, but matters had not advanced far enough for any definite announcement to be made in this issue. (July, pg. 134, Aug. pg. 161, Sep., pg. 188.)

The U.S. commissioners of navigation have instructed all collectors of customs on & after April 1, 1899, to require British yachts visiting U.S. ports to enter & clear & pay tonnage taxes the same as merchant vessels. This step is said to be taken in consequence of Great Britain imposing light dues on U.S. yachts visiting English ports.

TELEGRAPHS & CABLES.**Western Union Telegraph Co.**

At the annual meeting, Oct. 12, the following statement of business for the year ended June 30, was submitted.

Surplus, July 1, 1897.....	\$7,647,541 06
Revenues.....	\$23,915,732 78
Expenses.....	17,825,581 52
	6,090,151 26
	\$13,737,692 32
From which there was applied:	
Dividends.....	\$4,867,911 25
Interest on bonds.....	896,554 95
Sinking funds appropriations.....	9,991 00
	5,774,457 20
Surplus, June 30, 1898.....	\$7,963,235 12
The expenses of the year were:	
Operating & general expenses.....	\$12,749,272 76
Rentals of leased lines.....	1,570,006 41
Maintenance & reconstruction of lines.....	2,688,283 42
Taxes.....	506,224 51
Equipment of offices & wires.....	251,794 42
	\$17,825,581 52

The revenues were \$1,276,873.62 more than for the preceding year.

The increased revenues made necessary an increased outlay for operating & general expenses of \$655,111.63. For reconstruction & maintenance, to preserve the efficiency of the property, \$342,913.91 more was spent than for the preceding year, & the cost of equipment of new offices & improving old equipments was increased \$48,371.51. Taxes were \$144,033.50 more than during the fiscal year 1896. Rentals of leased wires were \$3,491.09 less. The net increase in expenses for the year was \$918,925.49.

The average tolls received were 30.1c. a message. The average cost per message was 24.7 c. It cost 4 mills a message more to handle business than in the year previous.

The decrease in the average tolls received, & the increase in the average cost per message, are accounted for by the large number

of Government & press messages, consequent upon the war, transmitted during the latter part of the fiscal year, on both of which classes of messages the tolls are the lowest, although the highest grade of operating service has to be employed for their efficient transmission.

The cost of construction of new property for the year was \$1,117,651.61. The surplus account was increased \$315,694.06.

J. Stillman was elected a director in place of R. G. Rolston, deceased.

The report shows there are 189,847 miles of poles & cables, 874,420 miles of wire, & 22,210 offices in the system; 62,173,749 messages were handled during the year, against 58,151,684 the previous year.

The Co's extension of lines from Wooley, Wash., via Fairhaven, Blaine & New Westminster, was completed to Vancouver, B.C., early in October, & an office opened at the latter point, in charge of T. W. Goulding, formerly of the G.N.W. Co's Winnipeg staff. The W.U. Co. has built its lines in B.C. under the powers contained in the G.N.W. Co's charter, & the offices are conducted in the latter's name.

W. J. Dee is Manager of the office which has been opened at Victoria. It is said the Co. is contemplating a further extension of its lines in B.C.

The Grand Trunk Telegraphers.

A committee of the employees of the G.T.R., who are members of the Order of Railway Telegraphers, have arrived in Montreal from different parts of the system, & are seeking a conference with General Superintendent F. H. McGuigan. It is their purpose to request a readjustment of wages, looking to an increase. The telegraphers have had under consideration for some time the perfection of the organization of their union on the G.T. system, the same as on the C.P.R., & it is likely further steps may now be taken in that direction. Grand Organizer Davis, of the Order of Railway Telegraphers, represents the Executive of the order at the meeting. He has been working along the G.T. system for some time, under instructions from the head office in Peoria, Ill. It is not unlikely that the Grand Chief of the order, W. V. Powell, may also put in an appearance at Montreal before the work of the committee has been completed. The committee of the men meets at the Richelieu Hotel, going thoroughly into the question of what demands will be presented when they are prepared to go before Mr. McGuigan. One of the chief things the men want adjusted is the hours. They claim they are obliged to work 12 hours for an average wage of \$1.25 a day, with, perhaps, a few exceptions. They say the position of telegraphers is one of great responsibility as regards the safe running of trains, & their remuneration, they claim, is out of all proportion to the work performed. It is claimed there is not another class of employees where the responsibility is so heavy who are so poorly paid, owing, they say, to the fact that they have never been organized until just recently. When the meeting between the interested parties takes place, it is said the telegraphers will firmly insist on getting what they want, failing which, other means of a settlement may be resorted to.

Great Northwestern Telegraph Co.

At the annual meeting in Toronto, Sep. 28, the following were re-elected: H. P. Dwight, President & General Manager; A. Brown, Hamilton, Vice-President; H. N. Baird, J. Hedley, A. S. Irving, W. C. Matthews, Toronto; R. Fuller, Hamilton; Hon. W. McDougall, Ottawa; C. A. Tinker, New York, other directors; G. D. Perry was reappointed Secretary & Auditor, & A. Cox, Treasurer.

The Co. does not issue an annual report, but we are informed that the statement of the year's business showed a considerable improvement over the previous year, & the opinion was expressed that with the new connections & extensions of the Co. it might reasonably look for a still further improvement during the current year.

Alex. Hunter, assistant chief operator of the Co. at Toronto, & who had been in the service of the Co. & its predecessors for over 30 years, died Oct. 3, aged 57, of typhoid, leaving a widow, 2 sons & 3 daughters. He went to the front with the Queen's Own in the Fenian Raid of 1866.

Canadian Pacific Railway's Telegraph.

The Co. is stringing a wire between Truro & Halifax, N.S.

The new commercial office in Winnipeg is being fitted up under the personal supervision of Electrician Camp, of Montreal.

The Co. recently assumed control of the 74 miles of telegraph lines formerly owned by the Erie & Huron Ry. Co., extending from Sarnia to Rondeau, which it is now operating as it does the lines on the other part of the L. E. & D. R. Ry. Co.'s system.

The new copper wire from Montreal received a practical test recently, when a message was sent from Vancouver to Montreal & reply transmitted in the space of one minute. The wire was duplexed. The handling of 2 messages took just a minute.

The Postal Telegraph Co. is extending its lines from Rossland, B.C., to Spokane, Wash., which will give the C.P.R. telegraphs another U.S. connection. The only line between these points at present is operated in conjunction with the Western Union.

A Yukon Telegraph Line.

Last session the Dominion Parliament granted a charter to some English & Canadian investors, empowering them to construct a telegraph or cable line from the coast of Alaska through to Dawson City by way of the valleys of the Yukon & its affluents. The promoters allowed the summer to slip away without making a move towards construction, & now the charter has fallen into other & more active hands. J. Roche, M.P., has charge of the scheme for a number of English capitalists, including Sir John Pender, of cable fame. Mr. Roche has secured the transfer of the franchise, & has been in Ottawa arranging with the Government in regard to the importation of the plant & location of the line. The plan is to construct a double land line from Skagway via Lake Tagish & Fort Selkirk to the Klondike. It is said the work will be begun forthwith, & that the line is expected to be in operation by Jan. 1 next. It is also said that as soon thereafter as possible a cable will be laid to connect Vancouver with the land line at Skagway.

Telegraph Office Changes.

CANADIAN PACIFIC.

OPENED: Fernie, B.C.; Cascade City, B.C.; Cranbrook, B.C.; Ferguson, B.C.; Grand Forks, B.C.; Greenwood, B.C.; Kuskanook, B.C.; Wardner, B.C.; Cache Lake, Ont.; Masokama, Ont.; Ostersund, Ont.; Woman River, Ont.; Darwin, Man.; Dauphin, Man.; Hargrave, Man.; Macdonald, Man.; Midway, Man.; Plumas, Man.; Sifton, Man.; Winnipegosis, Man.; Ernfold, N.W.T.

CLOSED: Stanley, B.C.

GREAT NORTHWESTERN.

OPENED: Myrtle, Man.; Oakville, Man.; Marieapolis, Man.; Rosebank, Man.; Dunham, Que.

CLOSED: Glanworth, Ont.; Treadwell, Ont.; Aylwin, Que.; St. Janvier, Que.

Queen Victoria & other members of the royal family have shown great interest in experiments in wireless telegraphy which have been conducted at Osborne, Isle of Wight, by Mr. Marconi, the inventor of the system. Many messages were exchanged between Osborne House & the royal yacht, having on board the Prince of Wales, & during a period of 10 days the Queen received a morning bulletin of the condition of the Prince. The yacht was anchored 2 miles from Osborne House, the positions being intercepted by a hill. All the messages were successfully transmitted, some of them while the yacht was under steam.

Among the old-time telegraphers of Ottawa, Ont., who have become prominent in other walks of life, are C. W. Spencer, now a General Superintendent of the C.P.R.; O. Higman, now Superintendent of Standards & Chief Electrical Engineer of the Inland Revenue Department; W. Y. Soper, an electrical engineer & capitalist; T. Ahearn, an electrical engineer & capitalist; N. W. Bethune, Superintendent of the G.N.W. Telegraph Co.; G. F. Macdonald, Superintendent of the Ottawa fire-alarm system; J. A. Parr, Chairman of Public School Board; H. B. Spencer, a Superintendent of the C.P.R., & D. C. Dewar, now Local Manager of the Bell Telephone Co. in Montreal.

TELEPHONES.

The Bell Telephone Company.

The following, from the Carberry, Man., Express, is a sample of the nonsense that finds its way into recklessly conducted newspapers:—"The long distance telephone scheme which was announced some weeks ago, has fallen through, owing to the action of the directors of the C. P. R. It appears that the directors of this big corporation are also directors of the Bell Telephone Co., & on hearing of the steps being taken to extend the long distance telephone throughout the province, a hurried meeting of the directors was called at Montreal, when it was decided that as the long distance telephone would, to a certain extent, hurt the telegraph business of this country, a quietus should be put on the scheme, at least for this year. The poles were on the spot & everything was in readiness to commence building the line from Carberry to Neepawa, but the C. P. R. has spoken & operations have ceased. It is lucky that they had no control over the private line to Wellwood."

The directors of the Bell Telephone Co. are C. F. Sise, R. Mackay, J. E. Hudson, R. Archer, W. R. Dwyer, H. Paton, C. Cassils, & T. Sherwin. We fail to recognise any of the C. P. R. directors in this list, & it would be interesting to know on what the Carberry paper based its information. Is it aware that the Bell Co. has its long distance lines throughout Ontario & Quebec? If the C. P. R. Co. had any control over the Bell Co., & wanted to stop long distance extension, is it not likely that it would have exercised it in the most populous provinces?

We are informed there was no warrant for the publication of the rumor to which we referred in our Sept. issue, pg. 196, to the effect that it had been decided to establish a long distance service in Manitoba. The Carberry-Neepawa line may be constructed this fall.

The Co. has declared a quarterly dividend of 2%, payable Oct. 15.

The application of the People's Telephone Co., of London, for a franchise in Kingston, Ont., was refused by the City Council.

Spokane & British Columbia T. & T. Co.

The controlling interest in the Spokane & British Columbia Telephone & Telegraph Co., which operates the line from Spokane, Wash., to Republic, & nearly into Rossland, B.C., has been transferred from W. H. Oakes to C. O'Brien, Reddin & Co., of Rossland. The deal involved stock of the par value of \$255,000. The capitalization of the Corporation is \$500,000 in 55 shares, & the purchasers secured 51,000 shares. The Company's lines reach from Sheep Creek station into Spokane, & all the business at present transacted by telephone between Rossland & the Washington cities is conducted over its system in connection with the wires of the Vernon & Nelson Telephone Co., which connect between Rossland & Sheep Creek. It is possible the new management of the Co. will extend its own lines into Rossland. It has a franchise for that purpose. The extension would give it independent service between Spokane, Rossland, Greenwood, Republic & all way stations. C. O'Brien, Reddin & Co. have not yet announced how they will handle the controlling interest which they have acquired. The purchase, they say, was for themselves & not for clients.

Telephone Items.

A contemporary recently stated that a telephone exchange was being established at Indian Head, Assa. Several telephones have been installed there for private use, but hardly on the exchange system.

The Baltimore & Ohio Ry. is stringing copper telegraph lines between Baltimore & Pittsburg, 340 miles. They will be so arranged that when necessity arises they will be available for long-distance telephone communication, & if the experiment proves a success, other lines of a similar nature will be put up.

The New Brunswick Telephone Co. has recently been put to considerable trouble by parties breaking insulators on telephone poles & cutting wires, & the Co. offers a reward of \$10 for information that will lead to conviction. The Co. is now stretching copper wires on the eastern section, & near Moncton some miscreants climbed the poles & cut the wires in 7 or 8 different places.

At the annual meeting of the Merchants' Telephone Co., in Montreal, Oct. 4, it was decided to increase the capital \$100,000. The directors were re-elected as follows:—President, A. S. Hamelin; Vice-President, J. E. Beaudoin; Treasurer, L. E. Beauchamp; other directors, A. S. Delisle, L. H. Henault, S. L. Archeveque, J. B. Thibodeau, J. N. Ducharme, R. Beauchamp.

The People's Telephone Corporation, of New York, was incorporated at Albany Oct. 12, with a capital stock of \$5,000,000, to operate a telephone system in New York City & other cities, towns & villages in New York & other States, & in Canada. The capital stock is divided in \$2,000,000 preferred & \$3,000,000 common stock. The directors are S. B. Dutcher, J. E. Nichols, E. S. A. Deluna, F. C. Travers, F. Brainard, J. F. Ackerman & D. R. James, of New York City.

A contemporary says:—"An effort is being made in Winnipeg to establish a rival telephone system which promises very much reduced rates. Two wealthy U. S. telephone manufacturing firms are said to be backing the scheme." No doubt. They are probably acting in line with the People's Telephone Co., which has been operating in Ontario, but which, up to date, has not accomplished much. We are probably not far wrong in expressing the opinion that what the "wealthy U. S. manufacturers" want to do is to sell instruments.

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Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

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VOL. 7. No. 9.

TORONTO, CANADA, NOVEMBER, 1898

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THE

Railway and Shipping World

Devoted to Steam & Electric Railway, Shipping, Express, Telegraph & Telephone Interests.

VOL. I., NO. 9.

TORONTO, CANADA, NOVEMBER, 1898.

SIX A YEAR.

Senator Forget.

The Hon. Louis Joseph Forget, whose portrait appears on this page, belongs to a family that came to Canada from Normandy about 1600. He was born at Terrebonne, Que., Mar. 13, 1853, was educated at Masson College, & in 1873 commenced business as a stock broker in Montreal, where he has been for many years the senior partner of the firm of L. J. Forget & Co., bankers & stock brokers. On the retirement of H. S. Macdougall from the presidency of the Montreal Stock Exchange in 1895, Mr. Forget was elected to succeed him & was re-elected in May, 1896. He has been President of the Montreal Street Railway Co. since 1892, & of the Richelieu & Ontario Navigation Co. since 1895. He is a director of the Royal Victoria Life Insurance Co., & of the Notre Dame Hospital, & is Vice-President of the Board of Governors of Laval University, Montreal. He was called to the Senate in June, 1896. In religion he is a Roman Catholic; in politics a Conservative. He married in May, 1876, Maria, daughter of G. A. Raymond, of Montreal.

Tit for Tat.

The Chicago Times-Herald, which is an ardent supporter of the efforts of the U. S. railway managements to exclude Canadian railways from participating in U. S. freight or passenger traffic, in recently discussing the meeting of the arbitrators in that city to decide whether the C. P. R. was entitled to a differential on transcontinental freight, said—

"Every time the Canadian Pacific takes a train-load of freight from Chicago to San Francisco, via Winnipeg, it deprives railway employees in the U. S. of the wages that they would earn on that train-load of freight. The supplies consumed pay no tribute to the American producer."

Per contra, every time any railway takes a train-load of freight from any point in Eastern Canada for Winnipeg, Vancouver or Victoria via Chicago, it deprives railway employees in Canada of the wages that they would earn on that train-load of freight. The supplies consumed pay no tribute to the Canadian producer.

The moral for Canadians is obvious.

G. F. Phillips, Dominion Government Boiler Inspector, returned to Winnipeg recently from a trip which took him to the Arctic Circle & to within 40 miles of the Arctic Ocean. He left Winnipeg May 20, & travelled 2,000 miles north of Edmonton by canoe & York boat.

FINANCE, MEETINGS, &c.

The Grand Trunk's Semi-Annual.

Our last issue contained the full text of the directors semi-annual report for the first 6 months of the year & a brief cable report of the proceedings at the shareholders meeting Oct. 13. We have since received a verbatim report of the speeches of the President & Vice-President as follows:



THE HON. L. J. FORGET.

The President, Sir Rivers-Wilson, said: The ½-year ended June 30 last, which we have under review to-day, is the best June ½-year we have had since the year 1890, & it further presents this interesting & agreeable feature, that after an interval of 4½ years it places us in a position to resume the payment in full of the dividend upon our guaranteed stock, with every prospect, I trust, of further progress in the same direction within a very limited future. While, however, the gross

receipts for the first 5 months of the ½-year were favorable, there was a large falling-off in freight traffic in June caused by the diminished shipments of grain in consequence of the abnormally large quantities previously sent forward owing to the Leiter speculations. The stocks of grain in the country were thus depleted, & our receipts from this source of traffic have consequently been adversely affected up to the present time. This year's harvest, both in Canada & the U.S., has,

however, been very abundant, & there is every probability that shipments will soon reach, if they do not exceed, last year's proportions. The gross receipts of the G. T. from all sources in the past ½-year were £115,167 more than in the corresponding ½-year, the working expenses were increased by £47,240, leaving the net result of the traffic operations more favorable by £67,927. The amount payable by the G. T. to the Chicago & G. T., & Detroit, Grand Haven & Milwaukee companies, under traffic agreements, was £39,484 less than in the corresponding ½-year, making a total improvement in the working of the entire system of £107,411. There was an increase in the net revenue charges of £3,467, & therefore, the increase at the credit of net revenue account on the working of the ½-year was £103,944. There was a net surplus for the ½-year ended June 30, '97, of £2,708, which, added to the increase of £103,944, makes a total of £106,652, as the net result of the past ½-year's operations. You will remember that after writing off £264,974, the balance of the revenue deficiency which had accumulated to June 30, '96, there remained at the credit of net revenue account at December 31, '97, an amount of £10,289, of which, as explained in the report, \$50,000 or £10,274, has been written off on account of the amount chargeable to revenue for the reconstruction of the Victoria Bridge, the balance of £15, 2s., 10d being brought into the past ½-year's net revenue account, & making a total sum available for dividend at June 30, '96, of £106,667, which

will admit of a declaration to-day of the full ½-year's dividend on the guaranteed stock, & leave a balance of £2,271 to be carried forward to the next ½-year's account.

It may be interesting to recapitulate, in a very few words, the movement in the G. T. since the directors came into office in May, '95. On June 30, '95, the net revenue account stood at £100,556. For the ½-year to Dec. 31, '95, there was a debit of £1,000. For the ½-year

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OFFICIAL ORGAN.—THE RAILWAY & SHIPPING WORLD, Toronto.

to June 30, '96, there was a deficiency of £82,062, making a total of £306,769 at June 30, '96, when the inability of the G.T. Co. to meet all the pre-preference charges terminated, & £39,086 of the total deficiency of £306,769, was liquidated out of surplus net revenue for the ½-year ended Dec. 31, '96, £2,708 from surplus net revenue for the ½-year to June 30, '97, & the remaining amount of £264,974. I may say by the wise decision of the proprietors upon the recommendation of the board, was provided from surplus net revenue for the ½-year ended Dec. 31, '97, & as I have said, we have now a net revenue surplus at June 30, '96, of £106,667 available for dividend. I am really sorry to trouble you with so many figures, which you may, perhaps, have some difficulty in following, but which, no doubt, you will see elsewhere in print; but I think the figures are remarkable themselves & especially interesting as indicating what the G.T. can really do when it finds itself under firm & economical management; & with reference to the question of economical management I will add one

or two more figures which are of interest. The ratio of working expenses of the G.T. proper for the past year was 66.46, as contrasted with 70.84 for the ½-year, when we first took office, showing a saving of expenditure in the ratio of 4.38. Those who are conversant with railway matters will, I think, appreciate the great importance of that statement.

The improvement in the revenue results of the Chicago & G.T. Ry. is a satisfactory feature in the past ½ year's operations. There was an increase in the gross receipts of that line of £74,951, & in working expenses of £31,950. The net traffic earnings were, therefore, £43,001 better than in the corresponding ½ year, and, deducting from that amount the increase of £1,319 in the net revenue charges, there remained a deficiency to be advanced by the G.T. Co. under the provisions of the traffic agreements of £8,392, against £50,074 in the corresponding ½ year of '97, an improvement of £41,682. On the other hand, the working of the D.G.H. & M. has been of a less satisfactory character, the deficiency for the ½ year to be provided amounting to £22,282, as compared with £20,084, an increase of £2,198. The aggregate gross receipts of the G.T., the Chicago & G.T., & the D.G.H. & M. amounted to £2,334,591, as compared with £2,154,222 in the corresponding ½-year of '97, an increase of £180,369. The working expenses were £1,609,803, against £1,537,868, an increase of £71,935; and the net traffic receipts were £724,788, against £616,354, an increase of £108,434. The net revenue charges of the entire system show an increase of £4,490, making the net results better by £103,944. I gave you just now the ratio of working expenses to gross receipts only in respect to the G.T. As regards the whole system the ratio of working expenses was 68.95 in the last ½-year, while for the ½-year ending June 30, '95, when we came into office, they were no less than 74.99. You will, therefore, see that our management in Canada has been able to obtain a reduction of no less than 6.04 %. I think I may say, with some confidence, that—to use an expression in use on the other side of the Atlantic—this reduction in expenses "has come to stay."

The charges to capital in the past ½-year are practically confined to expenditure on account of the Victoria Jubilee bridge, & for equipping the rolling stock with air-brakes & automatic couplers to meet the requirements of the U.S. Safety Appliance Act. Six per cent. bonds of the Co. amounting to £409,400 matured on June 1 last, almost the whole of which have now been acquired, & will be held as required by the Act of 1888, as security for the 4% debenture stock. As stated in the report, a saving of £8,000 a year in our interest charges by the substitution of 4% debenture stock for these bonds has been effected. I will just add, while speaking of our financial position, that we have no floating debt whatsoever. I have mentioned when previously addressing you that in order to keep pace with our competitors for through business, & to economise to the fullest extent in the working of the line, it is essential not only to provide locomotives of modern type & greater haulage capacity, which is being gradually accomplished, but also to renew or strengthen such bridges as may be found inadequate to properly bear the heavier loads now required to pass over them, & it has therefore been determined to renew forthwith certain bridges on the G.T. line in heavier material, & thus increase their bearing capacity. It is proposed to charge the cost of these improvements to revenue account, but in order to avoid burdening the maintenance charges unduly in any one year, it has been decided to spread the expenditure over a period of at least 5 years. This period may, of course, be extended as circumstances may render expedi-

ent. The same plan will be followed in regard to the revenue proportion of the expenditure for reconstructing the Victoria bridge at Montreal, which has been fixed at £110,000, being the amount it is estimated would have been required to replace the old structure by a single girder bridge. It is stated in the report, & I am happy to confirm it to you, that we expect that the double track of the new bridge will be in full operation by the commencement of next year—a matter of the greatest consequence to us when you consider the traffic which passes over the bridge. The number of trains that run in and out of our Bonaventure station at Montreal is about 130 daily, & about 75% of these pass over the bridge. In view of the greatly increased weight of both locomotives & cars, I cannot sufficiently congratulate you & the Board, who have had a good deal of anxiety on the subject, upon the fact that we are now going to have a really strong bridge adequate for all purposes, which, moreover, will be the cause of a good deal of economy in the future.

Before leaving this question I should like to say one word as to the improvement of our line. The competition now among the great Transatlantic lines is so keen that it is only the best equipped lines & lines with the best tracks that are able to secure the bulk of the business, & it is the best equipped lines that have the most traffic. Therefore, we must look forward to a reasonable, but continual, expenditure in the direction of improvements of the rolling stock, of the track, of the gradients, & so forth, & the effect of that will be that we shall be in a position to acquire more traffic, & also that we shall in the future materially reduce our working expenses. I will give you an illustration taken from the Victoria bridge. Hitherto the cost of the upkeep of the bridge has been about £4,000 a year. Well, for the next 10 years we estimate that the expenditure will not be more than £400 a year, & in addition we expect to receive a considerable revenue from the tolls on the carriage road & the pathways with which the new bridge will be provided. A moderate estimate places that addition to our income at £5,000 a year, & I daresay it will be more. All these improvements of our line have these great advantages: we reduce our expenses, & by so doing we improve our income, & we improve the credit of our company, & we improve the value of your securities. You will remember that we recently made an agreement with the Wabash Co. for running over a section of our line from Windsor to Fort Erie, & from Welland Junction to Niagara bridge; & that agreement has been in operation since Mar. 1, & has been attended with very advantageous results to our company, & it is a pleasure to know that the same result has accrued to the Wabash Co. In its last report it adverts also to the advantages of working in a friendly understanding with our company.

I have recently returned from Canada, & whilst there I took the opportunity, as usual, of visiting several portions of our system. At the same time, I spent a good deal of time in Montreal in conferring with our officers. On this occasion I visited several points in the northwest of Ontario & studied with much interest the arrangements which are being made for improving our lake connection with Lake Erie & the Georgian Bay ports. I had also occasion to observe with satisfaction, that there has been a considerable augmentation of traffic in that interesting region in which is situated the Muskoka Lakes. It is one of the most beautiful & picturesque parts of the world, & is gradually becoming known over the whole continent of America, & the consequence is there is a great influx of tourists there every year, & we have almost the monopoly of the carriage of those travellers. That promises to be a very good business in future. The increase this year has been

about 100% over what it was last year. I did not proceed further west on this occasion, because I had the satisfaction of being accompanied by your Vice-President, Mr. Price, & he undertook to make a careful inspection of the lines, more particularly in the west. He has gone over them with great care, & I shall ask him to be kind enough to convey to you his impressions of all he saw, & of all he heard, & you may be sure that whatever expressions of opinion come from Mr. Price they are entitled to the greatest weight, because he knows what he is talking about, being an expert in all railway matters, & also being intimately acquainted, as an old official, with the whole of our property. However, I shall leave Mr. Price to speak for himself.

Leaving Mr. Price, therefore, to go to the west, I took the opportunity of making an inspection of the lines of our new connection—the Intercolonial, which, as you are aware, is a Government line. Accompanied by the General Manager, I went all over that line, which presents many features of interest. I observed with regret that the population of the country traversed by the Intercolonial in New Brunswick & Nova Scotia, was not greater than it is, & it is a matter of astonishment to me that the advantages & the opportunities offered by those countries are not better known to the public of this country. There is land of excellent quality to be had upon very cheap terms, with assistance from the Government, & the climate is temperate & agreeable. But somehow or another, the tendency of immigration, as it has always been, is from East to West, & so these fertile lands & these fine timber countries are left almost behind in the race of immigration. I can only hope that in course of time, when the West has been gradually filled up, people will remember that there is in the East of Canada, most admirable land for the purpose of immigration. You will remember that we have made arrangements with the Intercolonial Ry.—that is to say, with the Government—by which it obtained running powers over a portion of our line, so as to bring it into Montreal instead of stopping at Point Levis. I must say, after examining all the conditions of the Intercolonial line, I think the Dominion Government has acted most wisely in making that arrangement, which, at the same time, will be beneficial to ourselves.

I was in hopes that I might have brought back from Canada a message of peace & conciliation from our neighbors the Canadian Pacific authorities, & I much regret to say that no such message was given to me, & I have no such message to deliver to you to-day. I explained at some length upon the occasion of our last meeting here what were the differences which existed between our two companies. You will have understood that the reason for the attitude of the C.P. Co. in antagonising us was stated to be that we were aiding & abetting the Western American lines in the contest which was going on between them & the C.P. Co. I explained to you that much as we dislike to find ourselves at variance with our C.P. friends, it was absolutely impossible for us, under the circumstances explained, to dissociate ourselves altogether from our Western connections. The so-called trans-continental rate war has practically come to an end in consequence of the decision of the Interstate Commerce Commission to whom the matter was referred, & by the acceptance, more or less completely, by the C.P. of the finding of the commission. Well, it was naturally expected that that cause of dissension being removed, the action taken by the C.P. Co. in cutting local rates would come to an end, but I am sorry to say that has not been the case, & that the directors of the C.P. Co. have announced their intention of continuing their hostile attitude to us until we come into line with them in respect of other matters—viz., in respect of our transportation

of traffic to the Northwest Territory. It really amounts to this, that they consider—they insist, I may say—that we must conduct our passenger traffic with the Northwest Territory in subservience to & under direction from themselves. That is a position which is utterly impossible for us to accept. With the very best intentions to act in a friendly spirit towards the C.P. Co., it is absolutely impossible for us to ignore our western connections. We cannot do it, even in order to obtain peace with the C.P. Co. This being so, we are powerless in the matter. We must seek compensation in other directions, & I have no doubt we shall find it; & we must leave the C.P. authorities to be judged by public opinion, & perhaps by their own shareholders. I may add that in the course of the discussions we had with Sir Wm. Van Horne & Mr. Shaughnessy, finding it impossible to come to an understanding, we made them this proposal, to refer all the questions at issue without any reservation whatsoever to arbitrators. I think that is a fair offer. It shows that we are not conscious of doing anything which is otherwise than fair & reasonable. That offer was as distinctly refused as it was distinctly made by us, & so the matter stands. Sir Wm. Van Horne will not declare himself opposed to the principle of arbitration, or to the arbitrators whom we suggested, but he would only agree to enter into arbitration under such conditions & limitations & restrictions as would have placed us at the very outset in a position of inferiority & subservience to his company which we never could accept.

Well, I turn with satisfaction to another matter, as to which I am able to make an announcement which I think will give you pleasure. You are aware that for a considerable time past negotiations have been pending between the G.T. Co. & the Central Vermont for the establishment of relations on a proper business-like footing, & I am able to tell you that in the last few days, & since the issue of the report—otherwise it would have been mentioned in the report—we have heard that all the interests connected with the Central Vermont have combined & entered into an agreement of a satisfactory description. It would not be proper for me to go into details as to what the arrangement is, for this reason—that certain formalities have yet to be conducted on the other side before the matter is absolutely settled, but I think I can affirm with some confidence when I tell you that the arrangement is virtually completed, & on the next occasion of our meeting I hope to have the honor of explaining the details of the arrangement & asking you to ratify it. I can only say at present that we shall continue on a permanent footing with a company whose operations in concert with our own will be most advantageous to both companies. I must not omit to say that this result is in great measure attributable to the skill & unwearying patience of our General Manager, Mr. Hays.

While the retrospect of the last year or two affords matter for considerable satisfaction, I think we may confidently look forward to the future. On all sides there are evidences of improving prosperity in the U.S. There has been an abundant harvest, the farmers have paid their debts, & they are so well off that they are holding back their harvest at the present time in expectation of higher prices. Politics are quiet in the U.S., & as a result of the general prosperity, that strange but dangerous controversy—the currency controversy—is dormant. I wish I could say it were dead. Everything points to prosperous times in the immediate future, & therefore there should be increased prosperity for the railways, & no doubt they will partake of that prosperity. At the same time it has been the case that while other industries & other business have improved, the railways have not progressed in the same ratio, & the reason has been this

—that they have been exposed, & you know the old story which has been told in this hall over & over again, they have been exposed, owing to the uncontrolled competition which prevails amongst American roads, to a perpetual falling away of the rates. The losses thus occasioned have been met, so far as possible, by improved methods of transportations, by improved types of locomotives, & so forth, & by decrease of operating expenses. But there must be an end even to that. Fortunately there appears to be gradually growing up in the U.S. a more friendly & better feeling on the part of the community towards railways than has hitherto existed. It was said at one time, in the earlier days of the English railways—I am happy to say it does not apply to the English railways now—that railways have made everybody's fortune except their own. That observation applies with much truth to many of the American lines, & people are beginning to realize it. The remedy for the evils I have pointed out is generally recognized to be some interference on the part of the legislatures so as to protect railways against themselves, to allow what are called pooling arrangements—that is to say, contracts among the different companies, by which they may divide their business or maintain their rates, such contracts to be enforceable in the courts of law. The direction of the public mind, I think, is gradually tending to the introduction of some legislation of that sort. It would be unattended with any danger to the public, who fear increase of rates, because the Interstate Commission could be given powers to prevent any undue raising of the rates.

Turning to Canada, you know the Dominion is doing extremely well. The Finance Minister was able, for the first time for some years, this year to declare a surplus—a surplus, I think, of \$1,575,000. The imports during last year have increased by \$21,000,000, & exports by \$25,000,000. All these things are in the right direction, & imply good business & increased prosperity for the carrying trade. We are doing everything we possibly can to put ourselves in a position to avail ourselves of this current of prosperity. At Portland we are making every preparation for a great export trade during the winter months, & are expecting to have a heavy, & I hope, a prosperous season. As it is, during the past ½-year there was an increase in our exports at that port of no less than 74,425 tons. There is one other hopeful feature of high importance in its bearing upon the mutual prosperity of the U.S. & Canada, & that is the appointment of the International Commission which has been holding its sittings lately in Quebec, & which is shortly to meet again at Washington. Several of the questions submitted to the Commissioners are matters which intimately concern the G.T. Co., such, for instance, as the question of bonding privileges. At the present time goods are allowed to go through in bond from one part of the U.S. through Canada to another part of the U.S., & from time to time there have been agitations with a view to abrogating those privileges. For my own part I believe the great American interests concerned will never allow such a retrograde step to be taken, because it is to the interest of the Western States of America & the New England States that this privilege should remain. At the same time a good deal of bad blood has been occasioned by the removal from time to time of this agitation, & it would be very satisfactory if the matter could be dealt with in a treaty undertaking so as to remove it from the sphere of everyday politics. Then there is another question of interests us, what is called the alien law, by which citizens of one country are debarred from working in the other country unless they reside there, & for us, in such touch as we are with the U.S. frontiers at Niagara, Fort

Flint & Windsor, where there is constant traffic of passengers between the American shore & the Canadian shore, it is a matter of great importance that this restriction should be removed. When the law was passed it was never intended, I believe, to apply to Canadian citizens, but it has been so applied & it has caused a great deal of disagreeable friction on the frontier. That is one of the matters which I hope will be adjusted by the Commissioners. Then there is the question of tariff, in which we are vitally concerned, because the Grand Trunk is the largest taxpayer in the Dominion of Canada. Therefore any relief we can get in reduction of duties will be so much to the advantage of this company. Whatever measures of success may attend the labors of the Commission the real significance of their appointment lies in this, that it is the outcome of the strong desire which has been expressed in many ways by the two countries to live together on terms of good fellowship, so that while each maintains its own separate nationality they may tend more & more to become one community for all purposes of social & industrial development.

In conclusion, I will ask you to pass the following resolution: "That the report of the directors & accounts for the ½-year ended June 30, '98, now presented, be approved & adopted, & that a dividend of £2% be paid to the holders of the 1st guaranteed stock."

Vice-President Jos. Price said: I have recently returned from Canada & the U.S., where I spent about 2 months, having during that time made a very careful inspection of the track & rolling stock of the G.T.R. After spending several days in Montreal considering some important matters with the President & General Manager, I commenced with the Portland division, 297 miles, & the terminal property at that point. I found the permanent way well cared for, & the ballasting well attended to. Great improvements have recently been made at Portland, where 13 miles of new sidings have been laid ready for this winter's business. The elevator, which was finished about a year ago, is a fine structure & is answering all expectations; 9,000,000 bushels of grain were passed through this elevator last winter. While there we discussed what was the most useful traffic for railways. With modern rolling stock immense areas of land are required to feed a 1st-class railway like the G.T.R. with grain traffic. For example, the average crop of wheat is about 15 bus. per acre (except in Manitoba, where it is heavier). One of our 30-ton box cars has a loading capacity of 1,000 bushels; therefore, it takes about 70 acres of land to feed one box-car, & as our new locomotives are capable of hauling 40 cars, it will be seen that to supply one of these trains takes the produce of no less than 2,800 acres of land. With the boundless extension of the great West, however, the railways are well supplied with tonnage. After finishing the Portland division I went over the Quebec & Montreal section, 174 miles, which is in good order, & quite equal to the traffic on that section. From Montreal I proceeded west to Niagara, 421 miles, over the main line of the G.T.R. & the Great Western division. Both were in excellent order. A very large portion of the G.W. division, that from Toronto to Niagara Falls, has been rebalasted with a very superior quality of ballast obtained from Lake Erie, near Port Colborne. At Niagara Falls the new double track girder bridge, erected in place of the old Suspension bridge, is a very fine, solid structure, capable of supporting any amount of traffic. Proceeding west to Port Huron, 182 miles, I went over the workshops at that point. These shops are fitted with the most modern improvements, & very good work is done there. From Port Huron I went over the Chicago & G.T. to Chicago, 335 miles, & found the track very much improved. The

gradients are good, & one of our new large 85-ton locomotives can haul a train of 40 cars over that section needing the assistance of pushers at only two points—viz., Flint & Valparaiso. Returning from Chicago, I came over the Wabash connection to Detroit, 272 miles, the shortest line between Chicago & Detroit. It is a line with very favorable gradients, & with the good gradients upon the loop line division of the Great Western, affords the Wabash a very good line from Chicago to the Niagara River, under our contract with that company, which is working satisfactorily. From Detroit I returned to Montreal, 557 miles. Altogether I found the permanent way of the main line of the G.T. system in excellent order, so that trains can be run as fast as upon any other line in the country with perfect safety.

With regard to the rolling stock, the improvements since I was there 3 years ago have been simply wonderful. Our trains are made up of new cars, & the best of the old rolling-stock reconstructed in the same style as the new cars; in fact, I may safely say that they compare favorably with the best trains in the country. I did not see a shabby train upon the whole system. Some misgivings have been expressed here lest the rolling stock & roadway were being impoverished to secure the reduction in expenses. The shareholders may rest that this is not the case. Indeed, at the very time when Mr. Hays was reducing the working expenses he was actually charging in the expenses more than he was spending, & this enabled him to build up a locomotive & car renewal fund, all at the expense of revenue, out of which he has been able to pay for 20 new 85-ton locomotives & 26 new 1st-class passenger cars (all of which have been put upon the line during the last 6 months), still leaving a reserve fund of £85,000 for further improvements. It is really wonderful how he has been able to accomplish so much in this direction & still to establish such a large saving in the ratio of working expenses. With regard to the stations & station yards, they are models of neatness, & lately there have been finished 2 very complete

yards where the traffic is heavy, one at York, near Toronto, & the other at Belleville. The yards are so constructed that access is given to every siding from one straight line on the outside. During my examination I had the advantage of the attendance of the practical operating officers. Mr. Hays has selected a very efficient staff of energetic men who thoroughly understand their duties. In Mr. McGuigan, the General Superintendent, we have a most efficient officer, & in Mr. Reeve, the traffic Manager, Mr. Morse, the Mechanical Superintendent, & the divisional superintendents, we have men who are rendering excellent service to the Co.

Having passed over 3,000 miles of the system, all by daylight, & some of it, including the main line, twice, I am able to speak with confidence of its good general condition. Notwithstanding the competition which has been introduced by new lines, you may rest assured that the old G.T.R. is undoubtedly the strongest line in Canada in the district which it occupies, having access to every important town in Quebec & Ontario, & through its connections at Chicago, with all the important U.S. railways. Mr. Hobson, the Chief Engineer, who was associated with me for many years on the Great Western of Canada, is another valuable official of the Company. He has under his supervision the new Victoria-bridge, which will be completed in January, a magnificent work. As it is built outside the old tube, one can easily see the difference between the two, as the old tube is still in existence, being gradually cut away, but the trains are now passing over on the new girders from one end to the other. The old tube looks only about ½ the size of the new bridge, & looking from the rear of the train, the difference is very perceptible after you have passed through. I will conclude by giving an example of the thorough manner in which the line is being operated by mentioning that in passing both ways on the main line, between Toronto and Montreal, with the working time-table before me, I could have set my watch by our arrival at any station on the line. The freight traffic is also moved ex-



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peditously; for instance, goods delivered at Toronto before 2 o'clock in the afternoon are delivered in Montreal on the following morning by 10 o'clock—333 miles. I wish to return my best thanks to Mr. Hays for the facilities rendered me in carrying out this inspection, which was rather trying work owing to the extreme heat, the thermometer being about 94 to 100 all the while. But the work was extremely interesting, enabling me to see the enormous improvement in the property & rolling stock compared with what it was when I last saw it 3 years ago, & the shareholders can rest assured that they have in Mr. Hays one of the most competent managers on the continent of America. In 2 years the debt incurred to keep up the debenture stock interest, over £300,000, has been paid off, we are paying £100,000 in dividends, & at the same time the roadway & rolling stock have been placed in 1st-rate condition. I have much pleasure in seconding the resolution proposed by the President for the adoption of the report & accounts, & for the declaration of the dividend on the guaranteed stock.

Mr. JEFFRIES regretted the Chairman had been unable to come to an arrangement with the C.P.R. Still, he thought they might congratulate the board on the improvement that had taken place in their property, & upon the fact that their General Manager had been able to reduce the expenses to such an extent as had been mentioned. He should like to know what decision had been come to with regard to the Belt Toronto line.

MR. BAKER considered the Chairman had hardly correctly represented the cause which originated the unfortunate & unsatisfactory war of rates from which the various trans Atlantic lines had suffered.

THE CHAIRMAN, in reply, said that they were so much impressed, on inspection of the Belt Line, with the undesirability of retaining it, that they took upon themselves the immediate responsibility of closing the line. Although endeavors had been made to get rid of the line they had been unable to do so. Mr. Baker had charged this Co. with being the originator of the rate war. There was no foundation for such a statement.

The resolution was then put to the vote & carried unanimously amid applause.

MR. JEFFRIES—I have great pleasure in proposing a vote of thanks to the President & his colleagues.

The motion was carried unanimously.

THE PRESIDENT—Mr. Jeffries & gentlemen, I am extremely obliged to you on behalf of my brother directors & on my own part for the very kind expressions you have used.

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.

	1898	1897	Decrease.
July.....	\$1,860,884	\$1,992,028	\$131,144
August.....	1,992,802	2,091,235	98,433
Sept.....	2,261,148	2,341,960	80,812
Oct.....	2,260,573	2,348,463	87,890
	\$8,375,407	\$8,774,286	\$398,879

The following figures are issued from the London, Eng., office:

GRAND TRUNK RAILWAY.

Revenue statement for September:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£383,580	£404,511	....	£209,31
Working expenses..	228,396	241,240	....	12,844
Net Profit.....	155,184	163,271	....	8,087

Aggregate for 3 months to Sep. 30;

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£1,025,603	£1,097,084	....	£71,481
Working expenses	654,557	697,520	....	42,963
Net Profit.....	371,046	399,564	....	28,518

CHICAGO & GRAND TRUNK RAILWAY.

Revenue Statement for September:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£62,091	£57,800	£4,291	....
Working expenses..	49,985	49,048	937	....
Net profit.....	12,106	8,752	3,354	....

Aggregate for 3 months to Sept. 30:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£175,303	£167,944	£7,359	....
Working expenses..	142,635	148,271	....	£5,636
Net profit.....	32,668	19,673	12,995	....

DETROIT, GRAND HAVEN & MILWAUKEE.

Revenue statement for September:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£18,946	£22,118	....	£3,172
Working expenses..	12,445	13,715	....	1,270
Net profit.....	6,501	8,403	....	1,902

Aggregate for 3 months to Sept. 30:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£55,661	£59,190	....	£3,529
Working expenses..	38,410	40,415	....	2,005
Net profit.....	17,251	18,775	....	1,524

RECEIPTS OF THE SYSTEM.

From July 1 to Oct. 31, the receipts were:

	1898.	1897.	Increase.	Decrease.
Grand Trunk.....	£1,407,865	£1,501,376	....	£93,511
Chicago & G.T.	238,882	226,558	£12,324	....
D., G. H. & M.	74,228	74,999	....	771

Total.....£1,720,975 £1,802,933 £81,958

Mileage both years, G.T., 3,512; C. & G.T. 335; D., G. H. & M. 189. Total 4,036.

DETAILS OF GRAND TRUNK RECEIPTS.

Aggregate July 1 to Sep. 30.

	1898.	1897.
Passengers, number.....	2,232,877	2,030,978
" amount.....	£ 337,361	£ 360,126
Immigrants, number.....	3,619	3,130
" amount.....	£ 2,062	£ 2,049
Mails, express, &c.....	£ 54,554	£ 55,071
Freight, tons.....	2,136,803	2,406,751
" amount.....	£ 599,883	£ 666,798
Miscellaneous receipts.....	£ 31,745	£ 12,739
Total receipts.....	£1,025,605	£1,097,083
Decrease.....	71,478	....

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases over 1897 from Jan. 1, 1898, are as under:

	Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan. 1, 1898.....	\$1,672,372.04	\$1,567,444.45	\$515,627.59	\$142,284.49+
Feb. 1, 1898.....	1,494,596.98	1,070,929.62	423,667.36	38,844.28+
Mar. 1, 1898.....	2,079,479.06	1,316,245.55	753,233.51	233,020.67+
April 1, 1898.....	1,958,461.88	1,241,371.19	717,090.69	89,973.35+
May 1, 1898.....	2,552,099.16	1,349,336.85	926,662.31	51,092.47+
June 1, 1898.....	2,138,110.04	1,340,714.67	817,395.37	68,731.93+
July 1, 1898.....	2,051,363.27	1,349,074.48	730,688.79	183,670.08+
Aug. 1, 1898.....	2,210,865.29	1,441,838.41	883,026.88	121,380.23+
Sep. 1, 1898.....	2,396,385.29	1,395,871.01	1,092,513.66	32,622.62+

\$18,254,633.01 \$11,394,726.85 \$6,859,906.16 \$214,055.64+
+ Increase. - Decrease.

The approximate earnings for October, 1898, were \$2,685,000.00, against \$2,784,000.00 in October, 1897, a decrease of \$99,000.00.

AUXILIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC. - The approximate earnings for Oct. were \$155,055, as compared with \$150,235 for the corresponding period, an increase of \$4,820. For the 10 months ending Oct. 31 they were \$1,375,000.26, as compared with \$1,184,880.27 for the corresponding period, an increase of \$194,918.99.

The net earnings for the 8 months to the end of Aug. were \$425,001, as against \$326,578 for corresponding period.

MINERAL RANGE, HANCOCK & CALUMET. - The approximate earnings for Oct. were \$36,396, as compared with \$27,474 for the corresponding period, an increase of \$8,922. For the 10 months ending Oct. 31 they were \$301,397.57, as compared with \$240,815.05 for the corresponding period, an increase of \$60,582.52.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE. - The approximate earnings for Oct. were \$508,639, as compared with \$472,713 for the corresponding period, an increase of \$35,926. For the 10 months ended Oct. 31 they were \$3,440,167.24, compared with \$3,098,566.49 for the corresponding period, an increase of \$341,600.75.

The net earnings for Aug. were \$139,673, as against \$121,728 for corresponding period, making for the 2 months to the end of Aug. \$234,080, as against \$264,703.

Canadian Pacific Railway Land Sales.

	Acres.	1898	1897	Amount.
Jan.....	22,044	9,443	\$72,924.00	\$33,872.00
Feb.....	20,080	8,163	66,399.00	27,573.00
Mar.....	33,421	8,727	109,010.00	29,080.00
April.....	43,145	10,785	140,275.00	37,145.00
May.....	43,148	15,802	137,835.00	51,508.00
June.....	49,203	18,064	160,109.00	63,160.00
July.....	39,514	17,083	123,011.00	55,949.00
Aug.....	19,449	9,460	63,911.00	30,209.00
Sept.....	18,007	16,066	59,936.00	54,314.00
Oct.....	17,026	25,273	55,570.00	85,932.00
Totals.....	305,605	139,766	\$986,070.00	\$468,742.00

Calgary & Edmonton Railway Co.

The following report for the year ended June 30 was presented at the adjourned annual meeting at Toronto Oct. 26:-

The gross earnings, after deducting earnings from Government service, amounted to \$357,586.96, as against \$131,630.21 for the previous year, an increase of \$225,956.75, or 171.66%. The total expenses amounted to \$163,207.88, as against \$64,315.46, an increase of \$98,892.42, or 153.76%. The percentage of expenses to earnings is 45.64%, as compared with 48.86 per cent. for the previous year. The net earnings amounted to \$194,379.08, as against \$67,314.75 for the previous year, an increase of \$127,064.33.

Earnings from passenger traffic (including Government service) amounted to \$96,250.17, as compared with \$38,965.74, an increase of \$57,284.43, or 147.01%, this increase being to a considerable extent attributable to earnings from fares of laborers for Crow's Nest Pass Ry., as well as from passengers for the Yukon over the Edmonton Branch. Freight, express, mail & miscellaneous earnings (including Government service) amounted to \$266,663.96, as compared with \$96,493.06 for the previous year, an increase of \$170,170.90, or 176.36%. Of this increase about \$74,000 has been derived from earnings on Crow's Nest Ry. construction freight, leaving a natural increase of about \$96,000, or 100%, which must be considered very satisfactory.

The total increase in operating expenses of \$98,892.42 is, the directors consider, not unsatisfactory, taking into account the large increase in traffic & the fact that the Co. had to meet some exceptional expenditure, such as, water supply, \$6,179.62; wrecking, \$5,386.49; & damage by freshets, \$9,190.83, caused by the high water during June, 1897. A considerable further amount will have to be paid out during the current year for work rendered necessary as a result of damage by freshets in 1897.

The total tonnage carried during the year amounted to 127,847 tons, as against 27,018 tons for the previous year, an increase of 100,829 tons, of which 73,113 tons consisted of Crow's Nest Pass Ry. construction material.

During the year the railway carried 1,103,050 bus. of grain, as compared with 234,235 bus. during the previous year, an increase of 868,815 bus., & it is estimated that, though the yield per acre may not be as heavy this year as last, the increased area under cultivation in the districts tributary to the Co.'s railway will give a larger crop than last year. The cattle trade is increasing, as well as the export of dairy & other farm products, & settlers along the line of railway are doing well.

GENERAL BALANCE SHEET JUNE 30, 1898.

ASSETS.	
Cost of road	\$6,458,040 00
Security deposits	20,000 41
Cash in Banks	72,011 07
Interest deferred	327,530 40
	<u>\$6,877,000 88</u>
LIABILITIES.	
Capital stock paid up	\$1,000,000 00
First mortgage bonds	5,158,940 00
Compons due & not presented	500 94
Interest unpaid	327,536 40
Profit & loss account	92,050 54
	<u>\$6,870,096 88</u>

INCOME AND EXPENDITURE ACCOUNT.

EARNINGS.	
Balance brought forward	\$2,841 19
Passenger	\$50,250 17
Freight	258,064 97
Express	2,778 70
Mail	4,477 38
Miscellaneous	1,342 91
	<u>\$302,014 13</u>
Less amount of Government service included in above	5,327 17
	<u>\$357,586 96</u>
	<u>\$381,428 15</u>
Balance brought down	\$218,220 27
Interest received	120 15
	<u>\$218,340 42</u>

OPERATING EXPENSES

General Expenses	\$ 2,680 10
Conducting transportation	36,459 73
Management expenses	2,890 70
Motive power	48,053 08
Maintenance of way & structures	65,272 61
Maintenance of cars	7,242 66
	<u>\$163,297 88</u>
Balance carried down	218,220 27
	<u>\$381,428 15</u>

INTEREST ACCOUNT.

1. Paid in cash on account	
Jan. 1, '98, coupon	£19,629 15 0
2. Paid in cash on account	
July 1, '98 coupon	22,434 0 0
	<u>£42,063 15 0</u>
Less Government subsidy for year \$80,000.	16,438 7 2
	<u>£25,625 7 10</u>
Expenses re service of coupon (London)	1,223 69
Balance carried forward	92,659 54
	<u>\$218,340 42</u>

As security for the annual subsidy the Government retained & now hold 407,402 acres of the Co's land grant.

The following were re-elected: President, H. C. Hammond; Vice-President, N. Kingsmill, Q.C.; other directors: J. J. Kingsmill, Q.C.; E. B. Osler, M.P.; C. E. L. Porteous, D. W. Saunders, R. A. Smith. Secretary, R. A. Smith.

Pullman Palace Car Company.

At the annual meeting of this company, in Chicago, Oct. 13, the directors were re-elected. The stockholders voted to issue \$18,000,000 of new stock to capitalize the existing surplus. This will be distributed to stockholders of record Nov. 1, making a stock dividend of 50%, each holder receiving 1 share of new stock for each 2 shares now held by him. The report for the year ended July 31 shows the following statistics of traffic, earnings & capital:

Earnings of cars	\$8,508,837
patents	12,138
from manufacturing, etc.	2,063,893
	<u>\$10,674,868</u>
Operating expenses	\$3,776,315
Paid other interests in lines partly owned	831,634
Repairs in excess of mileage	793,036
Dividends	2,880,000
	<u>\$ 8,280,985</u>
Surplus	\$ 239,838

ASSETS.	
Cars & equipments	\$22,153,304
Investments in other car ass'ns	2,896,468
Plant at Pullman	8,113,767
Other shops & real estate, etc	1,573,295
Lumber, supplies, etc., inc. cars unfinished	4,099,948
Patents	114,009
Furniture	75,000
Securities, loans, cash, cash items, etc.	24,056,714
	<u>\$63,083,105</u>
LIABILITIES.	
Capital stock	\$36,000,000
Special dividend Aug. 15	7,200,000
	<u>\$43,200,000</u>
Surplus	19,883,105
	<u>\$63,083,105</u>

The surplus invested in the assets of the Co. is \$29,896,842; but from this deductions are made aggregating \$10,013,737, reducing the net surplus to the sum stated above. The deductions include depreciation of cars & other property, \$1,577,666; settlement with Central Transportation Co., \$1,195,930; franchises, patents, etc., \$1,190,760; special dividend, \$7,200,000. These written-off items are partly offset by an item of \$1,150,619 appreciation in value of securities.

Following are comparisons with the preceding year:

	1898.	1897.
Car earnings	\$ 8,598,838	\$ 7,743,344
Other income	2,076,030	1,231,544
Total	\$10,674,868	\$ 8,974,888
Operating expenses	3,776,314	3,511,868
Other ass'ns	831,634	812,164
Other expenses	793,036	
Dividends	2,880,000	2,880,000
Total	\$ 8,280,984	\$ 7,204,037
Surplus	2,393,884	1,770,851

From the statement made by Acting President R. T. Lincoln at the annual meeting the following additional statistics are gathered:

Cars built for the Co. during year	23
Cost of same (av. \$15,989 each)	\$367,739
Passengers carried	5,356,912
previous year	4,852,398
Car miles	201,295,321
previous year	190,652,758
Cars owned & controlled, 1st class	2,039
2nd class	371
Mileage of roads	121,662
(a) Product of car works, value	\$10,368,256
(b) Product of other industries, inclng rentals	1,032,087

Total a and b	\$11,400,343
previous year	4,681,618
Average number on pay roll at Pullman	5,012
Average pay per capita	\$539
Average pay of journeyman mechanics at Pullman per day	\$2.39
Same, previous year	\$2.28
Deposits in Pullman Savings Bank	\$679,332
Increase from previous year	175,893

If the cars run during the past year had made the 201,295,321 miles in trips of 375 miles each, the number of trips would have been 536,787, & the 5,356,912 passengers would have averaged just about 10 to each car for each trip.—Railroad Gazette.

Canadians in Kentucky.

The Richmond, Nicholasville, Irvine & Beattyville Ry. was resold under foreclosure at Versailles, Ky., Oct. 6. The road was sold last year to D. Shanahan & Co., who transferred the property to A. Segal, of Philadelphia. The latter defaulted in the payments after making a deposit of \$25,000, & a resale of the road was ordered. At the sale, Oct. 6, the property was purchased at \$160,000 by Col. B. H. Young, of Louisville, who represents a syndicate composed of: A. E. Fawke, Liverpool, England; G. P. Magann & A. Fraser, railway supply dealers, Toronto, Ont.; G. W. Evans, C. D. Chenault, C. H. Chenault, J. S. Powell, B. B. Million, D. W. Chenault, J. C. Chenault, G. W. Evans, jr., J. B. Chenault, of Richmond, & Col. B. H. Young, of Louisville. In addition to the purchasing price of \$160,000, the syndicate agrees to return to Mr. Segal \$12,000 for improvements made in the property.

The road extends from Versailles, Ky., to Irvine, 61 miles. It was built about 8 years ago at a cost, it is said, of nearly \$2,000,000, including equipment. Mr. Fawke & other English investors recently purchased 2,500 acres of coal & timber lands in Perry County Ky., & the railway will probably be extended to them. The road is said to be in splendid shape & to now be on a paying basis. It is understood that Messrs. Magann & Fraser have a controlling interest in the new organization.

The sale above mentioned has been set aside by Judge Barr, in the Louisville Circuit Court, on the petition of Shanahan & Co. Special Commissioner G. Durelle has been ordered to make another sale at the upset price of \$210,000, which was offered by J. Stiles, Trustee.

Victoria & Sidney Railway.

At the recent annual meeting at Victoria, B. C., the report presented covered from July 1, 1896, to June 30, 1898, as follows:

RECEIPTS.

Passenger	\$16,902 50
Freight	17,031 63
Mail & telephone	824 09
	<u>\$35,358 22</u>

EXPENDITURE.

Maintenance	\$ 5,744 30
Motive power	13,065 23
Repairs to cars	346 21
Operating	15,504 35
	<u>\$34,720 90</u>

Number of passengers carried..... 37,536.
Tons of freight carried..... 35,110.

The following were elected: President, George Riley; Vice-President, P. C. Dunlevy;

THE BARRETT TRACK JACK.

Recommended as a standard by the

Road Masters' Association of America.

These Jacks are made with Malleable Iron Frames, Steel Pawls, Machinery Steel Bearings and Pivots, forged Steel Rack. The wearing parts are removable and readily renewable at slight expense. The rectangular base gives great lifting strength and fits into close quarters better than other shaped stands. Adaptable to either high or low et loads.

The Barrett Jack is the safest, best and strongest known to the railroad world to-day.

Lifting capacity,

10 to 15 tons.

For Catalogue and Price List, apply to

THE DUFF MANUFAC. CO.

Marion and Martin Avenues, ALLECHENY, PA.

Stock carried by

JAMES COOPER, Agent, 299 St. James St., Montreal.



No. 2 Automatic Lowering.



No. 1 Trip.

Directors, W. Macaulay, R. L. Drury, S. Rounding. The officials are: General Manager, T. W. Paterson; Sec.-Treas., S. Rounding; Auditor, A. H. Harman.

Financial Notes, &c.

Calgary & Edmonton.—The net earnings or Sept. were \$5,767.93 as against \$15,734.43 in Sept. '97.

Central Vermont.—Steps have been taken in the Vermont Legislature to re-incorporate this Co. under the name of the Central Vermont Ry. Co., instead of R.R. Co. as heretofore. The capital stock is to be \$3,000,000, & the incorporators are authorized to buy the property of the old Co., as well as the Missisquoi Valley, the Burlington & Lamoille Valley, to lease the New London Northern, & to hold the stock of the Montreal & Vermont Junction. The incorporators are E. C. Smith, D. D. Ramlet, C. M. Hays, C. Percy, J. G. McCullough, Wm. S. Webb, E. H. Baker & S. E. Kilner. Messrs. Hays & Percy are G. T. R. officials.

Columbia & Western.—The annual meeting will be held at Trail, B.C., Dec. 14.

F. A. Heinze, who sold the C. & W. Ry. from Robson to Rossland, & his smelter at Trail to the C.P.R. Co. for some \$800,000, has, it is said, made a claim on that Co. for another \$100,000 for personal property at the smelter, which, he contends, was not intended to be included in the transfer to the C. P. The latter, on the contrary, claims that it bought everything in sight.

Great Northern (U.S.)—The annual report for the year ended June 30 is as follows:—

	1898.	1897.
Gross earnings railway system proper.....	\$22,577,544	\$19,436,060
Gross earnings other proprietary companies.....	2,443,650	2,300,165
Total earnings.....	\$25,021,194	\$21,736,225
Operating expenses & taxes.....	13,469,013	13,230,222
Net earnings.....	\$11,552,182	\$8,506,003
Miscellaneous income.....	1,523,715	691,921
Total net income of system.....	\$13,075,897	\$9,197,925
Fixed charges & guarantee dividend on St. P. M. & M. stock.....	6,413,714	6,380,208
5 dividend on G. N. preferred stock.....	1,500,000	1,250,000
Total charges.....	\$7,913,740	\$7,632,208
Surplus.....	\$5,162,157	\$1,565,717

At the annual meeting at St. Paul, Minn., Oct. 9, J. H. Schiff & H. W. Gannon, whose terms had expired, were re-elected directors. J. N. Hill was elected to succeed Lord Strathcona & Mount Royal.

Kaslo & Slocan.—At the annual meeting at Victoria, B.C., Oct. 16, R. Irving, heretofore Traffic Manager & Secretary, was elected President in place of D. J. Mann. G. F. Copeland was elected Vice-President & Treasurer in place of A. Guthrie, & J. Jeffries was elected Secretary.

Kingston & Pembroke.—A special meeting of shareholders will be held in Kingston Nov. 21, to authorize the directors, pursuant to the Act passed at last session of the Dominion Parliament, to issue preference stock not exceeding \$1,000,000, to pay the interest on the Co's bonds or debentures issued up to Jan. 1, 1899, & the floating liabilities of the Co.

Kootenay Valley.—V. H. Thompson, A. Allen, C. Shields & L. F. Gordon, Seattle, Wash.; G. Alexander, Kaslo, B.C., & H. M. Foster, London, Eng., have been incorporated at Spokane as the Kootenay Valley Ry. Co., to take over the line which is building from Bonner's Ferry, Idaho, to Kaskanook, B.C., & the portion of which on the Canadian side is called the Nelson & Bedlington. The line will form a part of the Kootenay Railway & Navigation Co.'s system, full particulars of which were given in our Sept. issue, pg. 181.

Northern Pacific.—At the annual meeting in New York, Oct. 20, the following directors were elected:—E. D. Adams, R. Bacon, D. Clark, C. H. Coster, R. M. Gallaway, B. Ives, D. S. Lamont, C. S. Mellen, J. G. Moore, W. Oakman, S. Spencer, J. Stillman & E. B. Thomas.

Qu Appelle, Long Lake & Saskatchewan.—The net loss in operating for Sep. was \$3,-323.25, compared with net earnings of \$126,-60 for corresponding period.

Quebec Central.—The traffic receipts for Sep. were \$46,647.29, compared with \$43,-932.26 for corresponding period. There was an increase of \$3,787.88 in passenger receipts & a decrease of \$1,079.06 in freight.

The aggregate traffic receipts for the 9 months to Sep. 30 were \$344,178.90, compared with \$357,267.48. Passenger receipts increased \$7,938.87, & freight decreased \$20,-977.96. The earnings per mile per month were \$179.54, a decrease of \$6.82 from corresponding period.

Quebec & Lake St. John.—The gross earnings for Aug. were \$3,894 more than for the corresponding period.

Quebec, Montmorency & Charlevoix.—For information respecting this Co., see under head of Electric Railways further on in this issue.

Rutland R. R.—The control of this road has passed into the hands of a few New York & New England capitalists, including W. K. Vanderbilt, C. M. Depew, W. S. Webb, H. McK. Twombly, of New York; W. H. Ball & E. Harding, of Boston, & P. W. Clement, of Rutland, Vt. Mr. Clement has for many years been the President of the road, & about a dozen years ago he sold to the Delaware & Hudson Canal Co. a controlling interest in the shape of \$3,000,000 of preferred stock & \$1,000,000 of common stock. This Delaware & Hudson interest constitutes part of the securities embraced in the present transfer. The Central Vermont Ry. Co. had a 999-year lease of the Rutland road up to May 7, 1896, on which date the property was surrendered to its owners in consequence of a default by the lessee company in the payment of the stipulated rental of \$365,000 a year. Since that surrender the Rutland road has practically been in the market, & there has been considerable conjecture regarding its final disposition. The Grand Trunk has been mentioned as a probable purchaser. Its present control insures its operation in the Vanderbilt interest. The total capitalization of the Rutland R. R. Co. is \$6,719,100, including \$2,480,000 of common stock & \$4,239,100 of preferred stock. The funded indebtedness consists of \$3,500,000 of 1st, 2nd & consolidated mortgage bonds.—Railway World.

For further information about this line, see under head of Railway Projects elsewhere in this issue.

The Northern Pacific announces a quarterly dividend at the rate of 4% per annum on the preferred shares.

The St. Louis, Kansas & Southwestern Ry. was sold at auction at Arkansas City, Oct. 22, by the Master-in-Chancery for \$150,000 to S. Barker, of Hamilton, Ont., a representative of bondholders, to the extent of \$800,000. The road, which is 59 miles long, runs from Arkansas City to Anthony, & was at one time part of the 'Frisco system.

The Halifax Chronicle very kindly says: "THE RAILWAY AND SHIPPING WORLD, devoted to the interests of steam & electric railways, shipping, express, telegraphs & telephones, is a publication which is certain to become very popular with Canadians. It is neatly printed & has an abundant supply of well-arranged & interesting facts relating to the interests it aims to serve."

RAILWAY PROJECTS.

Amherst to Northport.—At a meeting of the ratepayers of the town of Amherst, N.S., Oct. 26, the council was authorized to make a grant toward the construction of a railway from Amherst to Northport on Northumberland Straits. The length of the road would be about 20 miles, & it would open up some valuable coal properties, rich agricultural areas, & afford facilities for the dry shipment of lumber to European markets. The route would be parallel to that of the unfinished Chignecto ship railway, about 4 miles from it at Amherst & 10 miles at the eastern terminus. The Co. expects to run a survey through this autumn.

Chilcoot Pass to Dawson.—A. Ferguson, Solicitor, Ottawa, gives notice of application to the Dominion Parliament for the incorporation of a company to construct & operate a railway from, on, or near the International Boundary at or near the head of Chilcoot Pass & the commencement of the Dalton Trail, thence along or near the Dalton Trail to or near Selkirk, & thence to a point in or near Dawson City, with the usual powers.

Dawson Belt Line.—D. G. Macdonell, Solicitor, Vancouver, gives notice of application to the Dominion Parliament for the incorporation of a company to construct & operate a railway from, at or near Dawson City, along Klondike River to the confluence of Hunker Creek, thence along Hunker Creek to Dominion Creek, thence to Indian River & along its course to its junction with the Yukon River thence along the Yukon River to Dawson City, with a branch up Bonanza & Eldorado Creeks to Dominion Creek.

Hardy Bay Tramway Co.—W. Jensen & L. Goodacre, Victoria, give notice of desire to form a Co. under this title, under the Tramway Incorporation Act (British Columbia), for the purpose of building & operating a tramway from a point on Hardy Bay, Rupert District, Vancouver Island, southwesterly to Coal Harbor, Quatsino Sound, & with power to build branch lines therewith, & to build telephone or telegraph lines in connection.

Kamloops Lake to Atlin Lake.—Bodwell & Duff, Solicitors, Victoria, give notice of application to the B.C. Legislature for the incorporation of a company to build a standard or narrow gauge railway from or near the outlet of Kamloops Lake to the plateau of the Bonaparte River; thence to the Cariboo wagon road near the One Hundred-Mile House; thence following generally the route of the Cariboo wagon road to the mouth of Quesnelle River; thence north-westerly, following generally the route of the Telegraph trail to Hazelton, at the Forks of the Skeena River; & thence north & north-west to the vicinity of Atlin Lake; with power to build a branch to Teslin Lake.

Midway to Kettle River.—D. B. Vincent & I. Thompson, agents for applicants, give notice of application to the British Columbia Legislature for the incorporation of a company to construct & maintain a railway from, at or near Midway westerly, following the valley of the Kettle River to its junction with the West Fork of Kettle River; thence up the valley of the West Fork to or near the mouth of Beaver Creek, with power to construct branch lines.

Nipissing & James Bay Ry.—McMurrich, Coatsworth, Hodgins & Co., Solicitors, Toronto, give notice of application to the Dominion Parliament for an Act to extend the time limited for the completion of the several portions of the road.

Northern Pacific.—A rumor is current in Winnipeg to the effect that the Northern Pacific will build a direct line from there to Duluth, by way of the Red River, & that other important extensions on the Manitoba division

are in contemplation. The marvellous crop of this year, and the possibility of the export of wheat increasing to 50,000,000 or 60,000,000 bus. in the next 3 or 4 years, is the incentive to build to Duluth direct. The air line to Duluth would compete with the C.P.R. Winnipeg-Fort William route, as well as with the Manitoba & Southeastern, which is now being built from Winnipeg southeasterly to meet the Ontario & Rainy River Ry., now building westerly from its starting point on the Port Arthur, Duluth & Western, near Stanley, a short distance west of Fort William. The M. & S. E. is subsidized by the Province of Manitoba & was adopted instead of Premier Greenway's first proposal of an air line to Duluth.

Quesnelle Forks to Skeena River.—Wilson & Senkler, Solicitors, Vancouver, give notice of application to the B.C. Legislature for the incorporation of a company to build a railway from or near Quesnelle Forks, to or near Hazelton, near the junction of the Watsau-Kwa or Buckley & the Skeena rivers.

Spokane & Northern.—The Chicago Tribune says: "The Great Northern (U.S.) it is reported, intends to make application to the next session of the Canadian Parliament for a franchise to extend the Spokane Falls & Northern through Southern British Columbia. The franchise desired by the Great Northern is believed to be for a more ambitious enterprise than has yet been revealed. The real object is represented to be a paralleling of the C.P.R. Crow's Nest line through Southern B. C., in addition to the Kettle River road."

Stikine & Yukon.—Blake, Lash & Cassels, Solicitors, Toronto, give notice of application to the Dominion Parliament for the incorporation of a company, with the usual powers, to construct & operate a railway from on or near the Stikine River to Teslin Lake or thereabouts, thence to Dawson City or thereabouts; also from on or near the Stikine River southerly to a point in British Columbia capable of being made an ocean port; also from on or near the waters of Lynn Canal, by way of Fort Selkirk or thereabouts to Dawson City or thereabouts; also branch lines & lines of railway along or near any creek or water-course in the Yukon district; also telegraph & telephone lines from existing lines in B.C. to any points on the above lines of railway. It is said this application is in the interest of Mackenzie, Mann & Co.

Rutland-Canadian.—A bill has been passed by the Vermont Legislature, incorporating the Rutland-Canadian R. R. Co. with a capital of \$1,000,000, for the purpose of extending the Rutland Ry., which now runs from Bellow's Falls to Burlington, Vt., 120

miles. The extension will run from Burlington north to Rouse's Point, N.Y., either through Grand Isle County or by way of St. Albans & Swanton, & will connect with the Canada Atlantic. The incorporators are: W. C. Clement, H. G. Smith, F. R. Wells, F. W. Wilder, W. W. Stickney, George R. Bottom, J. W. Stewart, W. S. Webb & P. W. Clement.

Thunder Bay, Nipigon & St. Joseph.—Some Port Arthur citizens have decided to apply for a charter for a railway from there via Lakes Nipigon & Joseph to James Bay.

RAILWAY APPOINTMENTS, &c.

Canadian Pacific.—A recent telegram from Portage la Prairie, Man., stated that F. L. Newman had been appointed Superintendent of the Crow's Nest Pass Ry. Enquiry at the Manager's office at Winnipeg elicited the information that nothing was known there about the appointment. The line is about to be transferred to the operating department of the Western Division.

T. H. Underwood, formerly of the C.P.R. & latterly Chief Clerk in the general traffic office of the Government Ry. System in Montreal, has gone to England to act as Travelling Freight Agent for the C.P.R. He will be attached to the staff of European Traffic Agent Baker.

Grand Trunk.—Superintendent Fitzhugh, of the Middle Division, announced the following appointments as effective Nov. 1: H. E. Whittenberger, Trainmaster, 16th (Toronto to Hamilton), 17th, 18th, 19th 20th (Harrisburgh to Tilsonburg Jct.) districts, vice C. S. Cunningham, transferred; office at London, Ont. W. E. Costello, Trainmaster, 15th, 16th (Port Dover to Hamilton), 20th (Buffalo to Goderich) 21st districts; office at Stratford, Ont.

Mr. Cunningham has been transferred to a similar position at Island Pond, Vt. Mr. Whittenberger has recently been Trainmaster at Stratford, Ont. Mr. Costello comes from the Columbus, Hocking Valley & Toledo Ry., where he was Trainmaster of the Toledo Division.

General Roadmaster Cheer announces the appointment of T. H. Horner, formerly Foreman at Peterboro', as Roadmaster, Districts 11 & 12, North Parkdale, to South switch, Gravenhurst, & District 9, East switch, Atherly Jct., to Midland, including Medonte Branch, with office at Allendale, Ont., in place of C. Wyatt, transferred to Richmond, Que., as Roadmaster of District 2, in place of T. Stack resigned.

J. McGrath, Foreman of the erecting shops at Stratford, Ont., has been appointed Master Mechanic there in place of J. D. Barnett, resigned. Mr. Barnett was in the service for many years, having previously been in charge of the Midland shops at Port Hope. Mr. McGrath is succeeded as Erecting Shop Foreman by J. Markey, of the fitting department.

E. D. Jameson, heretofore Assistant Master Mechanic at Chicago, has been appointed Assistant Master Mechanic of the Western Division, with office at Battle Creek, Mich., being succeeded at Chicago by W. A. Bell.

J. A. Miller, heretofore Travelling Agent, has been appointed General Agent at Seattle, Wash.

J. L. Gogerty, of Portland, Me., has been appointed Yardmaster at Point St. Charles, Montreal, replacing A. Tarling, who has been transferred to Portland.

Intercolonial.—In our last issue, pg. 204, we published a circular issued by General Manager Pottinger, Oct. 14, announcing the appointment of J. E. Price, Superintendent at Truro, as General Superintendent at Moncton; the transfer of Superintendent Rennels from Campbelltown to Truro, & the appointment of G. M. Jarvis, Chief Despatcher at Moncton, as Superintendent at Campbelltown. This circular was cancelled by another bearing the same date & reading as follows: "J. E. Price has been appointed General Superintendent, with headquarters at Moncton, N.B. The superintendents of districts, the Superintendent of the Parlor, Sleeping & Dining Cars, & the Car Accountant will report to & receive their instructions from him. G. M. Jarvis has been appointed Superintendent of the Halifax & St. John District in the room of Mr. Price." It will thus be seen that Mr. Rennels has been left in his old position at Campbellton & that Mr. Jarvis has gone to Truro instead.

As foreshadowed in our last issue, Mr. Jarvis has been succeeded as Chief Despatcher by H. B. Fleming.

The Railroad Gazette, New York, announces that "J. J. Wallace, heretofore Superintendent of the Halifax & St. John District of the Intercolonial, has been appointed General Freight Agent." Mr. Wallace has been General Freight Agent of the Intercolonial since Nov., 1892; so he can hardly be described as "heretofore Superintendent of the Halifax & St. John District."

W. Williams, Secretary to Supt. Rennels at Campbellton, has been promoted to despatcher in the place of L. S. Brown, lately removed.

INSURE IN

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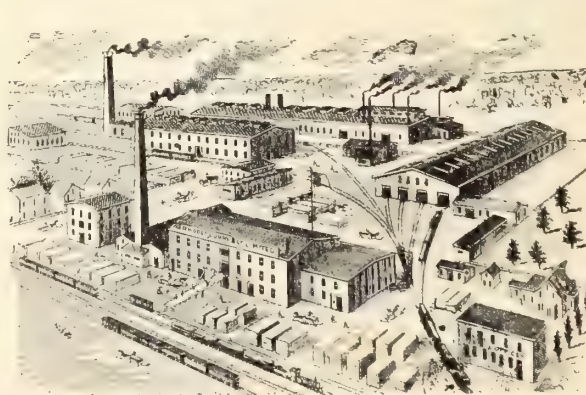
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AMHERST, NOVA SCOTIA.

W. H. Olive, formerly Eastern Freight & Passenger Agent at Montreal, who was retired in Jan. last by General Traffic Manager Harris, has been appointed Travelling Freight Agent for Montreal City & Quebec Province, reporting to the Division Freight Agent at Montreal.

Division Freight Agent Hardwell, of Montreal, visited Toronto recently in connection with the reorganization of the office there. W. Robinson, recently Division Freight Agent at St. John, N.B., is confirmed in his new position of General Travelling Agent for Ontario with headquarters at Toronto, & N. Weatherston becomes Travelling Freight & Passenger Agent with headquarters in the same office, 93 York St.

J. D. McNutt, who has been stationed in Moncton for the last 4 years as relieving despatcher between Moncton & Truro, has been promoted to despatcher in the New Glasgow office. I. L. Boomer, operator in the Moncton office, has been promoted to Mr. McNutt's place.

Great Northern (U.S.)—Darius Miller, Third Vice-President & Traffic Manager of the Missouri, Kansas & Texas, has been appointed Chief Traffic Executive, succeeding F. B. Clarke, General Traffic Manager, with headquarters at St. Paul, Minn.

Manitoba & Northwestern.—Hugh Spence, of the office of McCarthy, Osler & Co., Toronto, has been appointed Secretary, vice E. W. Riley, of Montreal.

Ottawa & New York.—New York & Ottawa.—G. H. Phillips has been appointed Travelling Freight & Passenger Agent of these companies, with headquarters at Ottawa, Ont., vice A. W. Flack, resigned.

Spokane Falls & Northern.—A. Jackson has been appointed Resident Engineer with headquarters at Spokane, Wash., succeeding E. J. Roberts, Chief Engineer, resigned.

W. Coyne has been appointed Chief Despatcher with headquarters at Spokane, Wash.

The following are the recently-elected & appointed officers of the Nelson & Fort Sheppard & the Red Mountain Ry's, the subsidiary lines in British Columbia:—W. H. Thompson, President; C. Shields, Vice-President; F. W. Bobbett, Sec'y & Treas.; A. M. Thomas, Auditor; C. G. Dickson, G. F. & P. A.; A. Jackson, Resident Engineer; C. H. Prescott, Master Mechanic. Mr. Thompson has his office at Seattle. All the others are at Spokane.

West Shore.—J. J. McCarthy, Travelling Passenger Agent at Toronto, has been appointed General Western Passenger Agent at Chicago, vice W. Caldwell resigned. Mr. McCarthy is succeeded at Toronto by L. Drago, Travelling Passenger Agent at Suspension Bridge, N.Y., who in turn is succeeded by Mr. McDonald, of Buffalo.

Personal Mention.

Jas. Ross, Vice-President Montreal Street Ry., has arrived in Montreal from England.

C. R. Hosmer, Manager C.P.R. Telegraphs, has gone to England, accompanied by Mrs. & Miss Hosmer.

Hugh Ryan, the well-known contractor, is very ill at his home in Toronto, with acute Bright's disease.

A. Lovell has been appointed Assistant Superintendent of Motive Power for the Northern Pacific. Office, St. Paul, Minn.

It is said E. C. Harris, formerly despatcher on the Intercolonial, & latterly Superintendent of the Fremont, Elkhorn & Missouri Valley Ry. at Chadron, Neb., has received an appointment on the Union Pacific.

R. Miller, Superintendent of Motive Power of the M.C.R. Ry., met with an accident at his home in Detroit recently, whereby he was badly but not dangerously burned by an explosion of gas in a furnace.

W. Mackenzie, accompanied by 3 of his daughters, left Toronto in Oct. for England. The Misses Mackenzie go to continue their studies on the Continent; Mr. Mackenzie expects to return to Canada early in December.

J. M. Egan, at one time General Superintendent of the C.P.R. Western Division at Winnipeg, was re-elected Vice-President of the Central Ry. of Georgia at the recent annual meeting. His headquarters are at Savannah.

Mrs. Matthews, wife of W. D. Matthews, of the C.P.R. directorate, has returned to Toronto from abroad, having spent the summer travelling with her daughter, Ethel, on the Continent, & left her in Paris to continue her studies.

Sir Wm. Van Horne, R. B. Angus & W. Mackenzie are among the directors of the Grand Falls (N.B.) Water Power & Boom Co., the capital stock of which, \$1,000,000, is said to have been subscribed.

Collingwood Schrieber, Deputy Minister of Railways, was married at Ottawa, Nov. 14, to Julia Maud, daughter of Judge Gwynne, of the Supreme Court. After the ceremony Mr. & Mrs. Schrieber left in the official car Montreal for New York.

The Duke & Duchess of York are about to visit Lord & Lady Mount-Stephen at Brocket Hall, Hatfield, Eng. The Duchess' friendship with Lady Mount-Stephen dates from the days when the latter was Lady-in-Waiting to the Duchess of Teck.

T. R. Hewson, Civil Engineer, of Tyrrell & Hewson, died suddenly at Sudbury recently. He was born in Cobourg about 41 years ago. He was Engineer of the Hamilton Radial Ry. Recently he had been at Sudbury superintending the laying out of township land for the Government.

Lord Strathcona & Mount Royal was recently asked about the statement published in Canada that he was about to resign the High Commissionership, & he succeeded by Sir Richard Cartwright. He said that, of course, he knew nothing of Sir Richard Cartwright's movements. He himself was quite innocent of knowledge of any intention such as alleged.

It is rumored that F. D. Underwood, General Manager of the Minneapolis, St. Paul & Sault Ste. Marie, has been appointed General Manager of the Baltimore & Ohio, to succeed W. M. Green, elected Vice-President of the B. & O. Southwestern, & that W. F. Fitch, General Manager of the Duluth, South Shore & Atlantic will succeed Mr. Underwood on the M., St. P. & Ste. S. Marie.

Mrs. Rolph, wife of E. R. Rolph, Architect on the Crow's Nest Pass Ry., died at Macleod, Alta., Oct. 23, of peritonitis. She was a daughter of S. W. McMichael, Chief Inspector of Customs, Toronto, & had only been married a few months. The body was taken to Toronto, & was accompanied by Mr. Rolph, who was so ill with typhoid that he had to be carried off the train on reaching Toronto. He is progressing very favorably.

Gamble Armstrong, the eldest son of H. W. D. Armstrong, C. E., of the Crow's Nest Pass Ry. Engineering Staff, died at Macleod, Alta., Oct. 20, of typhoid. He had been engaged for over a year past in the engineering department of the Crow's Nest Ry., & for the last six months was with his father at Fertile, B. C. The latter, who was laid up in Toronto in September, while on leave, also with typhoid, returned west the second week in October, & on arriving at Macleod, October 17, found that his son had been taken there ill a few days before. The end came three days later. The body was taken to Fertile & interred in St. James Cemetery.

H. A. Price, heretofore District Passenger Agent of the I.C.R., at Halifax, recently transferred to a similar position in Montreal, entered the service of the G.T.R. in the audit office in 1873 & went into the Managing Director's office the following year. He succeeded the late C. J. Brydges as Private Secretary when he was appointed General Superintendent of Government Railways in 1875, & when the former retired in 1879 became Private Secretary to D. Pottinger, the present General Manager, with whom he remained until 1892. Then he was appointed chief clerk in the General Passenger Agent's office at Moncton, N.B., where he remained until last Jan., when he was appointed District Passenger Agent at Halifax.

E. H. Keating, Manager of the Toronto Railway Co., has been sadly bereaved lately. Late in Oct. he received a cablegram from the British War Office, stating that his son Lieut. Keating, of the Leinster Regiment, had been killed in a canoe on the Niger by natives. He had set out in command of a party of native soldiers from Lokaja, & having passed Jebba, was advancing towards the farthest outposts of the British in the Niger region. A mutiny had occurred at Fort Goldie among the native troops, & it is possible that his death may have been caused by some of the mutinous natives. About the same time Mr. Keating was advised of the death in California of his father, Wm. Keating, who was a lawyer, having been admitted to the Nova Scotia bar in 1829. For some years he was registrar of deeds for Halifax County. In 1891 he removed to California from Halifax, with his family.

Jas. Tillinghast died at his home in Buffalo, N. Y., Oct. 25, aged 76. He was born in Cooperstown, N.Y., & entered railway service as fireman on the Utica & Schenectady R.R., now a part of the New York Central. In a few years he became Master Mechanic & Assistant Superintendent of the Rome, Watertown & Ogdensburg. In April, 1856, he was appointed Superintendent of Motive Power & Assistant General Superintendent of the Northern Ry. from Toronto to Collingwood, Ont., now a part of the G.T. system. He remained in this position for 8 years, & then became connected with the Buffalo & Erie Ry. as Assistant General Superintendent. From 1865 until 1869 he held the position of Superintendent, Western Division of the New York Central, becoming General Superintendent in 1869. He held this position for 12 years, when he resigned to become Vice-President of the New York Central Sleeping Car Co. *Railroad Gazette.*

Canada Southern.—Kingsmill, Saunders & Torrance, Solicitors, Toronto, give notice of application to the Dominion Parliament for an act to extend the times limited for the commencement & completion of the unconstructed lines or branches of the Canada Southern Ry. Co.

Sarnia Port Huron Ferry.—The Lake Erie & Detroit River Ry. has purchased the car ferry International from the G. T. R., & will run her between Sarnia & Port Huron, connecting at Port Huron with the Flint & Pere Marquette Ry. On the Canadian side of the river the ferry will connect with the Erie & Huron Ry. lately purchased by the L. E. & D. R., & through it with the Michigan Central at Courtwright, & with the C. P. R. & Wabash at Chatham.

Following is a literal copy of a report made by a track foreman on a Chicago road recently: "Mike was carrying A plank himself & 5 More men & he was going backward with the plank & he fell in his seat in the Nail & went threw him at 10.30, Foreman."

From a Superintendent's Standpoint.

From the Editor of the Railway & Shipping World:

I have just read in your Oct. issue a report of the proceedings of the Canadian Roadmasters' Association, & am particularly struck with the concluding speech of the President, in which he laments that the roadmaster has no official in the railway service from whom he can obtain intelligent direction in the practical work pertaining to the maintenance of way. The superintendent, general superintendent, or manager, it is alleged, are promoted from the ranks of the transportation department, & according to the President of the Roadmasters' Association, never know anything about maintenance of way. The civil engineer is grudgingly admitted to have received a theoretical training in this branch of the mysteries of track maintenance.

I am surprised at the worthy President of the R.M.A. displaying such egotism, & would suggest that he look up the history of railway building & maintenance, past & present. I have had 20 years railway experience, the last 10 of which has been as superintendent of about 500 miles on a Canadian railway. There are 3 roadmasters on my division, & they have never lacked the necessary direction—they have not had to ask for it—it has been given freely & ungrudgingly, & when this direction compelled the changing of old practices, with a view to more economical working, & up-to-date methods, it had almost to be driven into their heads with a maul.

It is not necessary for a man to have worked with a pick & shovel to understand the maintenance of track in all its details. The most progressive railways, with the best track, over which the heaviest & fastest traffic is handled, place the maintenance of the track under the direction of civil engineers, & the trend of present day practice is to make roadmasters from civil engineers.

I cannot recall one improvement in rails, fastenings or maintenance methods which has originated with a Canadian roadmaster, while, on the other hand, I can point out innumerable improvements originated & put in practice by general superintendents, engineers, superintendents, & other officials,—improvements which were considered as impractical, and fought tooth & nail by the roadmasters at the time of their introduction.

If the President of the R.M.A. thought that roadmasters were the only "pebbles on the embankment," it would have been more becoming to have left it to some other official to have given voice to the sentiment.

A SUPERINTENDENT.

Canadian Roadmasters' Association.

In the report of the Ottawa meeting in our last issue, there were some errors in Mr. Leslie's remarks on the elevation of curves, on pg. 210, col. 2. The correct report of what he said is as follows:—

MR. LESLIE.—I find that for 60 miles an hour an inch to a degree is as near as we can come at it. We have curves between Eganville & Madawaska of 5 degrees, & between Eganville and Ottawa the sharpest curves are 3 degrees. I elevated them 1 in. to a degree for 60 miles an hour & found it sufficient. The inner rail is now showing slight signs of cantins on heavy grades. I elevated $\frac{3}{4}$ of an inch to a degree for 45 miles an hour & found it too much for heavy freights crawling up grade at a slow rate. I think this question is a pretty hard one to decide on, & it depends, of course, on the circumstances what elevation must be given. Passenger trains running at 60 miles an hour & freights crawling along at 15 to 20 miles require different treatment, & it is hard to provide for both. We feel like giving more elevation when trains are running fast.

In the discussion on rail joints, pg. 211, col. 1, the following correction is necessary:—

MR. R. SHANKS.—From what experience I have had I do not favor the suspended joint, but at the same time I cannot altogether approve of the 44-inch bar. I find that in quite a number of cases we have to slacken up bolts, where the shoulder is light, in order to let the expansion close up, and prevent track springing out of place. Like Mr. Jelly, I have had a good deal of trouble with the rail giving back from the end of the bar about $2\frac{1}{2}$ ft.

The Ottawa & New York Ry.

At Albany, N.Y., Nov. 2, Supreme Court Justice Chester rendered a decision which, if it is sustained by the higher courts, will prevent the connection of the New York & Ottawa Ry. at Long Lake with the Adirondack Ry. at North Creek, & thereby frustrate the plan for shortening the riding distance from New York City to Ottawa by 59 miles. The State sought by the action to enjoin the Adirondack Ry. from taking or continuing condemnation proceedings to procure a right of way for a railway across Township 15, which lies in the counties of Warren, Essex & Hamilton, & which is wholly within the Adirondack Park, & is part of a forest preserve. Justice Chester holds that as the lands are a part of the forest preserve they cannot be leased, sold or exchanged, or be taken by any corporation, public or private. Some time ago the New York & Ottawa Ry. was given permission to build a road from the St. Lawrence River, 14 miles into St. Lawrence County to Moira. The N. Y. & O. then obtained control of the Northern New York, the Racquette River & Long Lake Rys., extending its line down to Long Lake, Hamilton County, which is about 30 miles from the northern terminus of the Adirondack Ry., which is controlled by the Delaware & Hudson at North Creek. The effect of Justice Chester's decision, if it is upheld, will prevent the construction of the connecting link from Long Lake to North Creek in the proposed short Canadian line.

The G. P. Magann Co., Ltd., has been incorporated under the Ontario Companies' Act, with a capital of \$350,000, & headquarters at Toronto. The incorporators are G. P. & Mrs. Magann, & Mrs. & A. Fraser, the provisional directors being Mr. & Mrs. Magann & A. Fraser.

The Story of the Railroad.

By Cy Warman, author of the Express Messenger, etc. A new volume in the Story of the West Series, edited by Ripley Hitchcock. With maps & many illustrations by B. West Clinedinst & from photographs. Uniform with The Story of the Cowboy, The Story of the Mine, & The Story of the Indian. 12mo., Cloth, \$1.50. D. Appleton & Co., New York.

This book, which follows The Story of the Cowboy, in this series, pictures the building of the earlier transcontinental lines across the true west of the United States. It tells the story of the engineer who found the way & who was the pioneer of permanent civilization among the Indians & buffalo of the plains & in the mountains. Historically, the book is valuable because it gives a comprehensive sketch of a great subject in a brief compass, & furthermore, the strange & picturesque phases of life which are depicted are full of immediate interest. An actual war, now forgotten, for the possession of a canyon in Colorado, is vividly described by the author, who has shared in the work of the railway men, & who made a special journey through the West to gather fresh material for this valuable & entertaining book. An interesting & accurate chapter is devoted to the C.P.R.

Back Numbers Wanted.

In our Sep. & Oct. issues we stated that we were anxious to obtain a few copies of the May & June issues of THE RAILWAY & SHIPPING WORLD, the supply of which had been exhausted, & through an oversight an insufficient number of copies had been retained for our files. We have to thank several readers who have sent in copies of these issues. We still want to get a few more of each, & anyone who has copies & does not wish to retain them for binding, will greatly oblige us by mailing them to us.

We also want to obtain a few copies of the July issue, & shall be very much indebted for these also.

The Western Canada Telephone Co., composed of British stockholders, has been incorporated, with a capital of £60,000, to acquire & construct telephone lines & deal in machinery relative thereto in British Columbia. Among the promoters are J. H. Wade, Bradford, & R. I. Cratchley, Dewsbury, Eng.

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Annual Capacity 1,000.

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Adapted to every variety of service, and built accurately to gauges and templates after standard designs or to railroad companies' drawings. Like parts of different engines of same class perfectly interchangeable.

Electric Locomotives and Electric Car Trucks with Approved Motors.

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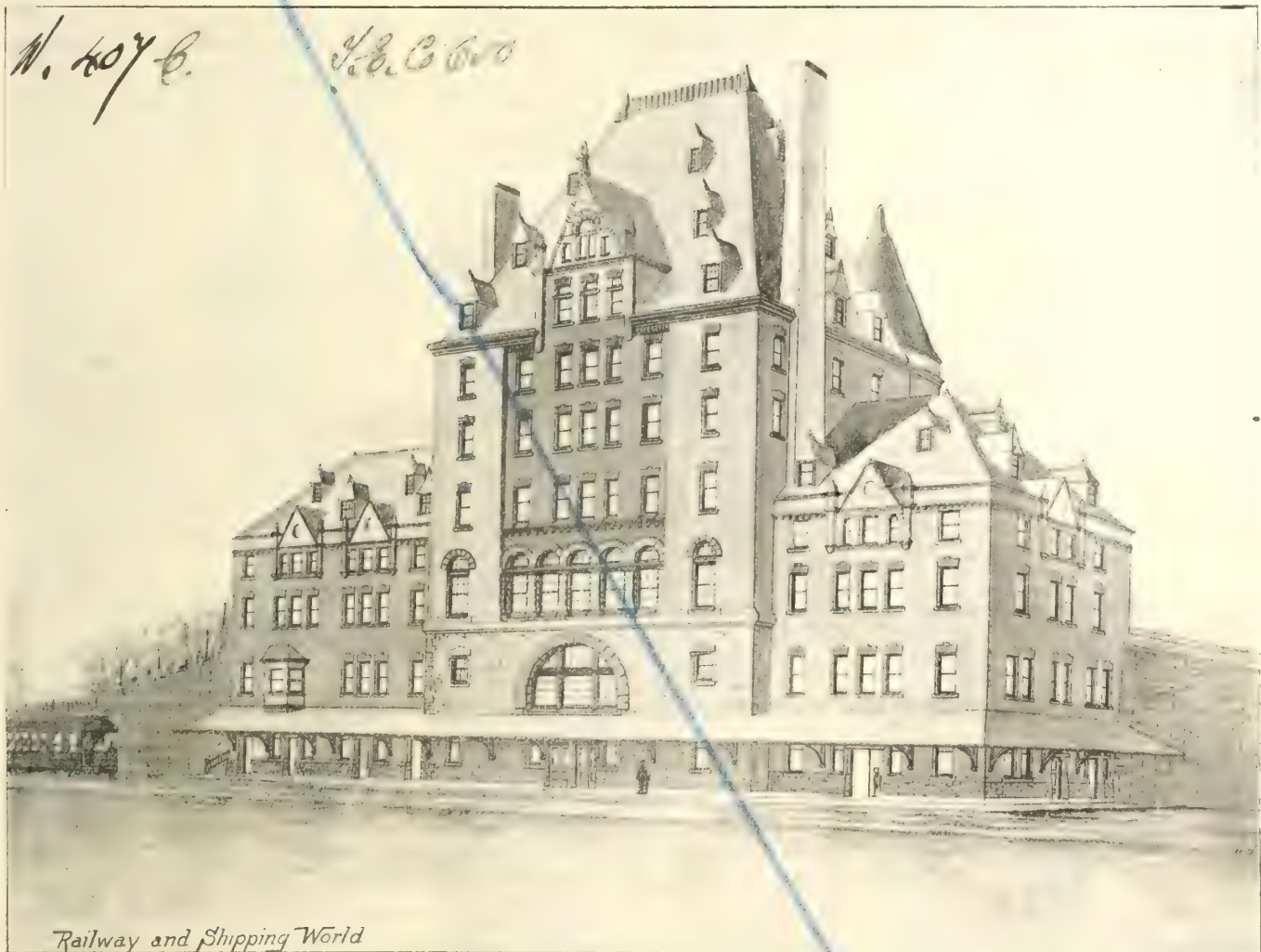
C.P.R. Stations and Hotels.

The illustration on this page shows the track & harbor elevation of the passenger station & office building now being erected by the C.P.R. Co. at its Pacific Coast terminal, Vancouver. The dimensions of the building are 191 ft. on Granville St. by a depth over all of 70' 5", the building being 8 stories in height above the track levels, which are some 29 ft. below the grade of Granville St. The building is in the French chateau style of architecture, in keeping with the other buildings that the Co. has recently erected in Montreal, Quebec & other places, & consists of a central pavilion 80' x 70' carried up 8 stories & covered with a steep pitched roof flanked on each side by 2 towers, while the wings on each side are carried up 4 stories in height, finished with hipped roofs.

is the general waiting-room 48'x78' in size, & 16' high, with windows opening on to Granville St., & a long series of windows overlooking the harbor. In the centre of the room is situated the ticket office, while on each side of the entrance are to be found the telegraph & parcels office, & the news stand. West of this room is the women's waiting-room, 32'x31' in size, with a secondary waiting-room & toilet rooms attached to it. A generous fire-place has been provided here, built of fire-brick & marble, with the upper panel filled by a painting. Alongside of this women's room is an opening off the general waiting-room, & from Granville St. is the express office with a large security vault in connection with it. The approach to the upper floor is also in this wing, & a lavatory for the use of the Co.'s officers. On the western side of the general waiting-room is the General Superintendent's office &

fuel & other conveniences. Between the basement & the ground floor is an entresol or intermediate story where the Steamship Department is located, 44'x24' in size, with private offices for the officers in charge. Accommodation is also provided on this floor for the Superintendent & his Assistant, & for the train despatchers, who have a large office provided with bay window overlooking the tracks in the east direction.

On the 1st floor the whole of the center pavilion is given up to the Traffic Department 58'x47' in size with 2 large private offices, The Land Commissioner is also accommodated here with a large public office and 4 private offices and a lavatory. Each of these departments has a fire-proof vault 15'x18' in size. The General Superintendent's Accountant & Car Accountant are accommodated in the eastern wing with four private offices & a lavatory in connection.



TRACK AND HARBOR ELEVATION, C. P. R. STATION AND OFFICES, VANCOUVER, B.C.

The material of construction up to the first floor level is of Calgary stone with rock face surface, with moulded cornices, arches, & other decorative members richly carved. The superstructure is a specially made brick from Victoria 5" x 10" x 2" in size, of a mottled buff color, & very hard in texture, being impervious to water, & therefore particularly suitable for a building in a climate such as is experienced in Vancouver. The roof will be covered with slates that are quarried in B.C., while the covering of the dormers & all other metal work in connection with the roof will be of copper.

One enters the ground floor at the level of Granville St. under a low-browed arch 42 ft. span, & 14 ft. high, through a covered porch 16 ft. deep by the width of this arch. Off this

private office overlooking the harbor, while across the corridor is the Treasurer's general office & private office with a large security vault attached to it, an office for the Purchasing Agent, & lavatories for the use of the public & of the Co.'s officers. The main staircase & elevator are situated at this end of the building to give access to the upper stories. One descends to the track level by 2 generous stair-cases 8 ft. wide, which end in a hall on the basement floor 19'x79' in size. An elevator is also provided to take passengers from this hall to the general waiting-room. The remainder of this basement floor is devoted to the baggage-room 45'x32' in size, express-room, a room for the conductors, for the steamship mail service, for the heating plant,

At the 2nd floor level the wings are unfinished, provision, however, being made for further extensions. The whole of the central pavilion being occupied by the engineering staff, with a general office 48'x58' in size, & extensive private offices, large storage vault 19'x15'. The 3rd floor is laid out similarly to the 2nd floor in every respect, & is devoted to the telegraph and cable staffs. The 4th & 5th floors are unassigned, and are reserved for future accommodation and extension. These four upper floors are particularly desirable for the purpose intended, ample light & ventilation being obtained from 4 sides, while the large fireproof storage vaults & lavatories on each floor provide better accommodation than is usually given.

STATION AND HOTEL AT MOOSE JAW.

The Co.'s building a combined station & hotel at Moose Jaw, Assa, which is an important point owing to connection being made there between the main line & the Minneapolis, St. Paul & Sault Ste. Marie trains. The building is 100 m length by 34 deep, consisting of 3 stories & a basement, & is constructed of Calgary stone up to the ground floor sill level, & native brick with stone trimmings above this point. There is a covered passage-way at the center of the building 16 ft. wide leading from the track side to the street. On this is the entrance to the general waiting-room 25'x30' on one side, while on the other side is the hotel office and dining-room 30'x41', serving pantry, kitchen, store-rooms, scullery, & lunch-room 17'x30' at the extreme end of the building. Next to the general waiting-room is the ticket office, then ladies' waiting-room 23'x21' with a retiring-room & lavatories. Then come the baggage room & express room, & a hallway with a staircase leading to the 1st floor.

On the 1st floor in the extreme western end is the train dispatchers' room, with a bay window overlooking the track in each direction, a conductors' room, Superintendent's office, clerks' office, bridge inspector's office, & lavatory. The remaining part of this floor & the floor above are given up to the hotel part, & consist of a large drawing-room & smoking room, & about 30 bed-rooms with bath & toilet rooms.

The exterior of the building presents a very imposing appearance with its high sloping slate roof & large central pavilion treated in the style of Francois 1st, flanked by turrets supported from the buttresses below. At each end are pavilions with elaborate cut stone & carved trimmings, & no expense has been spared on both this & the Vancouver station to make them perfect & complete in every respect, & quite up to the high standard that the C.P.R. has adopted for its permanent buildings. All the rooms will be decorated in a quiet & rich manner, & will be lighted by electricity & thoroughly heated & ventilated. The intention is to make these buildings as nearly perfect as possible without any regard to the expense in connection therewith. The Moose Jaw station is expected to be completed in December.

The architect for both the above buildings is Edward Maxwell, of Montreal, who is also architect of the station now being built by the Co. at Galt, Ont., as well as for the station to be built at New Westminster, B.C., & for the addition to the hotel Vancouver.

The Dominion Government has given the Co. power to expropriate the land necessary for the extension of Windsor St. Station, Montreal, which has been contemplated by the Co. for some time past. The Co. has purchased the Rodier interest in the property on Osborne St. for \$33,500. Negotiations are pending for other properties, & if they are not successful expropriation proceedings will have to be taken.

The Co. is about to build a station on the corner of Washington St. & Second Avenue, Rossland, B.C., to replace the present one on St. Paul St. There will be a commodious waiting-room & a large baggage-room flanking the agent's office. Attached to the station will be a freight warehouse about 40x100 feet.

Servis Tie Plates.—The C. P. R. Co. has recently placed some very large orders for Servis tie plates with F. E. Came, of Montreal, who has also received good orders lately for the Intercolonial, which has used the plates for years, being one of the first lines to generally use them. A committee of the U.S. Roads Masters' Association made a very favorable report on these plates this year, confirming the experience of the Intercolonial for the past 10 years.

C.P.R. Betterments, &c.

Brockville. It was recently reported that the tunnel built for the Brockville & Ottawa Ry. at Brockville, Ont., would be closed up & other improvements made by the Co. at a cost of \$50,000. We have received an official denial of the report.

Columbia & Western.—In widening the gauge of this line between Trail & Rossland there will be some slight changes of location. The standard gauge track will follow along the Enterprise, the Virginia & the Idaho mines ground as much as at present, but instead of curving north of the Iron Mask, as at present, there will be a switchback at that point, whereby the line will be carried up to the War Eagle workings, below the mouth of the main tunnel. A gravity tram, such as is used at the Le Roi, will be used to convey the ore from the War Eagle's new hoist on the top of the hill to the cars on the Columbia & Western tracks. The new workings of the Centre Star will be reached in a different manner. The Centre Star's new hoist will be located beneath the railway line leading to the War Eagle, & as a consequence it would be impracticable to load Centre Star ore on the latter track. Accordingly a spur from the main line will start somewhere near the Virginia & will be carried across the gulch on a high trestle to the Centre Star's new gallows frame. In this manner it will be possible to reach that property at the best advantage. Later on the track may be continued around Red Mountain to reach the Josie & the No. 1.

Mountain Divisions.—Revelstoke is being made the divisional point of the main line in the mountains between Laggan & Kamloops, & the work of erecting the necessary shops & round-house is well under way. The work at Calgary is also making substantial progress. In an interview with Sir Wm. Van Horne the people of Donald were informed that all those who desired to move to Revelstoke & had lots in Donald would receive an equal area at the new divisional point & their goods would be moved free. The shops at Donald will be shut down shortly, but the Co. intends to do all in its power to make the change as advantageous as possible to those who are affected.

New Westminster to Vancouver.—When Sir Wm. Van Horne was in New Westminster in Oct., he stated that the fire which had occurred there a short time previously, & its consequences to the Co., had brought about the building of a better station & the continuation of the line from New Westminster to Vancouver to be used as part of the main transcontinental line one year, at least, nearer accomplishment. Nothing has been said as to just when this latter work will be done, & no survey has yet been made. The object is to give New Westminster better railway facilities. The present main line runs from Westminster Jct., 16.8 miles to Vancouver, passing through Port Moody, Barnett & Hastings. From Westminster Jct. the West-

minster branch runs to New Westminster, 8.2 miles. It is the intention, some time or other, to extend the Westminster branch from New Westminster to Vancouver direct, so that the main line will run from Westminster Jct. via New Westminster to Vancouver, instead of via Port Moody. This will lengthen the distance between Westminster Jct. & Vancouver slightly, but a considerable saving will be effected in the operation of the Westminster branch. Trains from Vancouver to New Westminster now have to travel 25 miles in consequence of going round by Westminster Jct., while the distance by the B.C. Electric Ry. line is only 12 miles.

Pentiction to the Coast.—On his recent visit to B.C., Sir Wm. Van Horne stated that nothing would be done regarding the building of a line to connect Pentiction direct with the Pacific Coast until the line between Boundary Creek & Pentiction was completed.

Pipestone Branch.—Track is being laid on the 25 miles extension from Reston, Man., which, it is expected, will be completed this season. (Aug. pg. 153.)

Port Arthur Elevator.—The Co. is improving its facilities by adding an extension drying plant. Work has commenced upon the foundation for the boilers. When the drying machinery is put in the Co. will have the most complete cleaning & drying house in America.

Stonewall Branch.—Track-laying is about completed on the extension from Stonewall, Man., about 18 miles to Foxton. (Aug. pg. 153. Sep. pg. 183.)

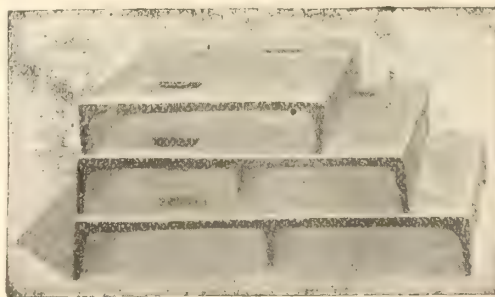
Vancouver Terminals.—The ratepayers of Vancouver having voted affirmatively on a by-law to exempt the Co's yards & works from taxation for 20 years, it is expected work on the proposed improvement will be started next spring. This will include the esplanading of the water front between Carroll St. & the west end of the Co's present wharves. The result of the vote on the by-law, an actual majority of 207 & a three-fifths majority of 21, showed a remarkable change in sentiment. Five years ago a bitter feeling existed among a numerous class against the Co, which Vancouver owed its very existence to, & for 3 or 4 years this feeling seemed to grow rather than diminish. Now all is changed. The letter writers who of old filled the local newspapers with tirades against the railway, have dropped out, & the labor people, now & always consistently opposed to any privileges being granted to the Co., represented about the only opposition against the by-law.

CANADA SOUTHERN RAILWAY CO.

Notice is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act to extend the times limited for the commencement and completion of the unconstructed lines or branches of railway of the Canada Southern Railway Co.

KINGSMILL, SAUNDERS & TORRANCE,
Solicitors for the Applicants.

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Robson to Boundary Creek.

The 105 miles of work between Robson & Midway, now under construction on the Robson-Penticton branch of the Columbia & Western Railway, is the most difficult & heaviest work ever undertaken in Canada for the same distance, & will cost \$4,000,000, or nearly \$40,000 per mile. Naturally the greatest expense is in the removal of rock, of which hundreds of thousands of tons must be displaced before steel can be laid. The item on tunnels alone is one of the largest of all, there being no less than 7 bores of considerable length along the line.

W. F. Tye, Chief Engineer of the road, has given some interesting details about the tunnel work on this contract on which over 3,000 men are now at work. There are approximately 5,300 ft. of tunnels to be bored, requiring the removing of at least 66,000 cubic yards of hard rock, or nearly 200,000 tons. This, of course, does not account for the additional immense quantity of rock required to be displaced in the open cuts & mountain sides. Between Brooklyn & Robson alone it is estimated that 1,750,000 cubic yards of rock all told must be blasted away. Of the tunnels, the first is 200 ft. long, at Hanson's camp, between Robson & Brooklyn, the second is at Shields' Landing, 8 miles below Brooklyn, & is 300 ft. long. Then comes the 335 ft. tunnel of Burns & Jordan, 4 miles below Brooklyn. The next is over 300 feet long, 4 miles west of Brooklyn, & will require a year to complete, & in the meantime the mountain will be crossed by a series of temporary switchbacks. The 5th tunnel is 36 miles from Robson & is the 2nd longest bore on the line, being 700 ft. in length. From this work to a point 8 miles beyond Grand Forks, towards Greenwood, there are no more tunnels. Not far from Greenwood, where the work is again heavy, there are 2 tunnels, each being between 300 & 400 ft. in length. From Greenwood to Midway there are no tunnels. Each of the tunnels will be 16 ft. wide & 21 ft. high. On all save one hand drilling is the rule. That is the long bore where 14-drill air compressors will be used.

After visiting the work recently Sir Wm. Van Horne said he considered it the hardest bit of railroad construction the C.P.R. has yet encountered. It was much harder than had been anticipated. It was almost like going over the tops of the mountains.

The townsites will be Gladstone, Cascade, Grand Forks & Greenwood, & the Co. has become interested in the development of them. Grand Forks is located at the point where the north fork of the Kettle River runs into the main stream. Gladstone will be the distributing point for the Burnt Basin mining district & Christina Lake. Cascade is on the international boundary line at the foot of Christina Lake & takes its name from the numerous cascades which are found there, & which can be readily utilized for the generation of immense supplies of power. Greenwood will be the principal mining point in the Boundary Creek country & it is surrounded on every side by developed mines. To the east of it are the Brooklyn, Winnipeg, Crown Jewel, Snowshoe & Stemwinder mines, all developed & owned principally by Manitobans. On the north is the B.C. mine, which has a large quantity of ore dumped ready for shipping. On the west side of the valley & overlooking the town is the well-known Copper Camp, the principal mines on it being the Mother Lode & the King Solomon Mine. The former is owned & developed by a New York syndicate, while the latter is the property of D. C. Corbin, of Spokane, the railway man. Nearly all these mines have ore ready for shipment, & are only awaiting the completion of the railway to start shipping to the Co.'s large smelters at Trail. This smelter will reduce all ore

until the development of the country is sufficiently advanced to require local smelters.

Grand Trunk Betterments.

International Bridge.—The situation is practically the same as when we last referred to this matter. The legislation obtained last spring & the action taken at a recent meeting in London, Eng., were but preliminary steps to put the Co. in position should the management, in the near future, see its way clear to go ahead & undertake the actual reconstruction of the bridge.

Montreal Offices.—The Montreal City Council has approved of the plans submitted. Architect Waite writes of them: "The elevations are treated Neo-Greco, that is a modern adaptation of Greek & Roman architecture, not a servile copy, but from the spring whence marvellously simple & logical inspirations of the art of the Greek are obtained, for architecture is required to modify its forms in accordance with the conditions of life, of temperature, & plan of required arrangement. The sculptural parts are concentrated upon features supported by dignified & quiet masses of walls; & while Greek will have the French phase. The plans are naturally adapted with reference to the absolute needs of the Co., entrances, gallery, corridors & apartments, & minor arrangements, are placed with reference to the convenience of the public & Co., yet keeping in view a pleasing impression as to its beauty. The principal facades, now under consideration, are, granite, red or grey sandstone, a grey-bluish limestone, & also a combination of these materials. The construction will be of a most permanent character, working in materials of the highest grades, with all steel & iron parts protected so as to be fire-resisting, & the vital structural parts absolutely concealed in solid masonry. As to cost, this naturally depends upon the materials chosen for the facades. However, the sum named, \$250,000, in the contract between the City & the Co. will be largely exceeded."

It is the intention of the Co. to put in the foundation this fall, & to commence work on the building proper next spring. It is hoped it will be finished by 1900. The stone work, plastering, etc., will be given out separately instead of allowing one contractor to sublet his contracts.

Sarnia & Port Huron Round Houses.—The Co. has recently let contracts for the construction of round houses at Sarnia & Port Huron, —the buildings being very much alike. Each structure will be segmental in form, built of brick, on stone foundations, with cast iron column supports. There will be 30 pit stalls, & 2 entrance tracks. The front, or inside of the building, will be formed with cast iron columns, set on stone foundations. There will be a building for a boiler-room & office, also built of brick with stone foundations, close to the round house. A new G.T. standard 70 ft. turn-table will be provided, & the radius of the building from the centre of the table to the outside face of the outside pilasters, will be 160 ft. 3 ins., the depth of the covered portion being 76 ft. 3 ins. Provision is made to light & ventilate the building in the most modern & improved manner, & all the buildings will be furnished with the latest improvements in the way of water supply, drainage, lighting, steam heating, etc. Adjoining each round house there will be a repair shop & boiler-house, which are also to be of brick. The total expenditure, including round house, turn-table, etc., will amount in the neighborhood of from \$60,000 to \$65,000 for each place. The contractor for the Sarnia buildings is G. A. Proctor of Sarnia, & for the Port Huron buildings, G. S. Germain, of Port Huron. The work at both places is expected to be completed by the end of February.

The Cariboo Railway.

In 1896 the British Columbia Legislature incorporated the Ashcroft & Cariboo Ry. Co., with the late D. Oppenheimer, of Vancouver, H. Abbott, & J. M. Browning as provisional directors. Messrs. Abbott & Browning then occupied the respective positions of General Superintendent & Land Commissioner for B.C. for the C.P.R., & it was understood the charter was obtained in the interest of that Co. The Act empowered the Co. to build a railway of not less than 3 ft. gauge from a point on the C.P.R. main line near Ashcroft, B.C., northerly to or near Barkerville, in the Cariboo district, & gave them the usual general powers, as well as a land grant of 20,000 acres a mile for a standard gauge line, or 10,000 acres a mile for a narrow one. In 1894 an amending Act changed the name to "The Cariboo Ry. Co." & provided that the line might start from the C.P.R. at any point between Ashcroft & Kamloops. A further Act in 1897 provided that the starting point on the C.P.R. & the whole route should be approximately defined by the Co., subject to the Provincial Government's approval, by May 8, 1899, by which date work should be commenced, the line to be completed by May 8, 1903.

The charter has recently been sold to the Cariboo-Omenica Chartered Co., which was incorporated at the last session of the B.C. Legislature, & which was very fully referred to in our June issue, pg. 105. This Co. is composed of English shareholders, the Secretary being C. J. Gardiner, 27 Clements Lane, Lombard St., London. The representative in Canada is R. G. Tatlow, of Vancouver. It is said the prospects for the early construction of the line are good. It would afford railway communication with the Cariboo mining district, which produced enormous quantities of gold in the '60's, & where extensive hydraulic mining is now being carried on. The distance from the C.P.R. at Ashcroft to Barkerville is 280 miles. There is an excellent wagon road built by the B.C. Government between the two points.

There is another charter in existence for a line over the same route, that of the Barkerville, Ashcroft & Kamloops Ry. Co., granted by the B.C. Legislature in 1897, the promoters being A. J. Garesche & H. F. Bullen, of Victoria, & F. G. Ward, of Spokane, Wash.

Surveys, Construction & Betterment.

Atlantic & Lake Superior.—Good progress is being made on the extension from New Carlisle to Pasbebiac, & work will soon be started on the bridge over the Bonaventure River. As announced in our Sep. issue, pg. 178, deep-water terminal facilities are being constructed at Pasbebiac, including a pier which extends 1,600 ft. from the bar into deep water, giving 36 ft. of water at low tide, so as to accommodate the largest vessels afloat.

Brockville, Westport & Sault Ste. Marie.—E. R. Dick, President of the Investment Co., of Philadelphia, recently made an inspection of this line, which is owned by his Co. He says it has been put in good condition & with the renewal of certain bridges now in progress will give a good account of itself to its owners.

Carp, Almonte & Lanark.—Interest has been revived in this proposed line, which is projected to run from Carp, on the Ottawa, Annaprior & Parry Sound Ry., through Lanark County, to connect with the C.P.R. at Almonte, Ont. It is claimed by the promoters that aside from opening up one of the finest sections of new country in Ontario it would also furnish the shortest & quickest route between Toronto & Ottawa. Among the promoters are A. Bell, C.E., Dr. Raines & W. Stafford, of Almonte. President Booth, of

the O. A. & P. S., has, it is said, declined to take stock, preferring to confine himself to his present lines. It is said the route has been surveyed.

Cassiar Central. F. D. Self, General Manager of the Cassiar Central Ry., recently stated to a reporter at Wrangel, Alaska, that the Co. has a great many prospecting parties working near Dease Lake & in the country between Dease & Teslin, many of whom are sending in flattering reports regarding the country. He said, "It is the purpose of the Co. to build a line from Glenora, B.C., to Dease Lake in the Spring. & surveys are now being made for a continuation of the road from Dease to Teslin, making a through route to Teslin via Dease Lake. The country between Dease & Teslin is found to be remarkably level & free from underbrush, making the project very possible. No doubt exists that the country to be traversed by the line is remarkably rich in mineral, both placer & quartz, & the promoters of the scheme expect large returns from their investment."

Coast Ry. of Nova Scotia.—President Baker, of the Yarmouth S.S. Co., having made a trip over this line last month with Superintendent & Chief Engineer Wheaton, gave rise to a report that that Co., in conjunction with English capitalists, would take over the line & push it on to Halifax. Mr. Wheaton informs us there is no foundation for the report. Construction work has been much delayed, & the progress anticipated at the beginning of the season has not been made. Of the 21 miles under construction, beyond the 31 miles in operation between Yarmouth & East Pubnico, the greater part of the masonry is completed, the grading is well advanced & most of the ties are on the ground. Every effort will be made to complete this 20 miles, so that the line may be in operation to Barrington early next season. A survey of the entire line has been completed to Halifax, & plans are being prepared. (Ap., pg. 40; May, pg. 66; Aug., pg. 151; Sep., pg. 183.)

Cobourg, Northumberland & Pacific.—No late news is available about this projected line, & it begins to appear doubtful as to whether the £151,200 5% bonds offered in England some months since were taken up. Some survey work was done during the summer under H. K. Wicksteed. The line as located is 49 miles long, & runs about n.e. from Cobourg through the villages of Baltimore (6 miles), Centreton (14m.), Burnley (20m.), Wardworth (26m.), Campbellford (35m.), Rawdon (42m.), & connects with the C.P.R. & the Central Ontario Ry. at Central Ontario Jct. The maximum grade is 1%, & 6° is the greatest degree of curvature. Leaving Cobourg there is a nearly continuous maximum grade for 15 miles, where it is necessary to cross a divide about 720 ft. above the lake. There is only one bridge of considerable extent, which is across the River Trent at the northern end of Campbellford village. The heaviest bit of work is from the Summit east for about 15 miles, where it is very heavy. There are no serious engineering problems.

The estimated cost is from \$12,000 to \$13,000 a mile. (June, pg. 100; July, pg. 126; Aug., pg. 146.)

Intercolonial.—Rhodes, Curry & Co., Amherst, N.S., have the contract to build a pier 600 ft. long, 160 ft. wide & 80 ft. long at Halifax. There will be steamship berths on each side with 28 ft. of water at low tide. There will be a warehouse 500 ft. long, & numerous tracks on the wharf. The contract price is \$35,000.

A contract has also been let for building a grain elevator at Halifax to be completed early this winter.

A 150 ft. steel span has been erected at Antigonish in place of the wooden structure.

Inverness & Richmond.—This Co. was incorporated by the Nova Scotia Legislature in 1887 to build a line from the Straits of Canso, at or near Port Hawkesbury, to Cheticamp, by way of Port Hood, Mabou, Broad Cove & Margaree, with a branch from or near Mabou to Wycocogmah, thence to connect with the I.C.R. at or near Orangedale. For the 1st 53 miles to Broad Cove mines, the Dominion Parliament has voted a cash bonus of \$3,200 a mile, the Nova Scotia Legislature has voted a similar amount, & the County of Inverness has voted \$1,000 a mile. The 53 miles have been surveyed by H. M. Stone, C.E., of Chicago, assisted by J. Davis, C.E., of Ottawa, & Mr. Noble, of Mabou. Some time ago about 15 miles from Port Hawkesbury north were partially graded, & the Co. has had some men at work since July last to comply with the Act. The charter is controlled by P. Ryan & R. H. Bowes, of Toronto, who recently visited the work in Company with C. M. Wickar, of New York, representing U.S. capitalists who Messrs. Ryan & Bowes are seeking to interest in the undertaking. The principal object of the line would be to develop the coal fields along the route, which are said to be valuable.

Kootenay Ry. & Navigation Co.—It is said a contract has been let to Foley & Guthrie, of St. Paul, Minn. to build 53 miles from Bonners Ferry, Idaho, to Kootenay Lake, B.C. The portion of the line in U.S. territory will be built under the charter of the Kootenay Valley Co., particulars of which will be found on pg. 231 of this issue. The portion of the line on the Canadian side will be built under the charter of the Bedlington & Nelson Ry. Co., the whole being controlled by the Kootenay Ry. & Navigation Co., an English company, full particulars of which will be found in our Sep. issue, pg. 181. The intention is to make connection with the Great Northern Ry. (U. S.) at Bonners Ferry & to run through trains to Kootenay Lake, from which point connection will be made by the steamers of the International Navigation & Trading Co., which have been purchased by the K. & N. Co., with the Kaslo & Slocan Ry. at Kaslo, this railway having also been acquired by the K. R. & N. Co.

Lake Erie & Detroit River.—Bonus by-laws to grant this Co. aid in the construction of its proposed line from Ridgeway to St.

Thomas were voted on on Nov. 10, & were carried in St. Thomas, Dutton, Aldboro & Orford, & lost in Dunwich. The amounts asked for were \$20,000, \$2,500, \$7,000 & \$2,000, respectively. The majorities were 90, 25, 266 & 182, respectively.

Restigouche & Western.—In our Aug. issue we said 15 miles of the survey had been revised & 10 miles would soon have been located, & that then another 10 miles would be located. We should have said "constructed" in each case, instead of "located." On Oct. 8 the Chief Engineer advised us that the first 20 miles of the line had been located & 15 miles revised. The contractors, Malcolm & Ross, had then 500 men at work. The first 10 miles had been graded & work had been started on the next section. A steamer was then at Campbellton dock with the first cargo of rails, & tracklaying & ballasting were to be gone on with at once. On Nov. 18 the Chief Engineer advised us that the section of 10 miles was laid, & would be all ballasted by Nov. 25. There will be a party in the field locating all winter. (See July, page 122, Aug., page 151.)

The Edmonton District Ry. Co. was incorporated by the Dominion Parliament in 1896, the incorporators being H. C. Wilson & other Edmontonites, & W. T. Jennings, of Toronto. The Co. was empowered to construct & operate a standard gauge railway from the terminus of the Calgary & Edmonton Ry. at South Edmonton to Edmonton, with lines from Edmonton northwesterly, via St. Albert, to the Athabasca River, at or near Fort Asiniboia, with a branch to Stony Plains, also from Edmonton northeasterly to or near Fort Saskatchewan, with a branch to Sturgeon River. At the 1898 Session the Co. was further empowered to build from its point of connection with the Athabasca River to the Peace River, thence to Nelson River by way of the Nelson, Liard & Francis Rivers to the navigable waters of the Pelly River. The Co. also has power to operate vessels on the Saskatchewan, Pembina, Athabasca, Peace, Nelson, Liard, Frances, Pelly, Mackenzie, Peel, Porcupine & Yukon Rivers. The charter has been sold by the original promoters, the present owners, among others, being Hon. W. Pugsley, G. McAvity & A. G. Blair, jr., of St. John, N.B. We are officially informed that the Co. is making surveys & intends to commence construction of the line from South Edmonton to Edmonton as soon as the bridge over the North Saskatchewan River, now being built by the Dominion Government, is completed.

C.P.R. Freight Differentials.

Vice-President Shaughnessy issued the following on Oct. 27:

To the Executive Officers of Transcontinental Railway Lines:

"We have been notified of the award of the Arbitrators in the matter of freight differentials claimed by this Company between East-

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ern points and San Francisco. The decision of two of the Arbitrators is:

"That the C.P.R. is not, nor should it be, entitled to a differential under the rates made by the U.S. lines for the carriage of the freight in question."

"The arbitrators do not mention the grounds upon which the decision is based, but we are informed that the question turned upon a technical interpretation of the word 'entitled,' which was taken to mean 'inherently entitled,' instead of 'equitably entitled.'"

"To believe that the word 'entitled' was introduced by the framers of the Denver resolution in any other than the broad sense in which it is used between railways, would be to believe them guilty of trickery, & we refuse to entertain such a thought. We never claimed to be inherently entitled to differentials. Our contention was based upon common usage & upon the practice prevailing among railways under similar circumstances & conditions."

"If we be correctly informed that the decision turned upon the interpretation of a word & not upon the evidence as presented, ordinary fairness would require a re-submission of the case for determination upon its merits. If the other lines interested be unwilling to join in this simple act of justice, we have nothing to do but submit to the decision as rendered."

"The question of a differential having been settled, circumstances will determine the best & most expedient course for the protection of this Co's interests. Notwithstanding the combinations for that purpose, the American lines can scarcely expect to deprive us of participation in inter-state traffic while they are competing freely for the inter-provincial traffic of Canada, nor can they reasonably complain if we seek to make good out of the former what we may lose of the latter."

ELECTRIC RAILWAYS.

Niagara Falls Park & River Ry.

W. T. Jennings, C.E., M.Inst.C.E., Toronto, writes us as follows:

Your October issue contained an article entitled "The Application of Electrical Power on Trunk Line Railways" by G. Forbes. In this article reference is made to the Niagara Falls Park & River Ry. After incorrectly describing the length, etc., of the line the statements are made "that it is operated by electricity generated by water-power at the Falls, & also by a small auxiliary steam plant placed at the Queenston end of the line; that there is 15 minutes headway in the running of the cars, & that the cars when fully loaded sometimes weigh more than 20 tons," etc. The article continues as follows:

"This railway has been referred to, not because of any special merit which it possesses, but because it is not a street railway, & because it shows a method of working. In fact, reference is made to it partly to draw attention to the extremely objectionable feature of it. When water-power was available it was not good policy to use steam power at a distance of 12 miles. Of course, if the electric pressure were only 500 to 600 volts, there would be a great waste of energy or an enormous expenditure of copper in carrying the current to even that short distance; but there would have been no difficulty in transmitting electrical power at high pressure, transforming it down & converting it into a continuous current. This would have saved nearly the whole expense of working the steam plant. It is important to give attention to this matter of the use of water-power on trunk railways. There has been an absurd hesitation to undertake the transmission of power to great distances. If engineers who have had experience in the transmission of power

& in the conversion of alternating into continuous currents would look into this question, they would be convinced that where water-power is available it is generally economical to transmit electrical power hundreds of miles for working railways."

Now, Sir, as the engineer under whom this railway line with its appliances was constructed in 1892, I must take exception to such of the above adverse statements as concern this undertaking, inasmuch as I believe my treatment of the system was at the time commercially correct, & under the peculiar working conditions, it is even now questionable if a change is advisable or economical considering the capital invested.

That your readers may have a correct idea of the situation & governing circumstances, I would first mention that the railway system consists of a double track line, extending southerly some 4½ miles from Niagara Falls to a safe steamboat landing on the River considerably above the rapids, & from the Falls northerly for 9 miles to Queenston, on the same river, & at the head of steamboat navigation from Toronto & other Lake Ontario points. The alignment is in accordance with what the restrictions of the locality, business & charter require, & in it there is no unusual feature for the class of country traversed. Of the gradients, the same may be said, excepting at the Queenston end, where in a distance of 7,725 ft. (say, 1½ miles) a descent is made of 330 ft. on an average gradient of 4½ per 100 ft., with a short maximum section of 5.77 ft. The entire system is in ordinary, & always has been, operated by electricity generated by water-power at the Company's power house at Niagara Falls, & as above stated, distant 9 miles from the heavy gradient at Queenston.

Powerfully equipped motor cars run over the lines on a schedule of 10 or 15 minute headway, but to meet the extraordinary feature of the traffic during the holiday term between, say, June 1 & Sep. 10, when ¾ of the year's business is done, it was found that to transport to the Falls with speed & facility the crowds of excursionists (sometimes 2,000) arriving at various intervals between 9.40 a.m. & 2 p.m., it would be necessary to put on a motor service of 2 minutes headway, running at 7 miles an hour up this 1½ miles of 4½ average gradient, & thence to the Falls, etc., at a speed of, say, 20 miles per hour. The large single observation motor cars, or the short ones with trail car attached, average 15 tons weight when loaded. The time interval & speed of cars on the grade means that six such loads would be continually ascending until the supply of passengers became exhausted. Therefore, to meet the occasional demand for such a service during the holidays, the writer, after making exhaustive inquiries & estimates as to cost of then existing electrical transmission plants, came to the conclusion that the plan entailing the least outlay of capital & continuous expense, including interest, depreciation & working costs, was to install & use when necessary, during the above-mentioned busy period, the present 300 h.p. steam (& corresponding electric) plant, which has proved satisfactory. Its entire cost being, at that time, \$23,000, & \$1,100 per season the cost for operating.

With the above information anyone understanding the question at issue will readily see that the subject was studied out before being acted upon, & that the determination arrived at entailed the least capital expenditure for a class of plant saleable at any time when circumstances demand a change, & the proprietors of the system deem it advisable to expend the necessary capital. Of course, if the line were just now being opened for traffic, an ordinary electrical transmission plant would be used for work on the Queenston gradient instead of steam, but we have more light in electrical matters now than we had in

1892, & good machinery of the required class is rated at less than half the price of that advanced at that time.

ANOTHER REPLY TO MR. FORBES.

R. W. Angus, B.A. Sc., Fellow in Electrical Engineering, Assistant Instructor School of Practical Science, Toronto, also writes us on the same subject, as follows:

In your edition of October an article appeared on "The Application of Electric Power on Trunk-Line Railways," by G. Forbes, whom I am informed is the Professor Forbes who was one of the consulting engineers of the Cataract Construction Co. Perhaps it may seem like presumption on my part to criticise his paper, but it appears that in part of his article, at least, he has not adhered strictly to the facts. The case to which I refer in particular is the information in regard to the Niagara Falls Park & River Ry.

The cars on the line have a 2 minute headway during the busy season, & at the Queenston end have to ascend an average grade of 4½%, one & a half miles long at a rate of 7 miles an hour. The distance between the hydraulic power house & the Queenston station is 9 miles, instead of 12, as stated.

Mr. Forbes says, in speaking of this road, "This railway is referred to, not because of any special merit which it possesses, but because it is not a street railway, & because it shows a method of working. In fact, reference is made to it partly to draw attention to the extremely objectionable feature of it. When water-power was available it was not good policy to use steam power at a distance of 12 miles."

These latter statements, I feel sure, will not be as self-evident as Mr. Forbes would lead your readers to believe, & I have found on making an approximate estimate on the cost of running this section of the line (the Queenston grade) during the busy season, either by steam, as at present, or by means of a 3 phase high voltage transmission receiving power from the water-wheel at the Falls; that there is a good balance in favor of the former method, without making any charge whatever for the power supplied by the water-wheels to the generator, an item which cannot be neglected. I have not had sufficient time to get accurate figures on the subject, but the estimates will be very close, & show a result so decidedly in favor of the former system that little room can be left to doubt the result with more accurate figures. Mr. Forbes probably lost sight of the fact that the power-house at Queenston is only run for about 3½ months in the year, & also that at the time it was built (1892) polyphase transmissions had scarcely passed beyond the experimental stage; but even if the plant were now being installed, it does appear from my figures that the present system is the more economical.

In regard to the statement, "This would have saved nearly the whole expense of working the steam plant," Mr. Forbes seems to assume that the hydraulic power is obtained nearly free of cost, while in reality the extra power which would be required for the transmission would necessarily increase the size of the water-wheels, etc., & the consequent capital expenditure, & taking interest & depreciation on invested capital, & adding to this the actual cost of keeping up the transmission, it will be found to be considerable & in fact, far out-balances the expenditure on the present plant. Further than this the Co. has now substantial engines & boilers, which would bring a good price if it wished to dispose of them, while the forms of polyphase apparatus in use in 1892 would probably now be almost worthless.

Further on the article says: "There has been an absurd hesitation to undertake the transmission of power to great distances. If engineers who have experience in the transmission of power & in the conversion of alter-

...ing into continuous currents would look into the question, they would be convinced that where water power is available it is generally economical to transmit electrical power hundreds of miles for working railways." This statement seems broad, & it must be rather exasperating to the railway engineers to find that they have not properly "looked into the question," or their transmissions would in general be electric, for there is always a source of water power within hundreds of miles of a place. Surely no man can truly lay claim to the title of engineer who would not in such an enterprise carefully investigate all feasible systems as to the proper distribution of power.

In the case of the Niagara Falls road there was no man, Mr. Forbes included, who knew as well as the Constructing Engineer did that the Co. had water power at its disposal, & yet Mr. Forbes would lead us to believe that proper investigation was not made as to the advisability of using it to drive electrical machinery for a power transmission to Queens-ton. Such, however, is not the case, for the cost of this scheme was, I understand, fully discussed along with the others; but the idea had to be dropped on account of its cost & the fact that no sufficient guarantees could be obtained on the operation of transmitting machinery in use at that time.

I regret that I have not had time to obtain a detailed account of the exact cost of operation of the present system & the one suggested; but what I have already done convinces me of the wisdom of building the steam station, & it seems to me Mr. Forbes should endeavor to look more closely into the matter before speaking of what he inconsiderately calls the "extremely objectionable features" of it.

In speaking of rotary transformers for the conversion of alternating into continuous currents, he says: "It does its work admirably, but is expensive, cumbersome & requires continual attention," three points which should immediately condemn its use. Perhaps, however, we have the reason of his antipathy for the above road more clearly pointed out by the following from the same article: "But I have prepared the design for a transforming & commutating machine free from all the defects (of the rotary transformer) referred to, which can be manufactured at small cost," for he can perhaps see no chance for the use of such a machine on the road in question.

It is a matter of regret that Mr. Forbes should without thought refer disparagingly to the work of an engineer who was certainly in as good a position as anyone to know what system of power was most economical in the case under his control.

Montreal Street Railway Company.

At the 38th annual meeting at Montreal, Nov. 2, the following report was presented:

The statement of the past year's business shows a net profit of \$601,704.18, as compared with \$507,855.60 for the previous year. Out of this amount there have been declared 4 quarterly dividends of 2½% each, amounting in all to \$462,916.66, the balance of \$138,787.52 being added to the surplus.

The road-bed, rolling stock & other property of the Co. have been maintained in a

high state of efficiency, the cost thereof having from year to year been charged to operating expenses. The directors consider it advisable, however, to set aside a portion of the accumulated earnings for the purpose of providing against heavy or special renewals, & they have consequently adopted that policy establishing an account for such contingencies by transferring \$100,000 from the surplus to the credit of a contingent account. It will be noticed by the statistical statement that the Co's business continues to increase in a satisfactory manner, & it is also gratifying to note that the percentage of operating expenses shows a further reduction on last year's figures.

A fire occurred on the Co's premises at Hochelaga Sep. 16, destroying a car shed & a considerable amount of rolling stock & electrical equipments. The Co's loss, however, was fully covered by insurance, & immediate steps were taken to replace the rolling stock, all of which will be turned out at the Co's shops according to the latest standard. In spite of this heavy loss in rolling stock the Co's business was done as usual the following day, without inconveniencing the public or affecting the receipts.

The Co's rolling stock has been increased during the past year by the addition of 22 closed motor cars & 60 open motor cars, all of which have been constructed in the Co's shops. There are also under construction 40 motor cars, which will be ready for this winter's service, & 75 open motor cars, which will be ready for next summer's traffic. Seven sweepers are also being constructed to replace those destroyed in the fire; also 3 additional ones, all of which will be ready for service this winter.

A system of cast-welding of the rail-joints has been introduced, which, judging from the results obtained elsewhere, is calculated to produce a great benefit, & also to considerably reduce the expense of track maintenance.

The President, Senator Forget, in submitting the report said that it spoke for itself. The business is still on the increase, & he could add that the 1st month of the present year was the best in the Co's history. It had been thought by some that the limit of increases had been reached, but such was not the case. Oct. showed an increase of \$17,398 over the corresponding month of last year. The increase for Oct., '97, over Oct., '96, had only been \$7,000. The list of stockholders also showed an increase from 609 to 753. This meant that investors were taking up the stock. The Co. wanted all the friends it could get. He hoped they would watch the service as they had done in the past, & help to improve it, if it could be improved.

FINANCIAL STATEMENT.

ASSETS.

Cost of road and equipment:

Construction, &c.....	\$2,901,959.38
Equipment, &c.....	2,093,061.47
	<u>\$4,995,020.85</u>
Real Estate and buildings.....	1,207,942.08
Stores.....	40,421.45
Accounts receivable.....	20,796.19
Cash in bank and in hand.....	146,490.82
Cash on deposit with City of Montreal.....	25,000.00
	<u>171,490.82</u>
	<u>\$6,435,671.39</u>

LIABILITIES.

Capital stock.....	\$5,000,000.00	
Uncalled issue of 1897.....	300,000.00	
		<u>\$4,700,000.00</u>
Bonds:—		
5% payable Mar., 1908.....	292,000.00	
4½% " Aug., 1922.....	681,333.33	
		<u>973,333.33</u>
Mortgages.....		5,014.51
Accounts and wages payable...		60,320.87
Accrued fixed charges:—		
Interest on bonds.....	5,170.00	
Tax on earnings.....	64,355.48	
		<u>69,525.48</u>
Employees securities.....		4,324.00
Unclaimed dividends.....		2,062.49
Unredeemed tickets.....		18,815.50
Suspense accounts.....		11,740.37
Dividend payable Nov. 2, 1898.		117,500.00
Contingent account.....		100,000.00
Surplus.....		<u>373,034.78</u>
		<u>\$6,435,671.39</u>

INCOME ACCOUNT.

	1898.	1897.
Dividends.....	\$462,916.66	\$368,333.33
Transferred to surplus account	138,787.52	139,522.27
Income over and above expenses and fixed charges, exclusive of dividends.....	\$601,704.18	\$507,855.60

STATISTICAL STATEMENT, 1892-98

	1892	1893	1894	1895	1896	1897	1898
Gross receipts.....	\$661,406.57	\$730,751.78	\$896,090.89	\$1,027,777.57	\$1,265,865.39	\$1,471,939.65	\$1,471,939.65
Increase '98 over '97.....						97.96%	97.96%
Operating expenses.....	466,647.98	593,041.71	637,668.14	632,811.74	710,864.70	736,428.60	764,884.35
Increase '98 over '97.....						3.86%	3.86%
Operating expenses, per cent of car earnings.....	82.68	79.00	71.16	59.20	56.48	55.05	52.15
Net earnings.....	97,758.59	157,710.07	258,422.75	449,965.83	555,033.69	605,939.18	707,055.30
Increase '98 over '97.....						16.66%	16.66%
Net income per cent. of capital.....	8.17	9.69	10.21	11.55	12.41	13.00	13.00
Passengers carried.....	11,631,386	17,177,952	20,369,013	25,877,758	29,846,471	32,047,347	35,353,016
Increase '98 over '97.....						10.32%	10.32%
Transfers.....	5,994.113	6,828,653	7,058,670	8,541,530	8,765,993	10,508,603	10,508,603

E. H. Copeland enquired as to the fund which had been laid aside for accidents.

The President replied that \$100,000 had been taken from profit & loss account & transferred to the contingent fund. Every year had borne its own cost for the laying of new tracks, etc. There was a special fund for accidents.

Sectional Pipe and Boiler Coverings

of every description.

Engine Packings, Oils and Grease.

Belting, Cotton Waste, &c. ❀ ❀

ASBESTOS in all its forms ❀ ❀

Mineral Wool for deafening, fire-proofing, &c.

EUREKA MINERAL WOOL & ASBESTOS CO., - - 136 BAY ST., TORONTO.

Mr. Crawford asked how the fund stood, but the President did not think it was in the interests of the Co. to give the amount, though he volunteered to tell him privately. The contingent fund was heavy in case they had to meet some heavy changes, as electricity was going ahead every day. Provision was made to assure to the shareholders a minimum of dividends.

Mr. Crawford wanted one fund raised to \$500,000, & the other to \$250,000, the Co. would thus be able to face any serious responsibility which might arise. The President replied that the funds were being increased gradually.

Mr. Crawford enquired as to the progress which was being made in the negotiations with the Seminary, regarding the acquiring of property for the Cote des Neiges route, but the President told them that the gentlemen of the Seminary did not care to have their names in print, but assured him that everything was going on smoothly.

Mr. Joseph enquired the amount of the percentage paid to the city during the year, & was told it was \$69,907.21, & the President promised that in future an entry would be made in the statement of the amounts paid yearly.

Mr. Crawford said that no company was better managed than the Montreal Co., both as regards the interests of the shareholders & public. As to the Cote Des Neiges route, he hoped the Co. would never build that route unless it was compelled to do so at the point of the bayonet. There was no machinery now in existence to stop a car once it got started down the incline of that hill. The Co.'s responsibility would be serious if that line was ever opened.

To Mr. Cochrane, the President said that the city's contract for the removal of snow would expire next year. This was the last winter.

Mr. Crawford expressed satisfaction at the satisfactory way in which the statement was got up. It was most complete.

In reply to Mr. Wilson, R. B. Angus, who had assisted in the creation of the contingent fund, stated that he failed to see any necessity to make it larger than it now was nor did he think that the directors should be bound to any particular amount.

The report was adopted unanimously.

The following resolution was unanimously adopted: That the directors are authorized to apply to the Quebec Legislature next session for a bill to amend its charter to authorize the increase of the capital stock & confirm certain contracts with such modifications as they may deem expedient.

A resolution was also carried voting \$6,000 for the services of the directors for the ensuing year. Mr. Crawford thanked the directors for having granted quarterly dividends so readily. The President returned thanks, & the old directors were re-elected as follows: L. J. Forget, J. Ross, R. B. Angus, K. W. Blackwell, F. C. Henshaw. At a meeting of the directors Hon. L. J. Forget was re-elected President for the coming year.

The Co. is now paying quarterly dividends at the rate of 10% a year.

The gross earnings are:

	1898.	1897.	Increase.
October.	\$144,499.71	\$109,222.22	\$35,277.49

The Montreal Assessors' Department is preparing to place the property of the Street Ry. Co., now exempt, upon the assessment rolls for next year. The assessors were not sure of their ground, & delayed action until the rolls for this year were signed. It is now proposed to study the question thoroughly & place all property of this class now exempt on the rolls of 1899. The Department has been seeking information on the subject for the Toronto Assessment Commissioner.

Quebec, Montmorency & Charlevoix Ry.

This Co. has recently invited applications for an issue of \$1,500,000 25-year 5% gold bonds, in bonds to bearer of \$1,000 each maturing June 1, 1923, interest payable ½ yearly, June 1 & Dec. 1. The bonds are secured by a 1st mortgage on the entire plant, property, franchises, revenues & undertakings of the Co. The authorized share capital is \$3,000,000, of which \$2,000,000 is issued & paid up, the balance of \$1,000,000 remaining in the Co.'s Treasury. The Co. reserves the right to redeem the bonds at 110 & accrued interest on giving 6 months' notice. The price of issue is 104 & accrued interest.

Following are extracts from the prospectus:—The Co. owns & operates the electric railway system of the City of Quebec. It also runs from the City of Quebec past Montmorency Falls & Ste. Anne de Beaupre to Cap Tourmente, a distance of about 30 miles, which is at present operated by steam. It is intended to electrify this road through-out, & also to construct an independent branch along or near the highway to Montmorency Falls, the whole to be run in connection with the electric railway system of the City of Quebec, which the Co. now owns & operates. The estimated cost of these improvements is \$330,000, & out of the proceeds of the present issue this sum, or its equivalent in bonds, will remain in the hands of the trustees to be expended for such work as it progresses. When completed the system will comprise over 60 miles of well equipped electric railway.

The actual result of the operation under one management for the past 3 months of the combined system as it at present exists, viz., partly steam & partly electricity, is as follows:—

Gross earnings	\$79,006.36
Operating expenses	33,947.04
Net	\$45,359.33

It is estimated that the cost of snow removal for the year will be about \$12,000. Distributing this sum over the year, the proportion to be added to above operating expenses would be..... 3,000.00

Leaving net revenue for 3 months.....\$42,359.33

The General Manager states that: "In considering these results, it must be borne in mind that although the summer returns may be regarded as more favorable than those of the winter months, at the same time, the above actual returns are from an incomplete system, being partly steam & partly electric, & that when the improvements & additions to the system which are contemplated & provided for are complete the actual returns will undoubtedly be largely increased."

E. A. Evans, C.E., General Manager & Chief Engineer of the Consolidated System, has made the following estimate of the probable net income of the completed railway system, & as he has had full charge of the construction & operation of the present electric system, his opinion should have weight. He estimates as follows:

Net estimated returns city system as at present	\$137,500
Net estimated present steam system when converted	67,500
Net estimated to Montmorency when constructed	18,900

To provide for interest on bonds, say 5% on \$1,500,000	\$223,900
Surplus	75,000

He further remarks: "By combining the City system with the Cap Tourmente & Montmorency systems the track mileage will be nearly 61 miles, & by placing the whole under one management I have no hesitation in affirming that the property when completed should yield the above returns & that the security is a most excellent one."

R. C. Brown, late General Manager of the Halifax Electric Ry. & now of the Metropolitan Traction Co. of New York City, has thoroughly investigated the matter, & he

estimates the net income of the Co., when the system is completed, after providing for the interest on \$1,500,000 of bonds, will be \$99,650. In closing his report he says: "I think that you may congratulate yourselves on having in this system a well equipped road with remarkable earning powers, & one that under careful management can be operated more cheaply than the average electric railway system."

In addition to the reports of Mr. Evans & Mr. Brown, we have had an examination made of the property by Ahearn & Soper, electrical experts, of Ottawa, & in their report, dated Oct. 17, 1898, appears the following: "We have an intimate personal knowledge of the character of the construction & equipment of the Quebec District Ry., & consider it unexcelled by any electric railway on this continent. The roadbed, rails, overhead electrical construction, cars, trucks & motors are all of the latest & best type. Owing to the railway's exceptional equipment, repairs will be very inexpensive. This fact, together with the operation of the road by water power, & the excellent management which characterizes the Co., render the property one that can be operated with great economy, while the peculiar topographical features of Quebec make the use of the cars almost a necessity & ensure an increasing revenue. In conclusion, we beg to say that we consider the estimate of Mr. Evans fair & conservative. In our opinion the figures given by him for the probable earnings of the steam railway transformed to electricity & the electric railway on the highway between Quebec & Montmorency are somewhat lower than the actual results will prove."

The Co. has a 30 years franchise on most favorable terms with the City of Quebec.

A special general meeting of shareholders at Quebec, Nov. 2, confirmed the resolution passed at the special general meeting held September 13, whereby the directors were authorized to issue 1st mortgage bonds to an amount of \$1,000,000 in part payment of the purchase price of the property, plant, buildings, etc., of the Montmorency Electric Power Co.

The London Street Ry. Strike.

Towards the end of Oct. the motormen & conductors formed a division of the St. Ry. Employes Union & sent a deputation of 5 to Manager Carr, asking for increased pay, a more regular division of work, & that none but union men be employed. Mr. Carr refused to recognize the union, & dismissed the members of the deputation on the ground that they had left their cars without leave. The Co. was willing to advance wages, but refused to recognize the union. Of the 97 men employed, 94 went on strike. The Co. obtained men from other places, but was prevented employing them owing to a clause in the charter providing that residents of the city should be employed exclusively. The citizens and Council showed unmistakable sympathy with the strikers, & the Co. had to abandon running cars, except an occasional one which went under police protection. President Evans & Vice-President Moore came from Cleveland, O., & several conferences were held, but without avail, the majority of the citizens wore badges, "We walk," & the strikers put on a bus line, which contained contribution boxes, as they were not entitled to collect fares. Considerable rowdiness was indulged in, & some damage was done to the Co's property.

It is said the troubles date back to Mar. 1897. Up to that time the scale of wages was 12½c. an hour for the first 6 months; 13½c. an hour for the next 6 months, & 14½c. an hour for the next 6 months, & \$1.00 a week. After a year at this rate of wages the men were given 15c. an hour, or \$7.50 a week on a regular time

in 10 hours a day. A new superintendent was appointed in March, 1897, & from that time the scale of wages remained stationary until Oct. 1, 1898, & there was no advancement. At the beginning of Oct. a change was instituted, whereby the day men on the 10-hour shift were shifted with the night men, who work 7 & 4 hours. The night men were given the day shift for two weeks & changed again, the old men then enjoying the day run for 2 weeks. This fortnightly alternating arrangement reduced the wages of the old employees to the neighborhood of \$6 a week, without, it is said, materially benefiting the men on the relief shift or the spare men.

Summarized, the demands made by the employees were as follows: Wages for motormen & conductors to be 16 $\frac{2}{3}$ c. an hour & 9 hours a day, relief men to be given the remaining 8 hours, & overtime to be paid for at the rate of 20c. an hour. None but residents of London to be employed, & they must first be accepted by the union. Conductors & motormen to be marked up on the blackboard in accordance with length of service. Spare work to be equally divided among the spare men. Employees to report 15 minutes before the run goes out, in default of which the place shall be given to the 1st spare man, & if the employee fails to report inside of 4 hours he shall lose next day also. No motorman or conductor to pay for breakages not due to his own carelessness, or lose his time when obliged to look up accident reports. If suspended wrongfully, the employee to be reinstated with back pay, should the investigation prove the employee not at fault. Disputes to be settled by 3 arbitrators, 1 appointed by the men, 1 by the Co., & the 2 to choose a 3rd, their finding to be binding. Employees to have free transportation over the system. Officers & committees not to lose their positions if required to lay off to transact union business.

The strike continued until Nov. 10, when a compromise was effected, both sides giving way to some extent. The men secured a small increase in pay & recognition of the union. The men demanded 16 $\frac{2}{3}$ c. an hour, the Co. offered 15c. A compromise was made at 15 1-3c. The strikers were reinstated & the line recommenced running on Nov. 11.

James Ross' English Visit.

Jas. Ross, Vice-President of the Montreal Street Railway Co., who, with Mrs. Ross, has recently returned from an extended visit to Great Britain, has made some interesting remarks upon street railways in Britain & other matters. He observed that while he did not wish to cast any reflections upon the municipal bodies of Great Britain as regards the slow manner in which they moved, yet it was a fact that most of the cities were extremely conservative in the matter of a change from horse or steam to electrical power. The overhead system appeared to be generally accepted, & Liverpool & Glasgow, which had purchased their respective street railway systems, had each from 2 to 3 miles in operation. Bristol & Dublin were also to have the trolley. In Birmingham the people were undecided what course to pursue, & they will probably await results in the other cities. He also stated that all lines of business in Great Britain seemed to be prosperous. The Hooley revelations had caused more or less comment in financial circles, & it was quite likely they would have the effect of operating a beneficial change in the near future. It was more than probable that hereafter it would be much more difficult to float projects of a more or less questionable character. Canada & Canadians had a foremost place in British affections, & he spoke of the great interest taken in Britain in Canada's railway enterprises.

Competition of Electric Lines.

President Tuttle, of the Boston & Maine Ry., formerly Passenger Traffic Manager of the C.P.R., believes that the steam roads will have to bow to the inevitable & surrender a portion of their suburban traffic. No matter, he says, how the matter may be viewed, the street railway, within certain limits, has now, and will continue to have, the advantage over the steam roads. The latter may improve their service as much as they can, but they will find eventually that they cannot compete with the trolley lines, which insure service that the steam roads cannot give, & the latter will, therefore, have to abandon suburban business within 4 or 5 miles of the city. They will have to develop their long distance service, & can make improvements within a zone of from 6 to 25 miles, in addition to lowering the longer distance rates. In this way suburbs will be extended. With such an expansion & attention to through freight & passenger business the steam roads will still have an ample & profitable field of operation.—American Engineer.

British Columbia Electric Railway.

The earnings & expenses for Sep. were as follows:

	GROSS EARNING.	1896-7.	1897-8.	INCREASE
Railway				
Vancouver	\$4,501	\$6,456	\$1,955	
Victoria	6,101	7,944	1,843	
Westminster	5,379	10,352	4,973	
Lighting				
Vancouver	5,301	7,572	2,271	
Victoria	3,234	4,248	994	
Total gross earnings	\$24,666	\$35,952	\$11,286	
Working expenses	\$17,336	\$19,855	\$2,519	
Net profits	\$7,330	\$16,097	\$8,767	
Aggregate Gross Earnings				
from April 1 to Sept. 30	\$130,743	\$190,362	\$59,619	
Aggregate Net Profit from				
April 1 to Sept. 30	\$39,230	\$77,000	\$37,770	

The aggregate gross earnings & net profit for 1896-7 are from April 15 only.

The Vancouver World speaks in high terms of the Co's service between Vancouver & New Westminster during the recent provincial exhibition at the latter place. One-third of the gross receipts during the exhibition, amounting to \$1,550, was appropriated in aid of those who suffered by New Westminster's disastrous fire. The regular fare, Vancouver to New Westminster & return, is 75c. During the exhibition it was reduced to 50c.

Maritime Province Lines.

Dartmouth, N.S.—There is nothing new to report on the proposal, mentioned in our last issue, pg., 216, to run the Dartmouth branch of the I.C.R., which extends from Windsor Jet. to Dartmouth, 13 miles, by electricity. It is said there is ample water power for the purpose at Fall River, near Waverly. The matter is under the consideration of Dartmouth Town Council.

Halifax.—The Tramway Co. has added 10 cars to its equipment this season, all of which have been built by Rhodes, Curry Co., at Amherst, N.S., of whose work Manager Huntress speaks in the highest terms.

The St. John Ry. Co. is appealing against its assessment by the city.

The Glasgow municipal government has begun operating a 5 mile section of street railway by electric traction with overhead wire. The cars are of a new design & seat 48 people. If the experiment succeeds electric traction will be introduced for the entire tramway service of Glasgow.

Ontario Electric Lines.

Cornwall.—The Electric St. Ry. Co. is undergoing reorganization, & until this is completed no steps will be taken in carrying out the rumored improvements in the system. It is hoped matters will be straightened out by the end of Nov. One of the principal changes likely to be made will be changing from steam to water power.

The recent strike is referred to in another column.

Hamilton, Chedoke & Ancaster.—S. Barker has become interested in this scheme & is trying to arrange matters with the Hamilton City & Ancaster Township Councils, so that the line may be built to Duff's Corner, about 3 miles beyond Ancaster. The township granted a \$5,000 bonus, which will lapse Dec. 1, unless the terms are changed, as it will not be possible to do the required work by that time.

Hamilton, Grimsby & Beamsville.—It is hardly likely that the proposed extension from Beamsville to St. Catharines will be carried out. J. Patterson, C.E., estimates the cost at \$107,000. There would be a 3% grade.

The Saltfleet Township Council is annoying the Co. in every way possible, & is going to the Courts. The council started out by contending that a crossing was not in good shape, & wanted \$500 solatium for breach of agreement. Now it has added a string of alleged violations & wants \$1,000, as well as a forfeiture of the franchise. The Co. contends there is no forfeiture clause in the agreement.

Hamilton Radial.—W. I. Degear, of Grimsby, has the contract for the extension from Burlington to Port Nelson, about a mile in length.

Hamilton Street.—With reference to the projected improvements in the system, referred to in our last issue, the Manager says that no plans have yet been matured.

For the quarter ended Sep. 30 the Co. paid the city \$4,146.22 for percentage & mileage, against \$3,715.85 for the corresponding period last year. There has been a slight increase in receipts.

Hull Electric Co.—In reference to the statement of the daily press that the Hull & Aymer Electric Ry. is about to be extended to Gatineau Point, the Secretary of the Co. informs us that the Co. has no such intention at present.

Kingston, Portsmouth & Cataraqui.—In the Ontario Court of Appeal, Nov. 16, before Osler, MacLennan, Moss, J.J.A., in the case of City of Kingston v. Kingston, Portsmouth & Cataraqui Electric Ry. Co.—Judgment was given on appeal by plaintiff from judgment of Street, J., (28 O.R., 399), in favor of defendant. The action was brought to compel the defendant to keep its cars running over the whole of its line of railway during the whole of each year pursuant to agreement. The court below held that the agreement was one of which the court would not decree specific performance, nor could it be enforced by mandamus, injunction, or declaratory judgment. Appeal dismissed with costs, MacLennan, J.A., dissenting, the majority of the court agreeing with the opinion of Street, J.

London.—The gross revenue for Sep. was \$15,441.00, against \$14,040.66 for corresponding period, an increase of \$1,400.34. The operating expenses were \$6,000.87, against \$5,607.14. The operating per cent. of earnings was 38.8, against 39.9 last year.

Metropolitan.—This line, which runs from North Toronto to Richmond Hill, is being extended to Newmarket. The work is progressing satisfactorily. In Aurora there was some difference as to the best location for the road, but it is expected the matter will be amicably settled. A large power-house is being built at Bond's Lake, where there will be

350 h.p., which will take the place of the North Toronto power-house. The land in the neighborhood of Bond's Lake has been purchased by persons who intend to make a summer resort there. It is said the line will be further extended, north to Lake Simcoe, west to Schomberg & north-east to Jackson's Point, Roach's Point & Beaverton, & that there will be a regular service for light freight as well as passengers.

Ottawa.—The City Council has taken action to compel the Electric Ry. Co. to extend its track to the Exhibition grounds in accordance with its contract with the city. An injunction has been applied for to restrain the Co. from operating the railway already built until the track has been extended as above mentioned, & the city claims \$10,000 penalty provided in a bond between the Co. & the city entered into in 1893. The Co. has declined to proceed with the extension on account of not having received the sanction of the Railway Committee of the Privy Council to cross the Canada Atlantic tracks. The application is still pending, & if it is granted the Co. will probably go on with the extension.

It is said the Co. still has in view the extension of its line to Britannia, but that nothing will be done before next spring.

Port Arthur.—It was stated in our last issue that W. Phillips, Manager of the Niagara Falls Park & River Ry., had been inspecting this line on behalf of the Dominion Government. The inspection was made for the Ontario Government. The town of Port Arthur, which built the line between that place & Fort William, agreed to build & maintain it in a certain condition within the town limits of Fort William. The Council of the latter place claims that the road is not being properly maintained & asked the Ontario Government to have an expert inspection made.

St. Catharines & Niagara Central.—Haines Bros., New York City, who recently bought this steam road, & who propose to electrify it, wrote us Nov. 12: "Freight is now being carried over the road, & passenger traffic will be resumed about Nov. 16. By that time the road will be in a safe condition again & will be extended to Port Dalhousie at one end & will have better terminal facilities at Niagara Falls. We are under the impression we will do away with the trestlework at once, which will mean an expenditure of \$60,000."

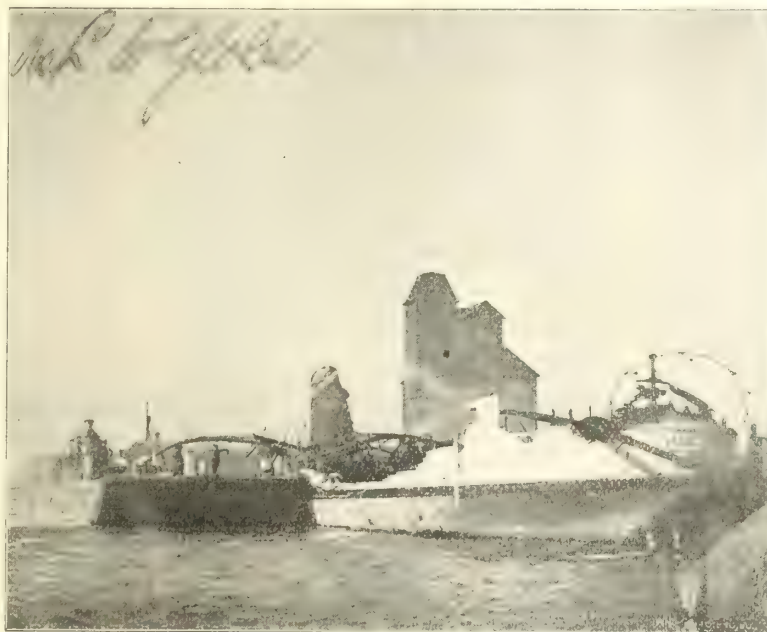
The Niagara Falls Park & River Ry. operates the 1st international electric road between Canada & the U.S. It is run across the greatest steel arch bridge in the world, which spans the Niagara Gorge at Niagara Falls very close to the great cataract. The line has a double track, & the cars that are operated on the bridge connect at the Canadian end with the cars of the road running between Chippewa & Queenston, along the top of the high bank on the Canadian side of the river. On the bridge the centre pole system is employed & the cars speed across the structure every few minutes. Under the present arrangement the bridge tickets purchased by strangers allow them the use of the trolley cars; that is, they ride free if they so elect. Residents of Niagara Falls who pay 10 cents for crossing the bridge are forced to pay an additional 5 cents to ride in the cars, making the price for crossing the bridge in

the cars 15 cents for both strangers & residents. The power for operating the cars on the bridge is supplied from the railway company's power station in the Queen Victoria Park. This crossing of the steel arch by the cars of the N. F. P. & R. Ry. places it in close business touch with the crowds of people in both of the great free parks at Niagara—the Queen Victoria Park on the Canadian side & the New York State reservation on the U.S. side. It is reasonable to suppose that all the people who go to Niagara sightseeing go to these beautiful parks, & therefore the advantages of the road for catching travel are extremely good. Then again, the New York State end of the line is right at Prospect Park, & the cars afford rapid transit between the free parks. The cars now run right up the Riverway, a street within the limits of the New York State reservation. In time it is expected that connection will be made between the N. F. P. & R. Ry. & some line on the U.S. side, either the Niagara Falls &

wider. On the night of Jan. 9-10, 1889, it was wrecked by wind. It was immediately rebuilt, & it is this latter structure that gave way to the arch, which is the largest in the world of its class.

The St. Thomas Street Railway, which for so many years gave to the city the name of the horse-car town, has passed away, and in its place a real, live, up-to-date electric street railway service is in full blast. The work of constructing the new road was undertaken by local capitalists entirely, with one exception, & June 15 last saw it complete & in full operation. C. McBeth, a graduate of the School of Practical Science, was engaged as electrical engineer, & is said to have handled the work with the assurance of a veteran. He superintended the electrical equipment, while T. Kerr, of the London Street Ry., gave him valuable assistance with the track laying. The latter was proceeded with rapidly, no trouble between the city & the Co. arising to hinder the work, as is too often the case. The

Co., instead of building a power house for itself, engaged room in the spacious power house of the Gas & Electric Light Co. & purchased two 150 h.p. generators and 2 engines, the Manager of the G. & E. L. Co. looking after the working of them, & the railway paying for the power generated. The road is equipped with 8 motor cars & 2 trailers of the most improved type. The cars are equipped with 25 h.p. motors & double controllers. The cars at present in use have been found insufficient, & it is the intention of the directors to place several more on the road next spring. The length of track is 7 miles, 5 miles of a belt & 2 branch lines, one to the stations of the L. E. & D. R. & the G.T.Rys. & the other to the Co.'s park, which is one of the features of the road, comprising about 100 acres, & is partly wooded by a beautiful bush. It is situated on the banks of Lake Pinafore, a very picturesque spot. Baseball, golf, cricket, lawn tennis,



G. N. E. CO. STEAMER PACIFIC, BURNED AT COLLINGWOOD, NOV. 3.

Suspension Bridge Ry. or the Buffalo & Niagara Falls Ry., which could be accomplished by the construction of a few hundred ft. of track up to Niagara Street & across the Riverway to the tracks of the N. F. P. & R. Ry. The position of the New York State Reservation Commissioners has always been to oppose the construction of track on the reservation lands, but it seems likely that the present composition of the board might not oppose the granting of the right to cross straight over the Riverway, providing the Legislature did not object.

The recently erected steel arch is of more than passing interest. The cliffs where it stands are 1,268 ft. apart, & it is this space the arch occupies. The length of the main arch is 868 ft., & it is connected to the banks by 2 shore spans, one of which is 210 ft. long, the other 190. It is a single-deck bridge, having a width of 49 ft., 23 ft. of the centre being given up to the trolley car tracks. On each side of the railway tracks are carriage-ways & walks, the latter slightly elevated above the floor, which is 192 ft. above the surface of the water. The arch rests on 4 abutments, 2 of which stand at the water's edge on both sides of the river, & are 67 ft. apart. The bridge is the fourth structure erected on the site. The first on the spot where the arch now stands was built in 1868. It was of wood, & in 1887-88 it was rebuilt in steel & made

& bowling clubs are accommodated there with suitable grounds, bathing, boating & fishing appliances being furnished for these pastimes. Buildings are being erected for the accommodation of picnic & dancing parties. The directors are sparing no pains to make this one of the most beautiful parks in Western Ontario, the natural facilities of the location assisting them very materially. This park is a boon to the city, being just what has been required for a number of years, & the electric railway has made it easy of access. J. H. Still is President, & Col. Stacey, who held the horse car franchise, Secretary-Treasurer of the Co. A. Bingham, who for 14 years was local manager for the Bell Telephone Co. in some of its largest exchanges, gave up that position & assumed the management of the street railway, preferring a larger field than the telephone offered for his labors. The road has every prospect of being a success financially, & should the Co. decide to go to Port Stanley with an extension of the line, which is a possibility, there is no question that the road will prove a bonanza to the shareholders. Condensed from Canadian Electrical News.

Toronto & Suburban.—The right between this Co. & the village of Weston ended, & cars commenced running into the village again Nov. 10. Under the settlement the franchise will be renewed & the Co. will extend its tracks to the Post Office, some 1,000 ft.

Toronto Ry.—The gross earnings of this Co. are as follows:

	1898	1897	Increase	Decrease
Passenger	\$8,881,100	\$7,444,000	\$1,437,100	
Freight	8,881,100	7,444,000	1,437,100	
Mail	8,881,100	7,444,000	1,437,100	
Carriage	8,881,100	7,444,000	1,437,100	
Other	8,881,100	7,444,000	1,437,100	
Total	\$30,000,000	\$25,000,000	\$5,000,000	

The Co's stock has been advanced in the east on rumors that the dividend would be increased, & the excellent earnings appeared to be a good foundation for the reports. It is now stated that there is no chance of any increase. The Co., it is said, will continue to pay 1% quarterly for a long time to come. It is explained that the Co. has been in operation for a number of years, & that, owing to the severe bicycle competition, up to within a few months ago the Co. had been able to accumulate only a small reserve fund after paying dividends. This year the Co. will have sufficient, after paying dividends, to make an addition to the reserve, which will partly make up for the past several lean years. The amount that should be set aside annually toward a fund to retire the bonds at the expiration of the franchise has not been stated, but it is probably in the neighborhood of \$70,000.

The Manager & Secretary of the Co. were recently charged in the Toronto Police Court with breach of a city by-law. This is the case in which the city seeks to compel the Co. to put vestibules on the rear platforms of cars, the same as those which now protect the motormen. A by-law to the effect that vestibules must be erected on the rear platforms was passed some time ago, but has not been obeyed. Some correspondence passed between the city & the Co., & the latter was notified that if the by-law was not complied with by Nov. 1 action would be taken. When the case was called, J. Bicknell for the Co. contended that the Magistrate had no jurisdiction to deal with the case. Under recent rulings, a Police Court magistrate, he said, could not try summarily such a charge against a corporation. After some argument the case was adjourned to Nov. 11, Mr. Bicknell intimating that he would move in the higher court for an order prohibiting the magistrate dealing with the case.

The motion was made, & on Nov. 16 Judge Rose gave judgment on motion by defendant Co. for prohibition to the police magistrate for the city of Toronto to prohibit him from proceeding with the hearing of a charge against the defendant of committing an offence against a by-law of the city of Toronto (passed under R.S.O., ch. 223, sec. 569, subsec. 4) requiring defendants to maintain enclosed vestibules upon the ends of their cars, upon the ground that the defendant being an incorporated company, was not subject to the jurisdiction of the magistrate. A summons was issued against the defendant & served upon its manager & secretary. The offence is not an indictable one, but the procedure (if any) is under the summary convictions clauses of the criminal code. Held, that an incorporated company may be served with a summons within the provisions of the statute, & it is for the magistrate to determine whether there has been a proper service if the corporation do not appear, & if such be the case he may proceed in their absence, & if he awards a penalty it may be enforced by distress. Although some of the provisions of the statute can be enforced only against a person, & not a corporation, the most that can be said is that some of the provisions are applicable to persons only, & others both to persons & corporations. *Regina v. Brennan* (Common Pleas Division, June, 1892); *re Chapman & City of London*, 19 O.R., 33; & *Regina v. Eaton*, 29 O.R., 591, distinguished.

Starey v. Chilworth, etc., Company, 17 Cox, 505, followed. Motion dismissed with costs.

The Co. is building a shed for housing cars. It will be 324 ft. long, 60 ft. wide & 20 ft. high, with corrugated iron siding & having gravel roof.

Toronto & Scarborough.—There is a talk of extending this line about 7 miles from its present terminus near the Hunt Club to the west side of Highland Creek Hill. A survey has been made by J. McDougall, C.E.

Toronto & York Radial Ry. Co.—At the 1898 session of the Ontario Legislature an act was passed incorporating W. D. Matthews, E. F. Clark, M.P., C. H. Ritchie, Q.C., & J. Gunn, of Toronto, & A. Campbell, of Toronto Jet., under this title. The principal feature of the act is that it confers power on the Co. to acquire the franchise, property, etc., of the Toronto & Scarboro Electric Ry. Light & Power Co., The Toronto & Mimico Electric Ry. & Light Co., The Toronto Suburban Street Ry. Co., & the Metropolitan Ry. Co. The capital stock is \$250,000. It is understood that this act was secured in the interest of the Toronto Ry. Co. & it is said the Co. is now considering the building of a system of radial lines, starting from Toronto.

City Engineer Rust, of Toronto, says the most notable development of the present time in municipal engineering is the discarding of the cable car, which is being largely replaced by the underground trolley. Four years ago the cable was laid on Broadway in New York, and when he went through the city recently men were at work putting in conduits for an underground electric trolley. In Washington the overhead trolley never secured entrance, & no difficulty at all is experienced in operating the cars with power from underground conduits. So far as climatic considerations are concerned there is nothing to prevent the underground trolley from being successfully operated in Toronto also. The objection to the overhead wires is of course entirely sentimental. The storage battery is out of the running.

West India Electric Co.—E. H. Haggart, of Kingston, Jamaica, who has recently visited Canada, speaks very favorably as to the prospects for increased trade between Jamaica & the Dominion. In answer to a question regarding the new electric railway system, he said: "I went to Montreal & met a number of the directors there. They were very pleased with the progress that had been made with the work of construction, & were most happy to know that the native labor was turning out so very satisfactorily. In fact, consequent on the good reports, they hoped to take the motormen, conductors, & other necessary employees from the natives. The directors said they were anxious to open up the service at the earliest moment, in fact, they were prepared to run at a loss, by starting earlier than contemplated, so as not to inconvenience the people."

SHIPPING MATTERS.

Iron Shipbuilding in Nova Scotia.

In our last issue we gave a full report of the discussion by the Maritime Board of Trade of the important question of iron shipbuilding in the Maritime Provinces. It is significant that following so close on the discussion the object of the Board appears to be near realization, if a London cablegram of Nov. 5 is to be depended on. The cablegram referred to says:—"British capital for iron shipbuilding in Nova Scotia is soon to be forthcoming. This development is due to the action of a prominent Canadian, who has been promoting

the scheme in London for some time past. There are millions in it. The plant, it is learned, will be established in Cape Breton, where co-operation with the Dominion Coal Co. will be assured. The iron ore is to be found in great quantities on the southern coast of Cape Breton, & this, it is said, will be treated at a smelter erected at Louisburg, C. B. The erection of a shipbuilding plant will follow the development of the ironworks. Experts have been over the ground & their reports are favorable. In this enterprise it is hoped to lay the foundation of a business capable of being expanded like the great establishments at the Clyde & at Belfast."

We have made inquiries about the foregoing from a reliable source in Montreal, without, however, being able to confirm the statements contained in the cablegram. We are informed that the Dominion Coal Co. is looking into the possibilities of the iron business as related to its present coal business, but whether anything will come of it it is impossible to say.

The Halifax Chronicle gives currency to information very similar to that contained in the above-quoted cablegram, & says that H. M. Whitney, of Boston, Mass., President of the Dominion Coal Co., has recently been in Nova Scotia, & with his associates there has had long conferences with Graham Fraser, of New Glasgow, manager of the Nova Scotia Steel Co. Together they inspected the works at Ferrona & Trenton, N.S., & this has given credence to the report that Mr. Whitney is interested in the development of the iron & steel industry of the province. It is, however, said that his recent visit was particularly connected with the further development of the N.S. coal fields.

It is said that a most valuable discovery has been made in Cape Breton, consisting of a big deposit of ore from which specular pig iron or speigle is manufactured. Speigle is largely used in the manufacture of Bessemer steel, & is of great value. Indeed, the Cape Breton deposit is said to be worth \$400 a ton. Samples of the ore were sent to Hamburg to be tested, & the reports sent back show it to be of the best quality. It is placed by Hamburg experts at £80 per ton. There is no information concerning the extent of the deposit discovered, but it is said that it is very large. The discovery was made last fall, & so carefully has it been guarded that, outside of 3 or 4 persons interested, nobody knew anything about it. An expert was taken to Cape Breton ostensibly to look at some gold mines, but really to give an opinion as to the value of this discovery. Since that time the person who discovered the deposit, & 2 or 3 capitalists who were taken in on the ground floor, have been quietly but diligently looking the matter up, & the result is that the deposit is to soon come into the hands of a company now being formed, the people interested in the scheme to establish iron works in Cape Breton being the ones most interested. Whether the specular deposit will be worked by a separate company or in conjunction with the proposed iron works remains yet to be learned. It is said a separate company will develop the property, but it is more than likely that it will form part of the big scheme. If the report of the Hamburg experts is correct & the deposit turns out to be of any reasonable size, there is no doubt a fortune in it for somebody. It is sure to make Cape Breton still more desirable as a location for the great iron industry.

Capt. J. M. Davis, for 30 years master of packets & steamers between Nova Scotia & New York, died at Yarmouth, N.S., recently.

Capt. Michael Nolan, a capable pilot, who had been in the employ of Folger Bros., Kingston, Ont., for 30 years, died recently of cancer of the stomach.

Transfer of Lake Shipping.

In our last issue we gave pretty full particulars in regard to this subject. In referring to it the Marine Record said on Oct. 27: "One of the largest & most interesting enterprises ever conducted on the St. Lawrence River is being carried out by the Manager of the Atlantic Transportation Company, W. S. Besse, of New York. This Co. was organized about a year ago, with a paid-up capital of \$3,000,000, with the intention of engaging on a more elaborate scale than any existing company was doing in the coal-carrying trade of the Atlantic coast. A contract was at once closed with the Chesapeake & Ohio Ry., probably the largest overland coal-carriers on the continent. Within a few weeks a fleet of 40 barges, 8 ocean tugs & 4 steamships had been put into service. This fleet, however, has proved entirely inadequate to the demands of the trade, & it was decided at once to double its size. Accordingly, on Sep. 15 last Mr. Besse left New York for Buffalo, Toledo, Cleveland, Detroit & other lake-port towns to purchase the vessels. Incredible as it may seem, the fact remains that within 30 days he had completed the work of buying 44 vessels, the total carrying capacity of which is 71,000 tons, & by Oct. 3 the first barge was at Cornwall. But having bought the fleet, the task had only begun. The problem was how to get it to its destination, Newport News, Va. Many of the vessels were too long for the locks of the Beauharnois canal, & the only alternative was to run the Cascade rapids. This was not a very promising undertaking in view of the fact that only 3 vessels had made the attempt, & in each case an accident was the result. The pilots assured Mr. Besse that a channel of even 7 feet could not be secured to the Split-rock rapids. Investigation, however, led to the undertaking of the task, & now one-half of the big fleet is safely harbored at Quebec without an accident. The pilots of the line which plied between Montreal & Kingston this summer have been doing the pilots' work through the Cascades, and raft-pilots have been running the Split-rock rapids. Four tugs have been engaged in the work, the Chieftain & Rival, working in the rapids, & the Reginald & Island Wanderer towing between Cornwall & Ogdensburg. If the same good fortune & weather that has attended the enterprise so far are continued, Mr. Besse thinks that \$60,000 will land the fleet at the Gulf by Nov. 1."

In referring to the same matter the Marine Review said on Nov. 4: "Present indications are that the Atlantic Transportation Co. will not be able to get all of the vessels to the coast this season. The Co. had a separate insurance arrangement covering the voyage of the boats from Montreal to New York, with the stipulation that all the vessels were to leave Montreal by a certain time. The departure of some of the barges has been delayed beyond this time, & it is said the insurance companies have refused to accept further risks. This will in all probability necessitate the wintering of the boats at Kingston. The hitch will not, of course, in any way effect the interests of the vesselmen who have made charters to the Atlantic Co.—that is, the boats will in no case be thrown back on their hands, although an effort may be made to induce the owners of the vessels which will be thus delayed to grant an extension & have the charters date from next spring instead of from this autumn. The lake owners who chartered vessels to the Atlantic Co. received checks this week covering the second month of the charter. In this connection it is stated that the steamer Gettysburg, chartered from Alger, Smith & Co., of Detroit, by the Atlantic Transportation Co., will not go to the coast by reason of an inability to go over the rapids. The vessels taken to the coast by the Atlantic Co. are all insured from the time of their de-

livery to the company at lake ports, but it is understood that the underwriters do not agree to bear losses sustained in running the rapids. At the outset the Atlantic people, after conferring with their contractor, fixed the maximum draught at 7 ft. They were so anxious to secure the Gettysburg, however, that an exception was made in her case. She was allowed an additional 4 ins., but it was found impossible to get her up even to that draught, although it is understood \$2,500 was spent in shifting her boilers in the hope that it might be accomplished."

Another company has entered the field to secure lake vessels for the Atlantic coast trade. The newcomer is the Manhattan Steamship Co., of New York. In a letter to the Review, the General Manager of the Company says: "We have about concluded negotiations for 5 steam barges which we propose taking to Philadelphia, where alterations & changes will be made fitting them for coast-wise work." The inference is left that the vessels have been purchased outright. The Manhattan Co. has not made public the names of the vessels for which negotiations are being carried on, but it is understood that 2 of the number are the steamers Linden & H. E. Runnels, owned by the Jenks Ship Building Co., of Port Huron, Mich. The H. E. Runnels, which was built in 1893, is 182 ft. keel by 35 ft. beam. She has a capacity of about 1,300 or 1,400 tons of coal, & an insurance valuation of \$45,000. The Linden was built in 1895 & is 206 ft. keel by 35 ft. beam. She has a carrying capacity of about 1,400 to 1,500 tons, & an insurance valuation of \$62,500. Both are wooden vessels.

Richelieu & Ontario Navigation Co.

There was a story on the street in Montreal lately that a Western syndicate, with headquarters in Chicago, was negotiating for the purchase of the R. & O. N. Co.'s fleet. The story is not true as far as a possibility of purchase is concerned, but it is said to be altogether likely that within a very short time U.S. capital, to the extent of about \$1,000,000, will purchase an interest in the Co. The desire of the present shareholders is that new capital should be secured with as little delay as possible. Some large sums must be spent at once in bettering & adding to the property. For instance, another steamer, at a cost of \$250,000, is proposed to be built, & the Co. wants to erect hotels at Tadousac, Murray Bay & other leading points touched by its Co. steamers. It is expected that the deal will soon be consummated. The Company's stock has been declining lately.

The General Manager says the business of the Co. this year has been excellent, considering the cutting of rates by railway & steamboat companies.

The Co. has commenced paying a semi-annual dividend of \$53,000, which is at the rate of 6% a year.

The Co.'s steamers in service below Montreal will continue running as long as weather permits, when they will be laid up at Sorel for a general overhauling.

The Co. is contemplating an important change in its passenger service next season. With the increased spread of its western service by the introduction of the new vessels, the City of Toronto & the proposed City of Kingston, it will be able to call at a U.S. port. Charlotte, the port of Rochester, is the one chosen. It is almost opposite Cobourg.

The St. Lawrence River steamboat Hamilton was formerly the Magnet, built in 1847. The Caspian was called the Passport when she was launched, the same year. The Algerian is the old Kingston, which burned at Chippewa Point, & when rebuilt was called Bavarian. She burned a second time, & when ready for service again was given her

present name. The old Grecian was lost while going through Split Rock rapids.

Sault Ste. Marie Canal Traffic.

Following is a report of freight & passenger traffic to & from Lake Superior in Oct., including statistics of the Canadian & U.S. canals at Sault Ste. Marie, Ont., & Mich., taken from the Marine Record:

EAST BOUND.			
Items.	U. S. Canal.	Canadian Canal.	Total.
Copper, net tons	10,000	240	10,240
Grain, bushels	1,513,828	82,107	1,595,935
Building stone, net tons			
Flour, barrels	1,400,000	75,250	1,575,250
Iron ore, net tons	1,253,808	149,003	1,399,961
Iron, pig, net tons	6,102		6,102
Lumber, M. ft. B.M.	1,30,448	2,055	1,30,003
Silver ore, net tons			
Wheat, bushels	1,200,000	1,800,000	15,090,745
Unclass'd freight, net tons	22,782	1,000	24,478
Passengers, number	703	470	1,183
WEST BOUND.			
Items.	U. S. Canal.	Canadian Canal.	Total.
Coal (hard) net tons	80,100	5,200	85,366
Coal (soft) net tons	201,800	8,113	299,924
Flour barrels			
Grain, bushels	900	6,000	10,000
Manufact'd iron, net tons	22,077		22,077
Salt, barrels	20,000		20,000
Unclass'd freight, net tons	54,570	4,846	59,416
Passengers, number	497	493	920
East bound freight, net tons			24,052,217
West bound freight, net tons			47,007,070
Total			2,877,003
Total craft, United States			1,071
Total craft, Canadian			315
Total			2,289
Total registered tonnage, United States			1,385,762
Total registered tonnage, Canadian			262,728
Total			2,648,490

Recent Dominion Appointments.

The following appointments have been made by Dominion Order in Council:

Harbor Masters—W. Cochrane, for Port Greville, N.S., vice G. Hatfield, deceased; E. Cohoon, for Port Medway, N.S., vice E. Dolliver, deceased; Capt. J. M. Le Cain, for Clementport, N.S., vice T. Tracey, deceased.

W. Richardson has been appointed a member of the Pilotage Authority for Sydney district, vice J. Rudderham, resigned. C. C. Hamilton has been appointed a member of the Pilotage Authority for Shediac district, N.B., vice H. H. Schaffer, resigned.

J. C. Scrimgeour has been appointed measuring surveyor of shipping for Kings County, P.E.I., vice S. McDonald, deceased.

Atlantic Winter Service.—The contract between the Dominion Government & the Allan & Dominion steamship lines for the winter service from St. John to Liverpool, was signed early in Nov. The first boat left Liverpool Nov. 12. The first sailings from St. John, N.B., will be on Nov. 30. For the first 5 weeks the sailings will be weekly from Liverpool on each Saturday, after that they will be on Thursdays. From this side the sailings will be on Wednesdays, unless other arrangements are made later on. The boats to be employed are the Parisian, Numidian, Californian, Labrador, Vancouver & Scotsman.

The Dominion Government has allotted \$1,000, the balance of the subsidy, to the Canadian Steamship Co. for a steamship to call at Charlottetown, P.E.I., on or about Dec. 15, & deliver cargo from Great Britain, taking in cargo for London & Liverpool, which will be delivered via Milford Haven. It is said that as a result of representations made by C. N. Armstrong as to the proposed steamship line from the Baie des Chaleurs to England, the harbour authorities of Milford Haven are building a wharf & work houses for the accommodation of the vessels & merchandise.

The Pioneer Steamer on the Pacific.

Over three score years have passed since a Hudson's Bay Co. steamer Beaver floated down the Thames. She was the first European steamer to round Cape Horn, & was the pioneer steamer of the Pacific ocean, the passage from London, Eng., to Astoria, Ore., consuming 163 days. The Beaver was 101 ft. long, 20 ft. broad, & 11 ft. deep, the tonnage being 109½. The boiler & the 2 side lever engines of 35 h.p. each were made by Boulton & Watts, at Birmingham. The engines cost £4,500, & weighed 52 tons. The vessel was built in the most substantial manner, of live oak & greenheart, the timbers being held together by copper bolts. The Beaver reached Vancouver Island in 1835, was used as a fur-trading vessel by the Co., & on one of these trips coal was discovered on Vancouver Island. In 1849, during the gold excitement, many miners took passage on this little black steamer. In steaming out of Burrard Inlet in the fall of 1888, she struck a rock, & wrapped in a sheet of troubled waters, with head resting on a huge, barnacle-clad boulder, the pioneer Pacific steamer passed into history. Unsuccessful efforts were made to float her & she remained on the rocks nearly 4 years. An attempt was made to take her to the Chicago World's Fair, but was abandoned, owing to her damaged condition & cost of transportation.

The illustration on this page, reproduced from a photograph taken some 4 or 5 years ago, & copyrighted by Bailey Bros., Vancouver, shows an interesting feature of the early and later navigation of the Pacific. To the left is the magnificent Royal Mail steamship, Empress of India, of the C. P. R. line from Vancouver to China & Japan. To the right is the steamer Beaver on the rocks as described above.

Capacity of the Welland Canal.

The departure of the fleet of vessels chartered by the Atlantic Transportation Co. for coast service, & the frequent discussion of the opportunities for trade that will be opened by the enlargement of the locks of the St. Lawrence canals to Welland size, has induced much inquiry on the part of men identified with shipping interests as to the extreme dimensions of vessels that may be passed through the Welland. This inquiry has, of course, been increased in view of the agitation for abolition of Welland canal tolls, & in view also of the fact that the locks of all canals under construction in the St. Lawrence will be when completed of similar size to those in the Welland. It is understood, of course, that when the work of enlarging the locks of St. Lawrence canals to dimensions of the Welland is completed there will be none of the difficulties now encountered in having vessels destined for the seaboard run the rapids of the St. Lawrence river.

The Welland locks are 270 ft. long from mitres of the gates, & 45 ft. wide, but this does not convey an adequate idea of the largest size of vessel that may lock through, as that is dependent on the model of the bow

& stern of the vessel. A vessel that is sharp forward at the deck line & narrow at the stern can lock several feet longer than one that is full forward or has a broad stern. Moreover, a vessel with a narrow beam can lock longer than one that is nearly full beam of the locks. The lock gates mitre at an angle of 90 degrees, & any designer or builder of vessels can, of course, upon inspection of a drawing of the ship, tell at once whether she will or will not lock through.

According to information furnished by Carter Bros., tug & vessel owners, of Port Colborne, Ont., the steamer Aragon, now on her way down the St. Lawrence, is about the largest vessel that can pass through the Welland. The Aragon is 247 ft. 7 in. keel, & 42 ft. 6 in. beam, the various registers not giving her length over all. The steamer Colonial is about as large a vessel of that kind of model as can pass the locks. Her dimensions are 244 ft. 5 in. keel, & 36 ft. 3 in. beam, the length over all, as nearly as could be measured at the canal, being 258 ft. 9 in. The overhang aft on the Colonial is probably longer than

up through the canal, the stern may be swung one way & then the other in order to permit of the gates being closed. As an illustration it may be stated that whereas a boat might lock 260 ft. over all if only 33 ft. beam, a vessel with the same type of hull could not lock over 255 ft. if of 43 ft. beam.

A wooden vessel that is of very nearly maximum lock dimensions is the Black Rock. She is of exactly the dimensions referred to above—255 ft. over all & 43 ft. beam. Her Captain states, however, that if his vessel was not so full forward & was narrower on the quarters aft she could lock a little longer, as in locking through now the gates strike the bluff of her bows in opening & strike her quarters aft in closing. The Black Rock carries 68,000 bus. of wheat on a draught of 14 ft. of water.

In this connection interest attaches to the dimensions of the steel steamers belonging to R. R. Rhodes, of Cleveland. The Minneapolis & St. Paul, which are sister ships & 238 ft. keel by 42 ft. beam, were built with especial reference to the dimensions of the Welland locks, it being the intention of their owner to place them in the Montreal grain trade as soon as the St. Lawrence canals are completed. Mr. Rhodes recently sent his steamer, the R. R. Rhodes, to the Welland canal for purposes of measurement, & it was found that, although the vessel is 246 ft. keel by 40 ft. beam, she can be locked through. A comparison of dimensions will show that the greater length is offset by the narrower beam in accordance with the theory above outlined.

It will be understood, of course, that vessels passing through the Welland cannot all go on down to the seaboard. Only those of very light draft, not more than 7½ ft. can run the rapids of the St. Lawrence.—Marine



EMPERESS OF INDIA.

THE OLD AND THE NEW.
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BEAVER.

that of the Aragon, which enables the Aragon to lock with a longer keel & more beam. In addition, the Aragon being a steel boat, has a narrow stem & stern & is not bluff forward.

Another vessel that just about reaches the limit of the Welland locks is the W. A. Haskell, owned by the Ogdensburg Transportation Co. Her keel measurement is 242 ft. 5 ins., & her beam 37 ft. The Ogdensburg Co. built the Haskell first, with the idea of taking full advantage of the Welland locks, but when their other vessels, the Governor Smith, A. McVittie, J. R. Langdon & Henry R. James were built, they were made only 240 ft. keel & 42 ft. beam. It will thus be seen that whereas the beam was increased 5 ft., the keel length was shortened 2 ft. 7 ins. The overhang aft of the last mentioned vessel is practically the same as that of the W. A. Haskell.

When a vessel is a close fit in length more or less delay is encountered in the operation of locking. It will thus be readily understood that the reason why a steamer of narrow beam can lock longer than one of greater beam, or nearly full width of the locks, is found in the fact that the vessel of less beam may be swung to one side of the lock & one gate opened, & then to the other side while the other gate is being opened. In a similar manner, coming

Review.

Through the Lachine Rapids.

The steamer was entering the most dangerous part of the far-famed Lachine Rapids of the St. Lawrence. The forward deck was crowded with passengers, & all eyes were fixed on the famous Indian pilot, on whose skill & nerve their lives depended. Immovable at his post on the high pilot tower he stood, his sinewy brown hands firmly grasping the spokes of the wheel, while his piercing eyes darted glances now here, now there, over the surface of the river, as though seeking the most advantageous point from which to commence the descent. Now & then one could catch a glimpse of a plain Hibernian countenance in a window below where the Indian stood.

The steamer plunged into roaring waves, which shook her from stem to stern. Great black & glistening rocks grinned at the staunch vessel from the boiling waters. Strong men shuddered as they looked at the ragged rocks & raging river, & in their hearts thanked God that they were safe in the hands of the famous pilot. Women stared fascinated at the water, & then turned their eyes on the Indian, clasping their hands together with all their strength, as though

they would sustain the effort which his mighty arms were exerting to hold the vessel in her course. And well did he merit their confidence—now spinning the wheel like lightning to escape a dangerous rock, now holding it firm with all his vast strength to prevent the vessel's swerving, now leaning far from his station to scan the water with hawk-like eyes for hidden dangers. Nothing could appal him or shake his iron nerve, & barely grazing a dangerous crag he shot the steamer into calm water.

Once more had a shipload of souls been safely brought through the rapids by the intrepid savage. Few of the women restrained their tears, & men looked at their wives & little children, shuddering to think of the dangers they had passed, & then turned with swelling gratitude to the Indian. A mighty cheer burst from their throats, women threw him flowers, a purse fell solidly at his feet, & a subscription list was rapidly circulated.

Amid all this the stern child of primeval race was the only one apparently unmoved. His features, fixed in the traditional composure of his race, betrayed no emotion, & his steady & piercing glance did not regard the cheering crowd. In the room in the pilot tower below where he stood, the plain Irishman, who had been steering the steamer all the time, took a chew of tobacco. The iron-nerved savage performed with a dummy wheel on top of the tower, so the tourists would get their full money's worth of thrill. —New York Times.

Notices to Mariners.

The Dominion Department of Marine has issued the following notices since those enumerated in our last issue:

No. 63, Oct. 13, Ontario.—1. Light house on Ayler Island. 2. Reefs in the east end of Lake Superior.

No. 64, Oct. 15, British Columbia.—1. Light house & fog bell on Prospect Point. 2. Light house on Egg Island. 3. Light house on Ivory Island. 4. Denny Rock dangerous.

No. 65, Oct. 17, New Brunswick.—Improvement in light house on Sand Point.

No. 66, Oct. 20, Nova Scotia, buoyage on Atlantic coast.—1. Buoy on Middle Ground Shoal, Halifax. 2. Removal of southwest breaker bell buoy to Port Medway fairway. 3. Conical buoy on southwest breaker. 4. Can buoy off Neil Point.

No. 67, Oct. 19, Ontario.—1. Light house removed from Hugh Rock to Carling Rock. 2. Rocks in Parry Sound Channel.

No. 68, Oct. 22, Ontario.—1. Additional buoys in Detroit River. 2. Buoys in South Bay entrance. 3. Dangerous wreck in River St. Mary.

No. 69, Oct. 22, Ontario.—1. Temporary range light at Port Dalhousie. 2. Wreck on Bay of Quinte.

No. 70, Nov. 2, British Columbia.—Aids to navigation in Victoria Harbor.

No. 71, Oct. 31, Quebec. Improvements in ship channel, River St. Lawrence.—1. Barre à Boulard cut completed & buoyed. 2. Removal of patches & rearrangement of buoys. 3. Widening of channel opposite Montreal.

No. 72, Nov. 3, Quebec.—St. Emelie Range lights.

UNITED STATES MARINE NOTICES.

The Notice to Mariners for the Great Lakes, issued by the U. S. Hydrographic Office, Oct. 15, contains the following among others:

158. St. Mary's River, Lake Superior entrance. Shoals between Gros Cap & Point Iroquois; establishment of buoy.

159. St. Mary's River, upper end, Point aux Pins. Foundering of the lighter Monitor, danger to navigation.

165. Lake Erie, mouth of Detroit River, Bar Point.—Establishment of buoys.

B. C. Freight & Shipping Report.

R. P. Rithet & Co. say during the past month there has been some enquiry for vessels to take general cargo, but practically no demand for grain carriers either at San Francisco or in the north. In the latter quarter there has been an unusually fine crop, but freights have failed to respond, partly because of the firmness with which grain is held, & partly, no doubt, owing to the want of encouragement from consuming markets.

In the lumber market rates have been maintained fairly well & quotations are either unchanged or only slightly down from last month. There is reported to be a very well-defined shortage of logs, shared by all exporting mills, & this is having considerable effect both on the freedom of shipments & the prices of finished lumber.

The David Morgan, of the prospective salmon fleet, having been given up for lost, has been replaced by the Celtic Race, of which the charter is now announced at a lump sum.

We quote freights as follows:—Grain—San Francisco to Cork f.o., 23s. 9d., nominal; Portland to Cork f.o., 32s. 6d., nominal; Tacoma to Cork f.o., 30s., nominal. Lumber—British Columbia or Puget Sound to Sydney, 37s. 6d. to 38s. 9d.; Melbourne or Adelaide, 47s. 6d. to 48s. 9d.; Port Pirie, 46s. 3d. to 47s. 6d.; Fremantle, 57s. 6d. to 60s.; Yokohama, 42s. 6d. to 45s.; Shanghai, 47s. 6d. to 48s. 9d.; Tientsin, nominal; Valparaiso f.o., 40s. to 42s. 6d.; U.K. or Continent, 65s. to 67s. 6d.

In British Columbia Waters.

C. W. Bush & D. G. Kurts have registered a partnership as the Balfour Steam Navigation Co., at Kokanee Creek.

It is reported that the Fijian Government has decided to withdraw its yearly subsidy of £1,500 from the Canadian-Australian steamship service. If so, the boats will not call at Suva.

On Oct. 20 35 vessels of over 1,000 net tonnage each were in B.C. ports. Of this number, 16, representing over 36,000 tonnage, were loading or discharging cargoes at Vancouver.

The C.P.R. Co.'s steamer Moyie was launched at Nelson, Oct. 22. She will ply on Kootenay Lake between Kuskanook, the temporary terminus of the Crow's Nest Pass Ry., & Nelson.

Still more boats will be placed on the Vancouver-San Francisco run. The Pacific Coast Steamship Co. has chartered the steamers Laurada & South Portland from McCalden Bros., of New York, & will run them in connection with the Queen, Umatilla & Walla Walla.

The new trade opened up by the annexation of the Hawaiian Islands by the U.S. is not to be monopolized by U.S. shipping. The steamer Garonne, which has just been placed on the Puget Sound-Honolulu route will call regularly at Vancouver for freight, a good part of which will be carried over the C.P.R.

The B.C. Marine Railway Co. has bought a site in the east end of Vancouver, & it is said that work will soon be started on a marine railway plant there. W. F. Bullen, Manager of the Co.'s Esquimalt plant, has been looking over a number of plants in the U.S. to gather ideas. The Esquimalt plant has all the work that can be handled there.

The Government steamer has lately replaced the lighthouse beacon on the sandhead, the north beacon on Sturgeon bank, Spanish Bank beacon & the east beacon, first narrows Burrard Inlet. The beacons, with the exception of the north beacon on Sturgeon bank, which is 3 cables south of its old position, are in the positions shown on the present Admiralty charts.

Local shipping suffered a severe loss by 3 steamers being destroyed at the New Westminster fire. This was followed by the wreck & almost total loss of the steamer Boscowitz, & the wreck, on the northern coast, of the steamer Brixham, engaged in the Klondike trade. She was an iron-built steamer of 396 tons, owned by the Boston & Alaska Steamship Co., operating from Seattle, but was well-known at Vancouver, as she took on the supplies for the Northwest Mounted Police there.

On Oct. 21 the C.P.R. steamer Athenian sailed from Vancouver for Vladivostok on her initial trip. The steamer Tartar followed shortly after, & the steamer Selkirk is under charter to load flour at Tacoma to be taken to Vancouver port & transhipped to Vladivostok ex the R.M.S. Empress of Japan. Several tramp steamers have also recently loaded lumber cargoes at Vancouver for the Russian port. As stated in our last issue, the Tartar & Athenian are going in the C.P.R. Co.'s regular Pacific trade between Vancouver & China & Japan.

The Customs returns show that 2,732 sea-going vessels called at Vancouver during the year ended June 30 last. The value of goods that passed through the city, on transit to & from foreign ports, was \$10,232,716. To this should be added some \$5,000,000 for the value of manufactured articles & products of Canada arriving at & shipped from Vancouver. The total revenue collected at the port for the fiscal year was \$667,842.56. The statement of the imports consumption shows a total value of \$2,983,291, while the exports, under their various heads, are as follows: Mining, \$95,255; fisheries, \$347,644; forest, \$251,652; animal products, \$45,326; agricultural products, \$62,217; manufactures, \$176,102; miscellaneous, \$29,449; coin & bullion, \$106,555; grand total, \$1,114,200.

For some time it has been apparent to the management of the Union Steamship Co. that a larger steamer with greater passenger accommodation was needed for the northern run from Vancouver, 150 miles up the coast as far as Port Neville, now handled by the steamer Comox. This boat is a business-like little steamer & has done good service in the past, but the route has become too much for it, & the Co. has decided to procure a new boat. Just what kind of boat is needed is a question that will require serious consideration. The Cutch, which goes to Skagway in a week or two, draws rather too much water to go into all the coves & bays that make the route handy for the settlers. A flat-bottomed vessel, something like the Joan, is the kind of boat that will probably be secured. Whether a new one will be built or another bought is also an unsettled question. It is intended that she will be fitted up in good style, as far as passenger accommodation is concerned, & will be fast enough to make 3 trips a week without trouble, so that the service will be vastly improved.—Vancouver World.

Yukon Navigation Matters.

A Washington, D.C., dispatch says:—The discovery of 2,500 miles of additional U.S. territory on the Alaskan coast, & of a new channel for Yukon-bound vessels, which will minimize distance, time & danger, is officially reported to Superintendent Pritchett, of the U.S. Coast & Geodetic Survey, by J. F. Pratt, the assistant in charge of the expedition which has been working in those waters. What the expansion of the mileage of the Alaskan territory is due to is not known. There is a possibility of constant outward growth of the land since the first charts were made, but the better opinion is that it is due to previous inaccurate charts, the present being the first regular & reliable survey of the region.

The finding of the new channel will effect a saving of about 400 or 500 miles on reaching the Yukon. At present vessels destined for the Yukon region have to proceed up the ocean outside the long bar some 25 miles off from the coast up to St. Michael's, & there tranship to small boats, which have to creep along the coast down to the Aphoon channel, 10 miles or so below St. Michael's. This channel carries the water only 2 ft. over the bar at low tide.

The new channel just found is the Kualivak, which will carry 8 ft. over the bar at low water, & according to present expectations, will permit ships of moderate draught to proceed directly into the Yukon from the south, & then continue up the river 400 or 500 miles to a safe landing before transhipping to the smaller boats, which will go the remainder of the way up the river.

The 3 steamers Governor Pingree, Philip P. Lord, & New York, of the Boston Alaska Co., which had the contract for carrying a portion of the supplies for the Yukon force, reached Dawson, after many delays, Sep. 25.

Ice was making on the Yukon & there was thin ice at Dutch Harbor when the Portland sailed from St. Michael's, Oct. 11. At least 12 river steamers are stuck on sandbars in the Yukon, & all will probably be lost. The Dawson City is a total wreck. The Herman & Tacoma are aground, & the other boats are in such perilous positions that when the ice breaks up they may go to pieces.

Two Stikine River boats, the Skagit Chief & the Glenora, owned by the Tacoma & Port Orchard Navigation Co., have been sold by auction. Prior to last Spring, & for 10 years past, the Skagit Chief was a familiar member of the fleet of steamers plying between Tacoma & the Sound ports, the steamer being on the Tacoma-Seattle run for years. The Glenora is a new vessel, having been built & launched early in the year. Both vessels were towed through the inland passage & placed on the Fort Wrangel-Glenora run. Both made several successful trips after arriving in the North, & then came the Stikine route "slump." Liens amounting to nearly \$9,000 for labor, material & provisions existed against the 2 steamers. The creditors grew impatient. No relief was offered. At last the matter was taken into the U.S. courts & judgments received. On Oct. 13 Marshal Grant sold the 2 steamers at auction in Tacoma. The Skagit Chief was bid in by L. R. Manning at \$2,600; the Glenora by S. Barber for \$3,975.

The Lake Bennett & Klondike Navigation Co. announces that it will not cut its rates. An official recently said:—"Cheap fares mean cheaper living—canned meat & canned fruit on the bill-of-fare—that is something we won't have. We will feed our passengers with the best that can be bought—everything that is in season—and we will expect passengers to pay a living rate. This rule we will stand by, & when our service begins to be known, then I believe we will be patronized."

The Lake Bennett & Klondike Navigation Co.'s steamer Ameer is to be overhauled at Victoria, so as to provide greater passenger accommodation.

It is said that the North American Transportation & Trading Co., a U.S. concern, has decided to put a fleet of steamers on the Upper Yukon, to run from Dawson to Bennett. An agent of the Co. has been surveying the river.

It is said the Manauense & 2 other steamers will be put on between Vancouver & San Francisco, the Manauense to be the passenger boat & the others principally for freight. The same owners talk of putting on 2 steamers between Vancouver & Skagway, & next spring a river boat on Lake Bennett & another on the Yukon, to run in connection with the steamer James Domville, which Capt. Ferris

says was not nearly as badly injured on the Yukon as was originally reported, & will be able to go to work again when the river opens next year. It is said the owners will ask the city of Vancouver for assistance in the form of a guarantee of 3% on debenture stock & the free use of the city wharf if one is built.

The Maritime Provinces.

J. B. Coyle, Manager of the International Steamship Co., which runs boats between Boston & St. John, N.B., died recently at his home, Portland, Me., aged 57.

The marine slip at Lunenburg, N.S., which opened for work last April, has proved a successful enterprise. It cost about \$19,000, & the earnings so far this season have been upward of \$2,000. Its capacity is 600 tons.

The Steamship Pharsalia Co. has been incorporated under the New Brunswick Joint Stock Co.'s Act, with a capital of \$200,000, for the purpose of owning & sailing a British steamer, the Pharsalia. The incorporators are: R. & P. W. Thomson, Rothesay, N.B.; J. H. Thomson; W. W. Turnbull; J. K. Dunlop, St. John, N.B.; & C. De W. Smith, Windsor, N.S.

The St. John, N.B., city council, has formally adopted a series of resolutions pledging the city to give a free site, exemption from taxation, & a bonus of \$2,500 a year for 40 years, for the proposed graving dock, which is to be of granite & not less than 800 ft. long, with all needful equipment. The grant is subject to the granting of aid by the imperial, federal & provincial governments, the formation of a company satisfactory to the council & the council's approval of the site chosen. The work is to be begun within a year from Nov. 1, & to be completed, if possible, within 5 years, but surely within 10 years.

A. D. Provand, M.P., for Glasgow, Scotland, was in Ottawa recently in the interests of the shareholders of the Chignecto Ship Railway Co. In January last the Government refused to recommend Parliament to grant an extension of time in order that the Co. might earn the Federal subsidy of \$150,000 a year for 25 years. Mr. Provand wants the reinstatement of the Co. in a position that it may secure the annual subsidy, or, failing that, compensation for the capital expended in the enterprise. The Co. considers if this request be not granted that it will, in effect, mean the loss of about £750,000 of British capital expended in Canada.

The Dominion Government has been advised that hereafter navigation between ports of the U. S. & Cuba & Porto Rico will be confined to the vessels of the U.S., or, in other words, that the U.S. coasting laws have been extended to these new possessions of the Republic. The U.S. Customs tariff also takes effect in Cuba & Porto Rico immediately, so that Maritime Province fish will have to face the disadvantages of that tariff. The possession of these two islands by the U.S. means a great deal for Nova Scotia. Last year Canada exported to the Spanish West Indies 215,271 cwt. of salt codfish, valued at \$785,748, & the total trade in fish from Canada to these new possessions of the U.S. is valued at nearly \$1,000,000.

A 1,700 ton steamer that travels 1,500 miles a week on a regular route, with 4 ports of call, & carries an average of 17,000 passengers & 55,000 thousand tons of freight a year, must be popular. When it is added that such a ship has been covering this route for the past 10 years & has never met with an accident nor had a claim for a pound of freight damaged, it follows that she is surely one of the best managed & therefore one of the most successful craft in operation on any line. The ship that holds this record is the Halifax, of the Canada-Atlantic & Plant S. S. Co.,

which plies weekly between Boston, Halifax, Hawkesbury & Charlottetown during the summer, & between Boston & Halifax only during the winter months, when Charlottetown is closed to navigation. The Halifax was built especially for this service under superintendence of Capt. S. R. Hill, who commanded her for several years & is now chief inspector of steam vessels under the Canadian government. After 10 years service she is even better than when she was new, can travel faster, is thoroughly as staunch, & so steady that no vibration is felt in any part of her, even when steaming full speed in a rough sea. She makes the run of 389 knots from wharf to wharf, Boston to Halifax, in from 28 to 31 hours, according to the weather, & always sails on schedule time, no matter what the weather.—Marine Journal.

Ontario & the Great Lakes.

The str. Ontario, of the Beatty Line, has been purchased by Capt. John Cornwall & others, of Port Huron, to be converted into a lumber carrier.

It is said the Hamilton Steamboat Co. is negotiating for the purchase of Oaklands, across Hamilton Bay, with a view to making it a summer pleasure resort.

Hiram Walker & Son, Walkerville, have purchased from the U.S. Government the old revenue cutter Andrew Johnson, which was recently used by the Cleveland volunteers.

The new Welland canal was used for the first time on Sunday this season on Oct. 30, when the steambarge Geo. Spencer, of Cleveland, O., broke 3 of the gates of lock No. 8.

Complaint is made that there are only 12 ft. of water in the Eastern Channel of Toronto Harbor, instead of 16 ft., & that the harbor is simply closed to vessels drawing more than 10 or 11 ft. of water.

The Government dredge, tug & scows have finished their work for this season in Kingston Harbor. They have been at work since May 18, & have made a 200 ft. channel near the M. T. Co's elevator.

The Montreal Transportation Co. loaded the first lot of new Manitoba wheat on one of its steamers at Fort William Oct. 3, comprising about 100,000 bushels. The rate quoted from Fort William to Montreal was 5¼c. a bushel.

The Toronto city officials have deposited in the Public Works Department at Ottawa plans showing the proposed chain ferry over the western channel at the Queen's Wharf, Toronto, with a description of the proposed site.

The Montreal Transportation Company's schooner Kildonan, which went ashore on Nicholson's Island recently, has been released. The Hector is still hard aground, & great difficulty will be experienced in releasing her.

The Donnelly Wrecking & Salvage Co., Kingston, which raised the Rosedale a short time ago, have a contract to raise the barge Puritan, loaded with 200 tons of iron ore, sunk in the channel abreast of Captain John's Island, Bay of Quinte.

An Ottawa despatch says E. F. Johnson, of L'Original, Ont., has organized a company with U.S. capital, & that the steamers Empire State & St. Lawrence will be secured & placed on the route between Ottawa & Montreal next season in opposition to the Ottawa River Navigation Co.

The Star Cole line Co. (Red & White Star line) whose boats run between Detroit & Port Huron, Mich., are about to build a boat to carry 4,500 people. She will be a duplicate of the steamer New York running on the Hudson river between New York & Albany, & will ply on the Detroit river.

M. R. Davis, Kingston, Ont., will, it is said, superintend for Capt. D. Noonan the building of a twin screw steamer, costing about \$20,000, having 30 staterooms, & designed to carry about 300 passengers. It will be built at Westport, Ont., & is intended for service on the Rideau canal.

Capt. C. Lewis has decided to have another steamer built for the Rat Portage-Rainy River line, to accommodate about 40 cabin passengers. There was a large business on this route during the past season. Some 50 small steamers now navigate the Lake of the Woods, being largely employed in the mining trade.

Capt. W. L. Visger, of Alexandria Bay, has been suspended for 3 months by the U.S. Government inspector for disobeying pilotage rules. He was racing with the New Island Wanderer, & would not give the latter the latter the right of way, to which she was entitled, & an accident was averted by the Wanderer coming to a sudden stop.

The steamer Rosedale, that went ashore last year near Kingston, & was abandoned by her owners to the insurance companies, & which was afterwards sold to the Edwardsburg Starch Company, has been purchased by Haggarty & Crangle, Toronto, for, it is said, \$55,000. She is at present engaged carrying grain from Chicago to Kingston.

The str. North King has finished her season's work, showing a remarkable record. During the season she covered over 33,000 miles, with an average speed of 14 miles an hour, without any delays, or the slightest damage to the boat or machinery. The North King was on the Charlotte-Cobourg route from Kingston during the early part of the year.

The returns of traffic through the Sault Ste. Marie canal for Oct. show a further falling off—315 vessels passing through the Canadian lock, as against 404 in Oct. last year. Up to Nov. 1, 3,363 vessels had passed through, a decrease of 510, & a decrease in vessel tonnage of 1,000,000 tons, & of freight carried of 1,750,000. The total freight was 2,657,585 tons.

The Great Northern Transit Co. has had 2 steamers burned recently. On Nov. 3 fire broke out in the G.T.R. freight sheds at Collingwood, & spread to the steamer Pacific moored alongside. She was valued at \$55,000, & insured for \$25,000. On Nov. 7, while the steamer Northern Belle was near Byng Inlet on the return trip from Collingwood to Killarney, fire broke out in the hold, & the crew & passengers had to take to the boats.

Port Stanley harbor was inspected recently by the Minister of Public Works, & to members of the London & St. Thomas councils & boards of trade, who joined him on his visit to the port, he expressed his surprise at the condition of the harbor, & intimated that he would urge upon his colleagues the need of putting it in first-class shape. A cut to change the outlet of Kettle Creek was suggested by the local men as the desideratum.

The Canadian schooner Edward Blake, on which McGarigle made his escape from Chicago a few years ago, lies a charred wreck on Duke Island, south of Manitoulin Island. The Blake was owned by Thomas Mills, a banker of Kingston. She went ashore on the island & caught fire while there, & became a total loss. She was in charge of Capt. John Sidney, of Belleville, & valued at \$3,000. She had no cargo.—Marine Record.

Deputy Minister Schreiber visited the canal works on the St. Lawrence front early in Nov. At the north channel, Farran's Point, & Iroquois, he found that the works during his absence have been proceeding apace. On the Cardinal section Davis & Sons were delayed by bad weather during Oct., but are rapidly making up for lost time. Mr. Schreiber looks

for continuous 14-ft. navigation between Toronto & Montreal by Dominion Day next year.

Next summer there will be lots of competition on the lake for business to the Thousand Islands & Montreal. The Northern Transit Co. has arranged to add 6 steamers to its fleet. Four of these will ply direct between Cleveland & Alexandria Bay, forming a daily line. Two will ply from Port Dalhousie, & passengers for these steamers will be brought by train from Port Colborne. All the steamers will touch at Toronto & Kingston, & form a link in the American Line of daily steamers on the St. Lawrence to Montreal.

The Canadian schooner Selkirk was sighted flying signals of distress off Thunder Bay Island Oct. 19. The life-saving crew went to her assistance, & found that the vessel had 3 feet of water in her hold, & her rudder was gone. She was bound from Fort William to Kingston with 60,000 bus. of wheat, & was being towed by the steamer Rosemount. After entering Lake Huron the tow encountered the northeast gale, & the Selkirk broke away from the steamer. She was towed into Alpena by the tugs John Owen & Frank W. Steam pumps kept her free. Temporary repairs were made to enable her to proceed.—Marine Record.

In an article entitled, "The Great Lakes & Our Commercial Supremacy," in the North American Review, John Foord brings out the fact that while the capacity of the lake freighter has been doubled since 1885, the cost of building & running it has been reduced in ratio of from 30 to 40%. "That is to say, the 5,000-ton steamer of to-day costs only \$5 a ton to build, while the 2,500-ton steamer of 1885 cost \$7 a ton; the coal cost per trip of the 5,000-ton steamer, instead of being double that of the 2,500-ton steamer, does not average 25% more; & while 16 round trips between Lake Superior & Lake Erie ports was considered a good season's work in 1885, 22 round trips are now merely a fair season's work."

The Montreal Transportation Co.'s tug James A. Walker, & 2 barges, Hector & Kildonan, from Charlotte to Kingston, with coal, sank during a gale off Nicholson's Island, 75 miles southwest of Kingston. The tug & tow left Charlotte Oct. 20, & made their course across to Nicholson's Island, where they dropped anchor to ride out the southwest gale. The wind suddenly shifting down the lake, the boats were caught in the sea, & the Walker sank completely out of sight. The consorts broke loose from their anchorage & went ashore at Wellington, 5 miles below. Both barges are full of water, & one of the crew, a Frenchman, named Laduke, of Valleyfield, drowned. The crew reached Nicholson's island in safety. The Walker & her consorts were valued at \$75,000 to \$100,000.

An item has been widely published to the effect that the steamer Empress of India, which is lying in the drydock at Picton, is at present cut up into 3 parts, & that her length will be increased by 45 ft., which will make her 227 ft. long. We are officially informed that this is incorrect. The Lake Ontario Navigation Co. is constructing a new hull for the engines that were in the Empress. It will be composite with heavy steel keelsons & steel plate bilges & steel engine frame. It will be upwards of 200 ft. keel, probably 20 ft. more over all. The new boat, which will not be called Empress of India, will have a saloon with dining room on the main deck, finished in oak, the floor will be cherry & maple, with oak border. She will be equipped with an electric plant of 250 lights capacity, & will have a search light. She will be up to date in every particular, & a speed of 17 to 18 miles an hour is guaranteed. We are informed the new boat will ply out of Toronto. A Kings-

ton telegram, however, says she will go on the route from Rochester, N.Y., to Montreal, & along with the steamer Alexandria will provide a semi-weekly trip. The hull & cabin of the Empress of India have been so cut away that for the present nothing will be done with them.

The Province of Quebec.

The Lac Temiscamingue Navigation Co. has been incorporated by Dominion Letters patent. Capital \$25,000. Head office, Baie des Peres, Que. The incorporators are L. Lacouture, Sorel, Que.; J. O. Blondin, La Baie des Peres, Que.; D. & J. Gillies, Carleton Place, Ont.; and J. Gillies, Braeside, Ont.

The Canadian steamship lines are going this year to have one of the most successful seasons in their history, & at the present time they are obtaining their business right out of Ontario. There is more tonnage out of Montreal this year than ever before in the history of the port; in fact, there are more vessels running out of Montreal to the old country than out of the port of New York. Every boat leaving Montreal is going out with every inch of space taken up, & in some cases they have to leave cargo behind. Rates, too, are higher than usual at this season of the year; in fact, good profitable rates have prevailed all season.

The S.S. Turret Age, of the Black Diamond Steamship Line, bound for Montreal, collided with the U.S. steambarge Lloyd S. Porter near St. Croix, about 40 miles above Quebec, on the night of Oct. 23. The U.S. craft, which was struck full across her bows, filled rapidly, & sank within 5 minutes, only her masts & wheelhouse remaining above water. No lives were lost. Captain Snow, of the Porter, & 11 of the crew escaped in a lifeboat, & landed on the north shore, a short distance above the village of St. Croix. The remaining 5 & the pilot climbed the masts & were rescued by a lifeboat lowered to their assistance by the Turret Age. The responsibility would seem to rest with the U.S. boat, as she lies on the north side of the channel. Ordinarily, she should have taken the south side, & as she only drew about 12 ft. she would be obliged to make way for the larger boat. The Porter lies in about 60 ft. of water, & a contract has been let to raise her.

Chief Engineer Anderson, of the Department of Marine, has reported the result of his examination of the ship channel between Montreal & Quebec, in which a number of steamers have recently grounded. He says the opinion is freely expressed that a good deal of the trouble in the navigation of the river arose from the ignorance of some of the pilots. He voices the belief that a thorough reorganization of the pilotage system is necessary, so as to weed out the poor men, to provide punishments for negligence, drunkenness & incompetency, & to open the system to competition. He declined to discuss the question of deepening & straightening the channel, as it does not come within the control of the Marine Department. Many recommendations for the improvement of the signal service are made. He found no buoys seriously misplaced, but as a result of consultation with representatives of the Montreal Harbor Board he says:—"The feeling is very strong that the buoy service should be under the direct control of the parties interested, either the Government or the Harbor Commissioners of Montreal."

One of the most important sections in his report is that that anchors standing 8 ft. or more ft. above the channel bottom are a danger to navigation, & should be done away with. When they are used, cast-iron sinkers being used to anchor the buoys next year.

EXPRESS MATTERS.

The Banks and Express Orders.

At the recent meeting of the Canadian Bankers' Association, in Toronto, J. H. Plummer made a suggestion towards the simplification of the new money order business, by the issuing banks taking all the commission, instead of its being divided, as now, between the issuing & the paying banks. Out of this arose a discussion, which almost eclipsed the original idea, upon the best means of meeting the competition of the express companies' money orders.

Mr. Farwell, of Sherbrooke, raised the issue. Mr. Charles, of Galt, urged that the banks should stand together against the express companies. Mr. Plummer suggested that the banks should not accept express money orders at par. D. R. Wilkie pointed out that this was once before attempted, but failed, because the banks holding the accounts of the express companies would not concur in such an arrangement. He pointed out also that some of the banks could not refuse express orders, while others did, because their customers, who received a large number of express orders in payment of accounts, would then be at a disadvantage.

It was finally decided that the incoming Executive Council be asked to consider the question of commission on money orders, with a view to displacing the orders issued by express companies, & that they should be asked specially to consider whether a modification of the rules of commission would not be helpful in this regard.

Our advice to the Executive Council would be not to waste time in trying to do something which we look upon as impossible of accomplishment. Express money orders have undoubtedly come to stay, & the public, having become thoroughly satisfied of their convenience, would not be willing to do without them. The express companies went into the money order business, not with a view to compete with the banks so much as to provide a cheap system of remitting small amounts without putting remitters to the trouble and inconvenience involved in the cumbersome red-tape-laden system of the post office money order department. That they have admirably succeeded is abundantly shown by the results. As a matter of fact the express companies do not compete with the banks to anything like the extent which the latter seem to imagine they do. The great bulk of express money orders issued are for small amounts, probably under \$10 each, on which the highest commission charged is 6 c. For this class of business the banks cannot compete. It must not be lost sight of that the express companies have thousands of offices compared to the banks' hundreds. The action of the banks in reducing rates for remittances is an admission that their rates have been too high & is a tribute to the service rendered to the public by the express companies in providing an unequalled system at a minimum cost.

Express Goods in Bond.

The following letter received by the General Manager of the Northern Pacific Express from the U. S. Treasury, explains a recent ruling of the Department:

"The department duly received your letter relative to the action of representatives of the Treasury Department in exacting a separate transportation & exportation bond for each shipment, & stamp tax of 50c. on all such bonds covering entries of merchandise shipped by express through the U.S. to & from points in Canada & British Columbia.

"Your letter was referred to the Collector of Customs at Port Townsend, Wash., who states that consignees or agents are permitted

to include in one entry & bond all consignments of various marks arriving on the same vessel or other conveyance in transit through the U.S. when destined to some port or place in Canada.

"Bonds of the above description are those required of a consignee or agent, in accordance with the provisions of Article 432, Customs Regulations, 1892, & are separate & distinct from the class of bonds of common carriers, under the act of June 10, 1890, so that your bond as a common carrier cannot be substituted for the bond required of you as consignee or agent of transit goods in order to avoid the payment of the stamp tax on the latter class of bonds, under act of June 13, 1898.

"Inasmuch as the action of the Collector in this case is sustained by a ruling of the department under date of June 30 last, prescribing a stamp tax of 50c. for each bond on all bonds with sureties taken by the Collector in the transaction of customs business, no relief can be afforded you in the premises."

The Canadian Express Co.

Offices have been opened at Loggieville, N.B., & St. Eloie, Que.

The merchandise rate from Seattle to Dyea, Juneau, Sitka, Skagway & Wrangel has been changed to the following:

1 lb. & under	50c
Over 1 lbs. to 2 lbs	75c
" 2 " " 5 "	1.00
" 5 " " 20 "	1.25
" 20 " " 30 "	1.50
" 30 " " 40 "	1.75
" 40 " " 50 "	2.00
" 50 " 4c per lb. Minimum charge	50c

Rates on mdse. between Seattle & Dawson City, Yukon, at which an office has been opened, are:

2 lbs. & under	2.00
3 "	2.25
4 "	2.50
5 "	2.75
7 "	3.00
Over 7 lbs. up to 10 lbs	3.50
" 10 " " 15 "	4.00
" 15 " " 20 "	4.50
" 20 " " 25 "	5.00
" 25 " " 30 "	6.00
" 30 " " 35 "	7.00
" 35 " " 40 "	8.00
" 40 " " 45 "	9.00
" 45 " " 50 "	10.00
Over 50 lbs. 20c per lb. or \$20.00 per 100 lbs.	

Packages exceeding \$50.00 in value will be charged 2 p.c. additional for valuation. Marine insurance of 1½ p.c. covers to sea ports only & not to inland points.

The Western Express Company.

L. L. Stesneth has been appointed Route Agent, with headquarters at Marquette, Mich., vice H. E. Gilmore, resigned.

It has been agreed between the Great Northern Pacific & Western Express Cos. to put in effect from St. Paul, Minneapolis & Duluth the plan already in force from Chicago & Milwaukee for the handling of collections of ordinary bills, accounts, drafts, notes, etc., for sums of \$100 & under, not requiring protest, from manufacturers, publishers & others having a large number of collections yearly, at greatly reduced rates. These special rates are not intended to supersede those in force heretofore, except upon collections forwarded from St. Paul, Minneapolis or Duluth destined to points on W. E. Co.'s lines having outward charge, prepaid 10 cents upon each item for collection.

In view of the recent plebiscite in Canada it is interesting to read the following from a circular recently issued by this Co.:—"Within

the State of North Dakota the law prohibits the transportation of wines, liquor, ale, beer or other similar properties, & agents must refuse such shipments. A recent decision of the U. S. Supreme Court, however, makes it lawful for transportation companies to carry such articles, C.O.D. or otherwise, for delivery within the State of North Dakota, if such shipment originates outside of the State."

A Yukon Express Co.

The following notice has been posted up in Dawson City, Yukon:—

The Northwest Mounted Police,
Dawson, August 23, 1898.

To whom it may concern:

The Yukon Mail & Express Delivery Co. is going to endeavor to establish a service for the delivery of mail in the town of Dawson & on the creeks adjacent to Dawson. They have interviewed me regarding this service, & I have agreed to assist them in any way I can in giving them letters for those who may wish to avail themselves of this accommodation for a small charge. This is entirely voluntarily on any one's part who may wish to obtain their mail through this source & is done entirely for the public benefit. As a good deal of expense will be incurred in connection with this delivery, I have given the within mentioned the sole right of this delivery for the time being.

FRANK HARPER, Postmaster, Dawson.

The Arctic Pacific Express Co.

On returning from a recent trip to Alaska, M. G. Hall, Superintendent of the Western Division of the Northern Pacific Express, & General Manager of the Arctic Express Co., said:—"I have established joint agencies for the Arctic Pacific & the Northern Pacific Express Cos. at Dawson, White Horse, Tagish & Lake Bennett; that is, the same agency handles the business of the two companies. The office at Skagway was established a year ago, with H. E. Battin as General Agent for the other agencies in that whole Northern country. The Arctic Pacific Express Co. was established 3 years ago, having offices at Wrangel, Juneau & Sitka, the Skagway office not being established until a year ago. The express messengers on the steamers, however, accept & deliver packages at all way stations en route."

TELEGRAPHS & CABLES.

The Pacific Cable.

A London, Eng., cablegram of Nov. 1 says:—"Little, if any, progress has been made with the Pacific cable question since the Australian colonies expressed to the joint conference the view that the proportion of cost should be Australasia four-ninths, & Britain & Canada together providing five-ninths. The Canadian Government, I am assured, would be glad to see the scheme fulfilled, but they contend that the smallness of the Canadian commercial interests with Australia would not justify the suggested Canadian contribution of two-ninths, as against Great Britain's three-ninths. There is no doubt felt that if Canada is really in earnest in desiring to have a cable, & if she insists on this point of the proportion, Mr. Chamberlain would induce the Treasury to make the British share more than three-ninths, but if the scheme is not to collapse utterly before pushing rival schemes come into the field, it must be urged forward promptly & resolutely."

In the Fortnightly Review C. Bright, F.R.S.E., answers the question, "Who blocks the Pacific cable, & why?" He says:—"Thanks to the energy of Sir Sanford Fleming &

Canadian statesmen, all physical obstacles are now proved to be easily surmountable. Even the Colonial Office conference of 1896, after carefully examining experts during a 6 months' session, adopted a report on the whole in favor of the all-British Pacific line. Yet no steps towards realization have yet been taken—and why? The answer, says Mr. Bright, "is because the Admiralty reported against it, thus affording the Treasury a loophole. The Admiralty appear to have taken this step in view of the tempting bait offered them at that moment by the allied telegraph companies (opposed to the Pacific scheme) of connecting up 2 important naval stations, in the course of another proposed 'all-British' line. Having in mind the improbability of the Treasury taking up both schemes, the Admiralty was of opinion—perhaps, naturally, from their immediate point of view—that the preference should be given to the route via Gibraltar, Ascension & St. Helena." How the Admiralty can defend strategically a cable which runs right into the midst of our enemies' seas as this Gibraltar-St. Helena line must do, we fail to understand. It would be difficult to conceive a line which more completely came within the assertion Lord Wolseley once made in reference to the Mediterranean & Red Sea cables, that "to depend on lines so placed is not only unwise but suicidal." They would be cut by the foreigner at the very outset of war—and then? The all-British Pacific cable is free from nearly all such risks. It would be in deep water, in the open broad ocean, far away from other European powers, & would have but few ends, all of which could be kept strictly under British surveillance.

A Line to the Yukon.

At last session of the Dominion Parliament J. M. Catton & W. S. Rainbow, of London, Eng., & C. T. Dupont, of Victoria, B.C., were incorporated as the Dawson City & Victoria Telegraph Co., with a capital of £200,000, & employed to construct & operate telegraph & telephone lines by cable, or otherwise, from Victoria by way of Telegraph Creek & Teslin Lake to Dawson City.

A charter was also granted to Lord Thurlow, T. Van Puten, & E. Friedburg, of England, W. Braid & W. Naismith, of Vancouver, B.C., A. Haley, of Windsor, N.S., & I. Burpee, of St. John, N.B., as the Northern Commercial Telegraph Co., with a capital of £100,000, to construct & operate telegraph & telephone lines by means of cables through the waters of the west coast of B.C., with connecting land lines, so as to connect Vancouver with Dawson City.

In our last issue it was mentioned that J. Roche, a British M.P., had been in Ottawa in connection with a scheme to provide the Klondike with telegraph communication, but we have been unable to obtain any later or more definite particulars.

It was recently telegraphed from Ottawa that the Dawson City & Victoria Telegraph Co. above-mentioned had arranged for construction work to commence immediately, that a cable would be laid from Vancouver to Skaguay & a land line thence to Dawson. We have been unable to secure a confirmation of this.

At the same time it was announced from Ottawa that at next session of Parliament the Minister of Public Works would ask for an appropriation to build a telegraph line to the Klondike via the Ashcroft Cariboo route. The Government now has a line from Ashcroft, on the C.P.R., to Barkerville, 276 miles. This line was built as far as Quesnelle, in the Cariboo country, in 1895; it will be found described in our Aug. issue, pg. 167. Mr. Tarte's scheme will, it is said, provide for the extension of this line over the route originally projected in the 60's to Telegraph

Creek, thence to Teslin Lake, from which point cables will be used in the rivers & lakes to Dawson, as it is thought they would be less liable to interruptions than a land line. In response to an enquiry, Mr. Tarte informs us he is unable to make any statement about the matter at present, as the Privy Council has not come to any decision about it.

In this connection we may state that President Dwight, of the G.N.W. Telegraph Co., Toronto, recently received a cablegram from a Mr. Helm, of London, Eng., asking him to quote a figure for building a line from Dyce to Dawson & for maintaining it for a year. It is hardly necessary to state that Mr. Dwight was not prepared to give such an estimate off hand.

Western Union Telegraph Company.

In addition to the particulars given in the report of the annual meeting of this Co. in our last issue, pg. 223, it may be stated that the capital stock outstanding is \$97,370,000, of which \$28,850.35 belongs to & is in the treasury of the Co. The bonded debt on June 30 was \$15,356,282, from which has to be deducted the balance of sinking fund appropriations not yet used for redemption of bonds, \$497,406.48, making the net bonded debt, \$14,858,875.52.

The balance sheet to June 30 was as follows:

ASSETS.	
Telegraph Lines; Stocks owned of leased telegraph companies that are merged in Western Union Co.'s system franchises, patents, etc.	\$102,969,201 75
Stocks and bonds of leased telegraph companies, received in exchange for collateral trust bonds.	8,502,000,00
Stocks of not leased telegraph companies, and other securities.	8,023,068 34
Real estate.	4,977,933 74
Supplies and material in supply departments.	149,162 50
Sundry accounts receivable, etc.	2,606,836 60
Cash in treasury and in hands of agents (since remitted to treasury)	2,142,603 48
Sinking funds for redemption of bonds	497,406 48
	\$129,807,312 80
LIABILITIES.	
Capital stock	\$97,370,000 00
Funded debt	15,356,282 00
Gold & Stock Telegraph Co. for stocks of other companies held through lease of that Co. until 1881.	1,050,600 00
Sundry accounts payable, etc. (including dividend July 15, 1898)	5,023,011 74
Surplus of income prior to Oct. 1, 1881, appropriated for construction & acquisition of telegraph lines & property (in excess of the \$15,526,590 capital stock distributed in 1881, on account of such appropriations of income during the 15 years preceding)	1,393,184 03
Surplus of income subsequent to Oct. 1, 1881 (\$7,333,425.21), plus the proportion of surplus of income prior to Oct. 1, 1881 (\$629,759.91), that was not appropriated as above	7,963,185 14
	\$129,807,312 80

The Railway Telegraphers.

For some time past there has been a good deal of matter in the daily press in reference to the contemplated demand of the G.T.R. telegraph operators for a new arrangement with the Co. A committee of the operators has been in session at Montreal for some time, & it is said that they will ask for a similar agreement to the one in force between the C.P.R. & its operators, which provides for a fair trial before suspension or discharge; right of promotion by merit & ability, but, these being equal, by seniority; that telegraphers will not be discriminated against for serving on boards of adjustment representing telegraph employees; permission to attend their meetings, & free transportation for that purpose; free transportation when transferred; full pay & expenses when called upon by the proper official to attend court or investigation; compensation for attending switch & semaphore lamps; exemption from shovelling snow; exemption

from Sunday work as far as possible consistent with the requirements of the service; percentage on commercial business, hours, overtime & wages, & numerous minor details of regulations. Grand Chief Powell, of the Order of Railroad Telegraphers, with headquarters at Peoria, Ill., has been in Montreal in consultation with the operators.

Mr. Powell recently had an interview with the Minister of Railways in Ottawa in reference to the operators on the Intercolonial, who complain that they are poorly paid, & that they are not secure in their positions, owing to political partisanship charges being raised to vacate positions to accommodate friends of whatever party may be in power. Mr. Powell states that the alleged grievances have been arranged on a satisfactory basis.

Mr. Powell also saw General Manager Chamberlin, of the Canada Atlantic, & is said to have made a satisfactory arrangement regarding the telegraphers on that system.

Vancouver's Telegraph Facilities.

The Pacific Terminal City people are immensely pleased with the telegraph facilities they enjoy. The News Advertiser says Vancouver holds the foremost position on the Pacific Coast as a centre for the receipt & handling of telegraphic news & business. No other city on the Coast, not excepting San Francisco, it is believed, can rival Vancouver in its facilities for handling & transmission of telegraphic communications. Two companies operate in the city—the C.P.R. Co. & the G.N.W.T. Co. The latter is the only company having direct telegraphic service to points in Mexico.

The C.P.R. has 3 through & 3 local wires to Eastern points. The main (copper) wire is worked duplex direct to Montreal; the other 2 to Winnipeg. One local is worked direct to Rossland, Nelson & other Kootenay points, & the 2 others to points on the main line between Donald & Vancouver. To Victoria it has 2 direct wires, & a third one is about completed. To points on the Coast there is a direct quadruplex connection with San Francisco & Portland, & 3 wires—one via Victoria—to Seattle & intermediate points.

The cable business is handled with but one repetition between Vancouver & the Commercial Cable Co.'s office at Canso, N.S., thus ensuring promptness & accuracy in transmission.

Canadian Pacific Railway's Telegraph.

Extensions & improvements in the Co.'s service are the order of the day in the Kootenay district of B.C. Two additional wires have been strung between Trail & Rossland, making 3 in all. On Oct. 22 the first through wire via the Crow's Nest Ry. was completed, thus affording a duplicate line between Medicine Hat & Revelstoke. Another wire is to be added on the Crow's Nest route. There are 2 lines running north from Nelson to the main line of the C.P.R. One of these runs via Slocan City & New Denver, & the other via Kaslo & Three Forks. These meet at New Denver & then go to Nakusp, to Arrow Head & on to Revelstoke. With these means of telegraphing there will not be much chance of all the lines getting down at one time during the winter.

The Co. has discontinued its boxes in Winnipeg for calling messengers, & announces that it will send messengers in response to telephone requests. The City Electrician says the wires for the call boxes were constantly coming in contact with electric light wires & causing fires in buildings.

The Co.'s operators at Winnipeg have established an institute containing a reading room & library. Means will be afforded for the study of electricity.

Telephoned Telegraph Messages.

The Michigan Supreme Court has decided that the Western Union Telegraph Co. is responsible for failure to promptly transmit & deliver a telegraphed message, though it is a failure of the complainant's address. The complainant had telephoned to the company and had no authority to receive the message by telephone, & that in so doing he was acting as agent for the complainant, but the court held that the use of a convenience like the telephone should not be entirely at the risk of the patron.

Telegraph Office Changes.

GRAND NORTH WESTERN.

OPENED: East Broughton, Que.

CLOSED: Avonmore, Ont.; Bamberg, Ont.; Chateau Richer, Que.; Kiskisink, Que.; Port Albert, Ont.

The North Shore Telegraph Line from Quebec to Labrador has been extended this year to Big Romaine River, 76 miles below Natashquan, & 60 miles below Murray Bay. An office has been opened at Big Romaine, & work is still going on farther east with the intention next season of extending it to Belle Isle. The extension to Belle Isle is in response to a memorial from the masters of nearly all the steamships engaged in the St. Lawrence trade, in order that, in case of accidents to vessels, the nature of such accident may quickly be made known & assistance sent to the scene.

The Postal Telegraph Co., which at present reaches Rossland, B.C., via the Canadian Pacific wires, has made arrangements with the Inland Telephone Co. so that it will use the latter's poles in extending the Postal wires into Spokane. The change will mean a lively competition for Spokane business between the Spokane & Northern Telegraph Co., which is now in the field, & its new rival.

TELEPHONE MATTERS.

Recent Legal Decisions.

A city street 66 ft. wide had upon it, near an angle formed by the sharp turn in the road, a telephone pole planted 12 ft. from the centre line & far enough from the side-walk so that there was a beaten track for carriages between the two. The horses attached to a sleigh which were being driven in daylight up & down the street for the pleasure of the occupants. The driver lost control when approaching the pole, but at some distance from it & before reaching the angle. In making a turn the horses & sleigh swung round, bringing the latter against the pole, overturning it, whereby the horses and sleigh were damaged & bodily injury was caused to one of the occupants. Mr. Justice Ferguson, of the Ontario High Court, recently held that the pole was an obstruction on the highway, which at this point, from this cause alone, was out of repair, & not in good or reasonable repair, & the city corporation having notice & knowledge of the obstruction, & of its dangerous character, were liable in damages for the injuries sustained, there being no contributory negligence. It seems that driving a horse that has run away before, as one of a pair of horses, is not of itself negligence contributory to the disaster. Held also upon the evidence that the pole was planted where it stood under the superintendence of the Corporation, & with their sanction, & they could recover indemnity from the Telephone Co. by whom it was erected.

The Bell Telephone Co. & the City of Hamilton.—In assessing, for purpose of taxation, the poles, wires, conduits & cables of the telephone company, the cost of construction, or the value as part of the concern, is not the test; they must be valued in the assessment division in which they happen to be, just as materials which, if sold or taken in payment of a just debt from a solvent debtor, would have to be removed & taken away by the purchaser or creditor.

The Longest Long Distance Line.

A feat in telephony, marking the farthest advance yet in the science, was recently accomplished by talking over the wire from Boston to Kansas City. The distance is about 1,560 miles, & it is the longest distance ever covered by a single telephonic circuit, & was supposed to be impossible a few years ago. The eastern district superintendent of the New England Telephone & Telegraph Co., managed the affair, assisted by the chief operator. They succeeded in making themselves easily understood over such an enormous stretch of land. The wires over such very long distances are known as no. 8, with only 4 ohms resistance to the mile, as opposed to no. 12 wires, with 16 ohms resistance, used in such short stretches as from Boston to New York. One end of a wire connects to one side of the transmitter & then is connected with a small battery of 2 volt power. A wire from the battery goes through a primary coil, thence to the other side of the transmitter. A secondary coil, also in the transmitter, is connected on one end to the line, on the other end to the receiver & also to the line, & the talking is done by the agency of an induction current from the primary to the secondary coil. The mechanical details are only important to a lay observer as indicating the extreme complexity of the process of conveying the vocal vibrations successfully, & the necessity of lessening the resistance to the smallest possible terms. The gap from Boston to Kansas City is thought to be near the extreme limit of successful transmission through the telephone, & much longer distances are only expected when some repeating system is devised, when, as with the telegraph, nearly any practicable distance is feasible. Talking from Boston to Chicago has been an old story for some time, & it was only recently that the right sort of wire connection was obtained to Kansas City; that is, the big no. 8 wire. The route followed was via Troy, Buffalo, Chicago & St. Louis.

San Francisco to Nelson, B.C.

The longest section of the Sunset Telegraph & Telephone Co.'s telephone line that is to extend from San Diego, Cal., to Nelson, B.C., has been completed & works splendidly. The section of the line completed is that extending from San Francisco to Seattle, which was recently opened for business. Speaking of the new line, F. C. Millard, the Superintendent at Seattle, Wash., said recently: "I have tried the line between New York & Chicago, & I consider this line a good deal better. We have all the latest improvements. In testing the line with the President of the company, I could tell at once who was talking, so clear was the sound. The Assistant General Manager 'came on the line' during the test, & I recognized his voice after he had uttered but a few words. The Eastern line, that from New York to Chicago, charges \$9 for 3 minutes or less conversation. Our charge will be only \$2.50 a minute, but the distance is just as great."

The right of way was secured along the country roads which parallel the railways in California, Oregon & Washington, & the highways were used as much as was practi-

cable. Twelve different construction gangs have been at work for 6 months. The wire weighs 430 lbs. to the mile, & 2 wires are strung the whole distance, for the latest type of long-distance transmitters is used, & the circuit is double metallic. The estimated cost of the line is \$250,000.

From Seattle to San Francisco the lines run almost south in direction, & Portland & Tacoma can be connected. The Siskiyou mountain range is crossed in Oregon & California. Here men will have to be stationed along the more exposed parts of the line, so that in time of storms communication will not be interfered with.

Telephone Notes.

The British Columbia Telephones, Ltd., was registered in London Eng., Oct. 8, with a capital of £100,000, in £10 shares (of which 3,000 are £6% cumulative preference) to acquire any telephone lines in British Columbia or elsewhere in Canada, & any shares in telephone companies, to enter into an agreement with the New Westminster & Burrard Inlet Telephone Co., & to carry on the business of telephone & telegraph proprietors in all its branches. The number of the directors is not to be less than 3, nor more than 7. The first are: E. Gray, F. Priestman, J. Wheatley & W. Farrell. Qualifications £500. Remuneration as the Co. may decide. It is said the B.C. Telephones Ltd., has bought out the local shareholders of the N.W. & B.I. Telephone Co. The Co. has about 700 miles of wire in Vancouver. At least 100 miles were lost in New Westminster by the recent fire, but the Co. has had a large force at work & has replaced the system as far as can be done till the burnt district is built up again.

Hamilton & Dundas.—There was a rumor current in Hamilton, Ont., recently that the Bell Telephone Co. proposed charging Hamilton subscribers for Dundas service. The officials deny it, & explain that the only instruction issued lately has been that pay stations shall collect a fee from non-subscribers for Dundas service.

The Inland Telephone Co. will, it is said, extend its system into Rossland at once. A line will be strung to Rossland from Spokane, where connection will be made with the trunk wires of the system. The poles have already been erected from Spokane as far as Northport, & are being carried into Rossland with all possible speed. The Inland Telephone Co. is a part of the big Bell Trust, & has a telephone system now in Spokane covering that town completely. With the Inland lines connected with Rossland, it will be possible to have telephonic connection with the entire Pacific Coast. The Inland Co., when it reaches Rossland, will have active competition in the Spokane & B.C. Telephone Co., which already connects Rossland & Republic camps with Spokane.

Nova Scotia & New Brunswick.—It is said that the double-metallic circuit, recently established jointly by these two telephone companies between St. John, N.B., & Halifax, is working very satisfactorily.

The Roberval (Que.), Telephone Co. has been incorporated, capital \$10,000.

Toronto City Hall.—The Bell Telephone Co. submitted an offer for the telephone service of the new City Hall. The Local Manager recommends the local switchboard system, & offers to complete the service for an annual subscription of \$1,750, this offer only applying under a contract of not less than 5 years, because of the large initial expenditure. The cost of the present City Hall service is \$1,017.50. In addition there will be the salary of an operator at the new City Hall exchange station, probably \$400 or \$500 a year.

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Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
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VOL. I. No. 10.

TORONTO, CANADA, DECEMBER, 1898.

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THE Railway and Shipping World

Devoted to Steam & Electric Railway, Shipping, Express, Telegraph & Telephone Interests.

VOL. I., NO. 10.

TORONTO, CANADA, DECEMBER, 1898.

\$1 A YEAR.

The President of the C.F.A.

Chas. J. Smith was born at Hamilton, Ont., March 10, 1862, & was educated at Hamilton High School & Wentworth College. He entered the railway service in 1879, since which he has been consecutively, 1879 to 1880, clerk local freight office Hamilton & North-western Ry. at Hamilton; 1880 to 1882 with Audit & Purchasing Department Chicago & Alton Ry.; 1882 to May, 1885, in Construction Department C.P.R.; June, 1885 to 1886, in Traffic Department New York, Lake Erie & Western Ry.; 1886 to 1888 Chief Clerk to General Manager Chicago & Atlantic Ry.; Jan., 1888, to July, 1888, in Traffic Department Sault Ste. Marie Line; July, 1888, to Jan., 1890, in Traffic Department St. Paul, Minneapolis & Manitoba Ry.; Jan., 1890, to April 30, 1898, General Freight & Passenger Agent Canada Atlantic Ry., & appointed General Traffic Manager Canada Atlantic System May 1, 1898. Mr. Smith has for several years been a prominent member of the Canadian Freight Association, of which he is now President.

Politics & the Intercolonial.

Mechanical Superintendent Joughins occupies a house at Moncton, adjacent to the General Offices, & owned by the Government. The fact that the plumbing is being replaced by a more modern system, is used by Opposition papers or political purposes, & it is gravely stated that if this is a specimen of Mr. Joughins' economy increasing deficits may be looked for on the I.C.R. We have no mission to defend the Minister of Railways, that is a matter that can be attended to by the Liberal newspapers, but as representing the railway interests of Canada we must protest against such a style of political warfare. Mr. Joughins went to the I.C.R. with an excellent record. We know that in the Master Mechanics' Association, composed of the chief mechanical officers of nearly every road in America, he stands very high as an authority, & we think he should get fair play from the political newspapers. If he is not hampered by political interference, he will, we are satisfied, make a good record on the I.C.R., & if given a free hand, as he should be, we think he would make a marked & much-needed improvement in the general condition of the equipment in a very short time.

Politics are the curse of Canadian Government railways. With the Liberals in power, the Conservative press attacks almost every act of the management. With the Conservatives in power the Liberal press followed a similar policy. As long as this state of affairs, aggravated by similar conduct of members in Parliament, continues, so long will the permanent officials be hampered in their work & prevented from making the service as efficient as it should be. A Government

which would have the courage to change the present system, to clothe the officials with full powers, & to remove them from the sphere of political interference, would perform a service of unbounded importance. That such a step will be taken this side of the millennium is, however, very unlikely.

Alberta Railway & Coal Co.

At the recent annual meeting in London, Eng., the following directors were re-elected: E. T. Galt, Lethbridge, Alta., President; Col. K. R. B. Wodehouse, London, Vice-President; W. Burdett Coutts, M.P., E. Crabb, Hon. T. C. Farrer, & E. Waterhouse, Lon-



CHARLES J. SMITH.

don; Sir R. W. Cameron, New York, W. M. Ramsay, Montreal, T. Davidson, Montreal, having declined re-election, H. Joseph, Montreal, was elected in his place. Following are extracts from the annual report:

The Lethbridge-Dunmore section of the railway was taken over Dec. 31 last by the C.P.R. Co. in terms of agreement, & the purchase money received. Out of the purchase consideration the Canada Life loan of \$550,000 was repaid, & £2,907 15s. 6d. appropriated towards paying of a portion of the "B" debenture stock.

The business of the Co. during the year was satisfactory. The coal sales in Canada

reached 96,964 tons as against 76,371 the previous year. The Montana coal sales amounted to 38,735 tons compared with 39,809 tons, but the general freight earnings, apart from coal traffic, of the Montana railway were \$64,383.77 against \$38,138.15. This increase of business is mainly attributable to the improved commercial conditions prevailing in the Northwest.

There is a net credit balance in the balance sheet of £6,453 19s. 8d. By a resolution of the "A" debenture stockholders, passed in 1896, it was provided that "during the period of 5½ years ending June 30, 1900, the interest on the 'A' debenture stock shall be non-cumulative, & shall only be payable in respect of each year, exclusively out of the surplus net revenue of the Co. for that year," & it was further provided that subject to the provisions in the resolution, "the Co.'s auditors shall each year certify the amount of the surplus net revenue applicable for payment of interest in respect of that year to the 'A' debenture stockholders, & the same shall be paid to them pro rata forthwith." The auditors have certified that £6,453 19s. 8d. can now be divided amongst the "A" debenture stockholders, or equivalent to £2 11s. 6d. % on the £250,000 of "A" stock. Warrants in payment of interest at that rate have been sent to the "A" holders.

Coal sales since June 30 last, both in Canada & Montana, are better than for the same period last year. The general freight earnings are also larger.

The Crow's Nest Pass extension of the C.P.R., now about completed, will bring Lethbridge into direct communication with the Nelson, Slovan & Rossland mining districts. The President reports that the Co. has not benefited to any great extent from the construction of this extension, for the reason that it has not yet reached these mining districts; but he is of opinion that upon its completion increased passenger business on the Montana railway may reasonably be looked for, as there should be considerable travel between Montana & B.C., both being important mining countries.

For a considerable time past the directors have given their closest attention to projects having for their object the irrigation & colonization of the lands. Their efforts have met with a measure of success. The Alberta Irrigation Co. was some time ago incorporated by the Dominion Parliament, with a capital of \$400,000, & of this \$200,000 have within the last few months been issued & subscribed for in cash. After a special inspection & report by J. Head & Son, a contract has been entered into between the Alberta Co., the Lethbridge Land Co., & the Alberta Irrigation Co., whereby the 2 first-named companies have in effect sold to the last-named Co. 100,000 acres of land at \$1.25 an acre, payable in instalments, with the right to the Irrigation Co. to purchase up to an additional 150,000

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TORONTO, CANADA, DECEMBER, 1898.

TO ADVERTISERS.

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NEXT ANNUAL MEETING at Toronto, Sep. 20, 1899.

Canadian Ticket Agents' Association.

PRESIDENT, W. E. Rispin, Chatham, Ont.; 1st VICE-PRESIDENT, S. O. Perry, St. Thomas, Ont.; 2nd VICE-PRESIDENT, G. Duncan, Quebec; 3rd VICE-PRESIDENT, W. H. C. McKay, St. John, N.B.; SEC.-TREAS., E. de la Hooke, London, Ont.; AUDITOR, S. H. Palmer, St. Thomas, Ont.

EXECUTIVE COMMITTEE, J. A. Macdonald, Arnprior, Ont.; W. H. Harper, Chatham, Ont.; C. E. Morgan, Hamilton, Ont.; T. Long, Port Hope, Ont.; A. Calder, Winnipeg.

NEXT ANNUAL MEETING at Winnipeg, Oct. 13, 1899.

acres at the same rate an acre, the right to be exercised on or before July 1, 1901. The Irrigation Co. has commenced operations, & it is anticipated that before the end of 1900 a large area of land will be irrigated & capable of raising good crops. The directors are of opinion that the Alberta Co.'s business should be considerably benefited by the work of the Irrigation Co., whose object it is to effect not only the irrigation but the colonization of the lands. It seems clear that with the successful irrigation & settlement of the lands sold to the Irrigation Co., the remaining lands be-

longing to the Alberta Co. & to the Lethbridge Land Co. should become more valuable & saleable, & the coal sales & traffic of the railway should be increased.

The revenue account for the year ended June 30, 1898, is summarized as follows:

By balance on following accounts.	£	s.	d.
Railway & colliery.....	21,499	4	0
House rents & water privileges.....	352	16	8
	£21,762	0	8
To general expenses in Canada.....	£	s.	d.
" expenditure in London.....	3,656	10	10
" expense sale old rails & rolling stock & repairs to old rolling stock.....	1,183	13	10
" legal & other expenses re transfer to C.P.R. Co. of Lethbridge-Dunmore Ry.....	462	18	7
" taxes.....	425	10	5
" trustees' remuneration.....	1,013	6	11
" directors' fees.....	200	0	0
" exchange on cheques & bank charges.....	900	0	0
" interest on loan from Canada Life Co.....	164	6	6
" interest on loan from Canada Life Co.....	3,107	17	6
" interest on prior debenture stock.....	4,000	0	0
" balance carried to balance sheet.....	6,647	16	1
	£21,762	0	8

Manitoba & Northwestern Bondholders.

At a meeting of 1st mortgage bondholders in London, Eng., Nov. 11, Col. F. D. Grey, one of the trustees, who presided, gave a history of the Co. since their connection with it, showing that in 1896 the Co., under powers received from the Dominion Parliament, made an issue of mortgage bonds to the amount of £540,000. The Manitoba Legislature made the Co. a grant of 6,400 acres of land for every mile of road completed; thus, on the completion of the 1st section, 180 miles in length, there were 1,152,000 acres, less 74,000, which had previous to the bond issue been sold by the Co., which might be considered included in their mortgage as additional security. In 1893 immigration was practically at a standstill, & default in the payment of their interest on the bonds was made on June 1 of that year. He then referred to the litigation which ensued, the funds for which were raised by six-sevenths of the bondholders entrusting their certificates to the committee appointed. The action was, however, still pending. The land question was now, he believed, settled upon terms on the whole satisfactory. It appeared that the Railway Co. had sold some acres of land, & had received part of the purchase money for the same. It had been arranged that the Railway Co. should find the warrants for 1/2 of this land, & warrants for the remaining 1/2 should be found by the Trustees, they being paid \$2.30 an acre, the average at which the whole of the land was realized. Clients of Coates & Co., in Canada, had offered to purchase, en bloc, the certificates issued by the bondholders' committee, thus obtaining the bonds represented by the certificates, & the offer had been accepted by the owners of the certificates. The committee consequently deemed that their duties had come to an end, & that it was incumbent on them to retire. As Mr. Coates, the Chairman of the committee, was no longer a bondholder, it might be that this action would not be continued by him; at any rate, some of the bondholders—the outstanding one-seventh—might desire to be represented on those proceedings, & therefore he had thought it right to call them together, so that if they thought it desirable they might combine & take such steps as might be necessary for the purpose. They had instructed Ewart, Fisher & Co., their solicitors in Manitoba, to represent the matter properly to the court, but they might consider independent action desirable.

It was afterwards agreed that the bondholders who had not supported the committee in their action should meet & consider whether they should become parties in the suit, as suggested by the Chairman. They after-

wards met in private, & as a result, a circular signed "Randall Mercer, Chairman of the Committee" & marked "urgent" was issued on Nov. 22 to the English holders of the bonds. The circular says: "As an action is now pending in the Canadian courts for foreclosure & sale of the railway, it seemed to those of the holders of bonds in this country who attended the recent meeting that, unless the remaining English bondholders speedily arrange to be officially represented at this juncture, they may find when too late that the property which has been mortgaged to them in conjunction with the other holders of bonds has been parted with for such a sum as will yield an inadequate—possibly an infinitesimal—return for the moneys loaned by them to the Co. Under these circumstances, the bondholders who attended the meeting elected certain of their number to constitute a committee to watch over your interests & take such action at once & from time to time as, in their judgment, may appear desirable to protect them. The committee beg that you will, in your own interest, give them your support, & enable them to act promptly. It is hoped that when the purchasers of the majority of the bonds have the facts placed before them they may see their way to offer at least the same terms to the minority as were obtained by the majority, & every effort will be made to bring about an amicable settlement. At the same time the committee desire to be empowered to enforce their rights, should they deem it in your interests to do so, by taking legal proceedings. If you are still a bondholder, will you communicate to us, by return of post if possible, the amount of your holding & the distinctive numbers of your bonds; but, if you have already parted with your bonds, will you kindly communicate to us the name & address of the buyer, or of the banker or broker through whom they were sold?"

A Duluth S. S. & A. Suit.

A suit has been begun in the U.S. Circuit Court by J. E. Burwind, on behalf of himself & other stockholders of the North Star Construction Co., against the C.P.R. Co., the Duluth, South Shore & Atlantic Ry. Co., & Sir Wm. Van Horne, to compel them to make an accounting of their management of the North Star Construction Co. & other companies under its control, & to pay over all profits accruing from such management.

The plaintiff alleges that the N. S. Construction Co. was organized under the laws of New Jersey in 1888 for the purpose of constructing the Minnesota line of the Duluth & Winnipeg Ry. The construction company was to receive payment in the bonds & stock of the railway company. In 1892 a majority of the stock of the construction company was transferred or sold to the C.P.R. through Sir Wm. Van Horne, he agreeing to pay the debts of the construction company, & to hold the stock sold through him until bonds of the construction company could be marketed & the amount of the debts repaid with the proceeds.

The construction company gave a promissory note for \$710,000, secured by the assets, bonds & stocks of the Duluth & Winnipeg Ry., the North Star Iron Co. & the Duluth & Winnipeg Terminal Co. In Nov., 1894, a demand was made by the C.P.R. Co. for the payment of the note, in alleged violation of the agreement on the part of Sir William to hold the stock. The Board of Directors of the construction company, elected through the influence of the C.P.R. Co., the complainant alleges, notified the C.P.R. representative, who had demanded payment of the note, that they could not pay it, whereupon all the securities deposited by the construction company were sold & bought in by the repre-

sentative of the C.P.R. Co. at a price far below their value, the proceeds not being sufficient to defray the note in full.

The C.P.R. Co. instituted proceedings against the Duluth & Winnipeg Ry. Co. to compel it to pay a balance alleged to be due the construction company. Judgment was obtained, & the C.P.R. obtained control of the Duluth & Winnipeg road in the fall of 1896, & with it of the allied corporations. In the place of these the C.P.R. organized the Duluth, South Shore & Atlantic Ry. Co., & it is alleged, in the summer of 1898 the defendants transferred all of the original securities deposited by the construction company to persons under the defendants' control at a price more than sufficient to pay the entire indebtedness of the North Star Construction Co., & to pay to the stockholders of the construction company more than the par value of their stock.

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys:

	1898	1897	Decrease	Increase
July.....	\$1,860,884	\$1,992,628	\$131,744	.....
August.....	1,992,802	2,091,235	98,433	.....
Sept.....	2,261,148	2,341,960	80,812	.....
Oct.....	2,260,573	2,348,463	87,890	.....
Nov.....	2,190,079	2,162,726	.....	\$27,353
	\$10,565,486	\$10,937,012	\$371,526	\$27,353

The following figures are issued from the London, Eng., office:

GRAND TRUNK RAILWAY.

Revenue statement for October:

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£382,258	£404,290	£22,032	.....
Working expenses..	237,759	245,363	7,604	.....
Net profit.....	144,499	158,927	14,428	.....

Aggregate for 4 months to Oct. 31:

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£1,407,861	£1,501,374	£93,513	.....
Working expenses..	892,316	942,883	50,567	.....
Net profit.....	515,545	558,491	42,946	.....

CHICAGO & GRAND TRUNK RAILWAY.

Revenue Statement for October:

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£63,674	£58,787	£4,887	.....
Working expenses..	54,018	49,838	4,180	.....
Net profit.....	9,656	8,949	707	.....

Aggregate for 4 months to Oct. 31:

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£238,877	£226,731	£12,146	.....
Working expenses..	196,653	198,109	£1,456	.....
Net profit.....	42,224	28,622	13,602	.....

DETROIT, GRAND HAVEN & MILWAUKEE.

Revenue statement for October:

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£18,567	£20,982	£2,415	.....
Working expenses..	13,059	13,932	873	.....
Net profit.....	5,508	7,050	1,542	.....

Aggregate for 4 months to Oct. 31:

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£74,228	£80,172	£5,944	.....
Working expenses..	51,464	54,347	2,883	.....
Net profit.....	22,764	25,825	3,061	.....

RECEIPTS OF THE SYSTEM.

From July 1 to Nov. 30, the receipts were:

	1898.	1897.	Increase.	Decrease.
Grand Trunk.....	£1,781,229	£1,877,950	£96,721	.....
Chicago & G.T.....	298,044	277,708	£21,276	.....
D., G.H. & M.....	90,778	91,670	892	.....
Total.....	£2,170,051	£2,247,328	£76,327	.....

Mileage both years, G.T., 3,512; C. & G.T. 335; D., G.H. & M. 189. Total 4,036.

DETAILS OF GRAND TRUNK RECEIPTS.

Aggregate July 1 to Oct. 31:

	1898	1897.
Passengers, number.....	2,757,432	2,553,628
amount.....	£ 421,185	£ 455,624

Immigrants, number.....	5,177	4,137
amount.....	£ 2,930	£ 2,654
Mails, express, &c.....	71,506	73,359
Freight, tons.....	3,031,750	3,304,994
amount.....	£ 869,617	£ 954,452
Miscellaneous receipts.....	£ 42,327	£ 18,287
Total receipts.....	£1,407,861	£1,501,374
Decrease.....	£ 93,511	.....

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases or decreases over 1897 from Jan. 1, 1898, are as under:

	Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan. \$1,672,372.04	\$1,156,744.45	\$515,627.59	\$142,284.49+	
Feb. 1,494,596.98	1,070,929.62	423,667.36	38,844.28+	
Mar. 2,078,479.06	1,326,245.55	752,233.51	233,020.67+	
April 1,958,461.88	1,241,371.19	717,090.69	89,973.35+	
May 2,252,999.16	1,326,336.85	926,662.31	51,092.47+	
June 2,138,110.04	1,320,714.67	817,395.37	68,731.93+	
July 2,051,363.27	1,320,674.48	730,688.79	183,679.08+	
Aug. 2,210,865.29	1,327,838.41	883,026.88	121,380.23+	
Sep. 2,396,385.29	1,393,871.63	1,002,513.66	32,022.62+	
Oct. 2,688,730.39	1,432,881.90	1,255,848.49	158,092.79+	

\$20,943,363.40 \$12,847,611.75 \$8,115,751.65 \$55,162.85+
+ Increase. - Decrease.

The approximate earnings for Nov., 1898 were \$2,457,000.00, against \$2,537,000.00 in Nov., 1897, a decrease of \$80,000.00.

AUXILIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—The approximate earnings for Nov. were \$132,996, as compared with \$127,592 for the corresponding period, an increase of \$5,404.

The net earnings for Sep. were \$52,458, as against \$57,002, for corresponding period. The net earnings for the 9 months to Sep. 30 were \$477,549, as against \$383,580 for corresponding period.

MINERAL RANGE, HANCOCK & CALUMET.—The approximate earnings for Nov. were \$35,600, as compared with \$33,070 for the corresponding period, an increase of \$2,530.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—The approximate earnings for Nov. were \$482,566, as compared with \$460,806 for the corresponding period, an increase of \$21,760.

The net earnings for the 3 months to Sep. 30 were \$234,080, as against \$264,703 for corresponding period.

Canadian Pacific Railway Land Sales.

	Acres.	1898	Amount.	1897.
Jan.....	22,044	9,443	\$7,924.00	\$3,872.00
Feb.....	20,630	8,163	66,399.00	27,573.00
Mar.....	33,421	8,727	109,010.00	29,080.00
April.....	43,145	10,785	140,275.00	37,145.00
May.....	43,148	15,802	137,835.00	51,508.00
June.....	49,203	18,964	160,199.00	63,160.00
July.....	39,512	17,083	123,011.00	55,949.00
Aug.....	19,449	9,460	63,911.00	30,200.00
Sept.....	18,007	16,066	50,936.00	54,314.00
Oct.....	17,026	25,273	55,570.00	85,932.00
Nov.....	25,979	38,772	82,828.64	129,530.84
Totals.....	331,584	178,538	\$1,068,843.64	\$598,301.84

Financial Notes, &c.

Calgary & Edmonton.—The net earnings for Oct. were \$8,476.18, as against \$23,346.90 for corresponding period.

Canada Eastern.—A special general meeting will be held at Fredericton, N.B., Dec. 22, to authorize the sale of the Co.'s railway, rolling stock & franchises to the Alex. Gibson Ry. & Mfg. Co.

The Central Vermont R.R. bill passed by the Vermont Legislature last month authorizes the reorganization of the corporation, the new body to take the old Central Vermont road after it is sold under decree of the U.S. Court. The capital stock is to be \$3,000,000 & the bonded debt \$12,000,000 in 4% gold bonds. If the bill is not accepted by the Grand Trunk and other interested roads within 60 days from its passage it will become void.

Dominion Atlantic.—The net earnings for the 10 months to the end of Oct. were \$456,833, as against \$428,362 for corresponding period.

Grand Trunk.—Rumor has been busy selling & leasing G.T. branch lines recently. A report was recently sent out from Burlington, Vt., that Dr. Seward Webb had about completed arrangements with the G.T. for 99 years' lease of the line between Massena, N.Y., & Howick, Que. The G.T. Management says there have not even been any negotiations. The Management also denies the report that the Co. proposes selling its 3 Michigan branches, the Detroit, Grand Haven & Milwaukee, the Toledo, Saginaw & Muskegon, & the Cincinnati, Saginaw & Mackinaw. These roads have a mileage in all of 369 miles, & were bought some years ago to act as feeders to the G.T.

Kingston & Pembroke.—The Sec.-Treas. gives notice that pursuant to Dominion legislation of last session, & a resolution adopted at a general meeting of shareholders Nov. 21, applications will be received until Jan. 9, 1899, for 20,000 shares of preference stock of the par value of \$50, which will be issued 1st pro rata to the holders of ordinary stock & 1st preference bonds or debentures, at the rate of 40c. in the dollar. If applications for the 1st preference stock by the persons first entitled, shall not be sufficient to take up the whole issue, the directors will allot any part of it to other persons as they may see fit. The preference stock will be entitled, in priority to all other stock, to dividends not exceeding 5% a year out of the net earnings of the Co., after the interest on all outstanding first preference debentures is paid. Debenture coupons past due & maturing Jan. 1 next will be accepted in payment for preference stock. The ordinary stock has been reduced to \$2,500,000. Stockholders are requested to forward their present scrip, to be exchanged for new scrip, for one half the shares held by them or for any fractional share.

Lake Erie & Detroit River.—Application will be made to the Dominion Parliament next session by this Co., & by the Erie & Huron Ry. Co. for an Act authorizing the amalgamation of the 2 companies & to define the bonding & other powers of the amalgamated Co.

Lake Manitoba Ry. & Canal Co.—Application will be made to the Dominion Parliament next session for an Act to ratify & confirm a bond issue & a mortgage securing the same made by the Co.

The Michigan Air Line R.R. Co. has filed notice of the decrease of its capital stock from \$4,000,000 to \$1,000,000. The road is controlled by the G.T.R. system, which owns the entire capital stock. It runs from Lenox to Jackson, Mich.

The New York Central is said to have gained control of the Lebanon Springs Ry. This is a short line & has for the most part been in disuse for some years. It affords the Central, however, an important link in the direct route between New York & Montreal, for which the control of the Rutland Ry. was the first step.

Manitoba & Southeastern.—Application will be made to the Dominion Parliament next session for an Act to ratify & confirm a bond issue & a mortgage securing the same made by the Co.

Qu'Appelle, Long Lake & Saskatchewan.—The net loss in operating for Oct. was \$1,976.85, as compared with net earnings of \$1,709.78 for corresponding period.

Quebec Central.—The traffic receipts for Nov. were \$34,214.51, as against \$33,149.45 for corresponding period. There was an increase of \$1,822.40 in freight receipts & a decrease of \$840.39 in passenger receipts.

The aggregate traffic receipts for the 11 months to Nov. 30 were \$419,473.23, as against \$429,651.38 for corresponding period. Passenger receipts increased \$9,754.51. Freight receipts decreased \$20,037.19. The earnings per mile per month were \$179.03, a decrease of \$4.34 from corresponding period.

Rutland.—At a meeting Dec. 3 the resignations of D. Wilcox, C. Griswold & C. A. Walker were accepted, & Dr. W. S. Webb, E. W. Rossitter & G. Bird were elected directors in their places. The directors who resigned represented the Delaware & Hudson Ry., while the 3 newly elected members are closely connected with the N. Y. Central, Mr. Rossitter being the Treasurer. The change came because of the recent sale of a controlling interest in Rutland stock by the D. & H. to a syndicate which included Dr. Webb, W. K. Vanderbilt & others with allied interests, as well as some Fitchburg railway men.

Rutland—Canadian. The following directors have been elected: R. Bottum & C. L. Pierce, of Rutland; F. Wells, of Burlington; W. W. Stickney, of Ludlow; & W. P. Clement, of New York. Mr. Bottum is Chairman, & Mr. Wells Secretary. (Nov., pgs. 231 & 232.)

Temiscouata.—At the annual meeting at Montreal Dec. 6, the following were elected directors: C. Riordan, Toronto, President; F. Grundy, Sherbrooke, Vice-President; J. G. Riordan & W. J. Douglass, Toronto; T. Malcolm & D. Ross, Edmundston, N.B.; T. Crockett, Riviere du Loup. The officers of the line are T. Crockett, General Manager; D. B. Lindsay, Sec.-Treas.; W. J. Walsh, Locomotive Foreman; W. E. McEwen, Trackmaster.

The last interest coupon upon the main line bonds of this Co. payable by the Quebec Government having now been cashed, & default being, therefore, said to be imminent, the bondholders have appointed a committee to enforce their security & rights. It has been registered in England as the Temiscouata Bondholders Committee, Ltd. Capital £100 in £1 shares.

Canadian Pacific Equipment.

The Co. is building, at Montreal, 10 large compound consolidated freight locomotives that will weigh in working order about 150,000 lbs. They will have extended wagon-top boilers with Belpaire fire boxes, 200 lbs. pressure; 57" driving wheels with cast steel centres, Westinghouse American brakes, cylinders 26 & 33x26, steel tender frame, with tank having capacity of 4,000 imperial gallons. The Co. has also placed orders for 13 similar locomotives & has ordered material for 6 large passenger engines for service between Montreal & Toronto.

The Co. is building 2 rotary snow plows, embracing all improvements that have been made up to date, 4 C.P.R. standard wing snow plows, 2 dining cars, 60 thirty-five ton ore cars, & 400 thirty ton 35 ft. box cars. The latter are being turned out at the rate of

10 a day. Some stock cars & possibly 10 or 12 suburban cars may also be built.

In a recent interview, J. Osborne, Assistant to the Vice-President, said:—"We think ourselves in a remarkably good condition to meet the requirements of the Northwest grain traffic this season. Our equipment of freight cars in the western district is better than I have ever before known it, & I have had charge of the freight car service for 8 years. We did not begin to move the wheat this year until Nov. 1, but that was largely owing to the weather being unfavorable. In Oct. we brought some cars to the east, but there have been from Sep. 1 until the present time 1,500 more cars in the grain belt than there was a year ago. Not only that, but the capacity of the new cars is larger. The cars we are now constructing are capable of carrying 30 tons, whereas those we had formerly could only accommodate 20 tons. There had been representations from shippers until we got to the front during the 3 or 4 weeks of Nov., as they did during Sep. & Oct. of last year, & naturally the rolling stock is very severely taxed. But can you point to a single grain-handling road on the continent of America that is not in the same condition? The equipment of all the systems is taxed to the utmost capacity from Sep. until the end of the year. As I have already said, we consider ourselves in a remarkably good condition at the present time."

Last month the boiler of locomotive 678, a Richmond heavy compound, exploded near Shuswap, B.C., killing the driver & a brakeman. Some idea of the force of the explosion can be gained, when it is stated that the crown of the fire-box blew out, the entire body of the locomotive was lifted off its carriage, tearing away the bolts & everything that was holding it in place, & it completed a gigantic somersault in the air, landing end for end about 100 yards in front of the train & so causing the train to stop. A little of the track was torn up & 2 box cars were completely smashed; in fact, there was nothing to be found but the wheels to suggest that one of them had ever existed. The cab was blown

an immense distance, part of it falling on the wires & remaining suspended. The cause stated by Master Mechanic Stronach, after an examination of the wreck, is that the explosion occurred through no fault in the material, but in consequence of a scarcity of water in the boiler.

Government Railways Equipment.

In addition to the 3 postal & baggage, 4 baggage, 6 second-class sleeping, 300 box, & 100 platform cars which we have mentioned in recent issues as being under contract for the I.C.R., a number of other contracts have been given out lately. The principal one of these is an order for 20 freight locomotives, which has been placed with the Baldwin Locomotive Works, of Philadelphia. Of these 19 are Vauclain, 4 cylinder compounds, & 1 with Cleveland cylinders. They are for freight service, & are of the consolidation class. They have a tank capacity of 4000 gallons & will haul 1000 tons up a 1% grade. They will be equipped with pneumatic tenders, wrought iron tender and truck wheels, steel driving boxes and cross heads, iron tender frame, steel cab, & will conform to the best up-to-date practice in every respect. The general dimensions are as follows:

CYLINDERS.—Diameter (High Pressure).....	15½ in.
" (Low Pressure).....	26 in.
" Stroke.....	28 in.
" Valve.....	Balanced Piston
BOILER.—Diameter.....	66 in.
" Thickness of Sheets.....	11-16 in.
" Working Pressure.....	200 lbs.
" Fuel.....	Soft Coal
FIREBOX.—Material.....	Steel
" Length.....	114½ in.
" Width.....	41½ in.
" Depth.....	Front 65½ in.
" Thickness of Sheets.....	Back 62½ in.
" Sides.....	Back 38 in.
" Crown.....	Crown 12 in.
" Tube.....	Tube 12 in.
TUBES.—Number.....	230
" Diameter 2¼ in.....	Length 14 ft. 0 in.
HEATING SURFACE.—Firebox.....	161.1 sq. ft.
" Tubes.....	1934.6 sq. ft.
" Total.....	2095.7 sq. ft.
" Grate Area.....	32.69 sq. ft.



QUALITY FIRST PRICE AFTERWARD.

The Page Fencing is composed of a high grade of steel wire made especially for the Page Co. and no one else. This wire is 60 to 100 per cent. stronger than that used in other fences. It is coiled, which makes it still more effective because of its elasticity. The common wire fence has no "life." It cannot recoil and "pull itself together" after the attack of an animal, or from the effects of a snowdrift freezing to it and settling. Page Fencing that was properly erected years ago is in perfect condition to-day. Others that have been in use only half as long present a sorry spectacle.

THE PAGE WIRE FENCE CO., LTD., Walkerville, Ont.

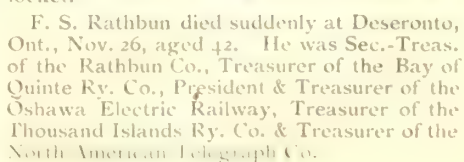
BURN

E. B. EDDY'S

MATCHES

The biggest seizure ever made by the Customs Department, involving 18 locomotives & 1,000 box cars, was recently made public. The rolling stock belongs to the Canada Atlantic, & O. A. & P. S. Rys. The seizures were made on 2 different occasions. The 1st was on Dec. 14, 1897, when 5 engines & 500 freight cars were seized for alleged non-payment of duty. The freight cars were marked V. & P. L., & the whole are valued in the customs books at \$350,000. The other seizure was made in July, 1897, of 13 engines & 500 freight cars, marked Canada Atlantic Ry., via Central Vermont Ry. The last seizure is entered as worth \$400,000, thus making the enormous total of \$750,000. The seizure was made for alleged non-entry of the engines & cars upon their arrival in Canada. The Customs Department requires that all new cars entering the country must be reported to the Customs Department. The officials of the railways mentioned have had several interviews with the Commissioner of Customs, regarding the disposition of the cars, but so far, it is said, a decision has not been given. It was asserted by the railway officials that the cars were for international traffic. The Customs Department is, however, in possession of a copy of the following order, issued

At cost of capital 104 passenger cars were equipped with air signals, 60 passenger cars



RAILWAY APPOINTMENTS, &c.

Canada Atlantic & O. A. & P. S. Rys.—Traffic Manager Smith issued the following circular Nov. 1: R. A. Carter is appointed Travelling Freight & Passenger Agent of these companies, with office at Ottawa, vice G. H. Phillips, resigned. Mr. Carter will also continue to discharge the duties of Contracting Agent at Montreal until further notice.

J. E. Conner has been appointed New England Travelling Passenger Agent, with headquarters at 100 Washington Street, Boston, Mass.

Canadian Pacific.—Manager Whyte, of the Western Lines, issued the following circular Nov. 15: "M. H. Macleod has been appointed Superintendent of the Crow's Nest Branch, having charge of the line between Macleod & Kootenay Landing, with headquarters at Macleod, Alta. G. Erickson has been appointed Trainmaster."

Roadmaster W. S. Newman, of the Selkirk & Arrowhead sections of the Pacific Division, has been transferred to the district west of Revelstoke.

Grand Trunk.—Superintendent Herbert, of the Eastern division, issued the following circular, Nov. 1: "The following changes & appointments are effective this date. The office of acting trainmaster, 1st district is abolished, & J. Irwin, trainmaster 2nd & 3rd districts, is assigned to other duties. C. S. Cunningham, Trainmaster 1st, 2nd & 3rd Districts, office, Island Pond, Vt. J. Munday, Assistant Trainmaster 1st District, office, Island Pond, Vt."

The position to which Mr. Cunningham has been appointed is the one formerly occupied by Mr. Herbert.

On the Western Division, Trainmaster F. L. Corwin having resigned has been succeeded by J. Irwin, transferred from districts 1 & 2 to districts 27, 28 & 29, with headquarters at Detroit, Mich. Mr. Corwin, who was formerly Superintendent of the Breckenridge Division of the Great Northern, went to the G.T.R. early this year & resigned recently to become Superintendent of the Union Stock Yards Co. at Omaha, Neb.

J. D. McDonald, City Passenger Agent of the G.T.R. at Buffalo, N.Y., has also been appointed City Ticket Agent of the Western New York & Pennsylvania there, succeeding E. J. Quill.

J. C. Talmage, who was recently appointed General Agent of the Passenger Department of the G.T.R. at Los Angeles, Cal., is a son of the late Col. A. A. Talmage, for many years Vice-President and General Manager of the Wabash, St. Louis & Pacific. Mr.

Talmage has been General Agent of the Grand Trunk at Chicago for some time, but owing to ill health was compelled to resign to go to California. He has been identified with the Wabash & G. T. systems for many years, & is responsible for some of the important changes made in the operation of the G. T. at Chicago within the past year. His many friends will earnestly hope that he may completely regain his health in the mild climate of Southern California.—Railway Age.

Great Northern.—A recent circular reads: "F. E. Ward is appointed General Superintendent, vice R. Harding, resigned to accept service elsewhere. Mr. Ward will have full charge of the operation of all the Co.'s lines, his duties being defined by the Co.'s code. Mr. Ward will continue, as heretofore, General Superintendent of the Montana Central Ry., with headquarters at St. Paul, Minn., instead of Great Falls, Mont."

C. Shields, Vice-President of the Spokane & Northern, has been appointed also as Assistant General Superintendent of the Western Division of the Great Northern, with headquarters at Spokane, Wash., vice F. H. Britton, appointed Division Superintendent of the Dakota Division. Mr. Shields' district includes also the Montana Division, of which J. M. Davis, heretofore Division Superintendent at Breckenridge, Minn., has been appointed Division Superintendent at Havre, Mont., succeeding L. B. Button, resigned.

Intercolonial.—B. C. Gesner has been appointed General Air Brake Inspector, with headquarters at Moncton.

V. F. Farrell has been appointed Ticket Agent at Hollis St., Halifax.

White Pass & Yukon.—The officers of this line, as recently announced, are, President, S. H. Graves, Chicago, Ill.; Purchasing Agent, W. L. Wilson, Skagway, Alaska; Traffic Manager, L. H. Gray, Skagway; Chief Engineer, F. C. Hawkins, Seattle; Master Mechanic, W. H. Garlock, Skagway; General Storekeeper, J. W. Young, Skagway; General Agent, C. C. Figgins, Seattle.

F. W. Morse, Superintendent of G.T.R. Motive Power, is to be married shortly to Miss Grace Bass, daughter of a well-known iron manufacturer of Fort Wayne, Ind.

E. J. Traverse, Chief Clerk for District Freight Agent Hanna, of the G.T.R. at Stratford, has been appointed Western Freight Agent at Toronto of the Leyland steamship line, which runs from Portland in connection with the G.T.R. He was formerly in the Canadian Freight Association Office.

Personal Mention.

M. Van Harligan is in charge of the Coast Ry. office which has been opened in Halifax, N.S.

C. J. Wiggin has been appointed General Baggage Agent of the Boston & Maine, succeeding O. W. Greely.

D. E. Brown, General Agent for the C.P.R. in China & Japan, is returning to his post after extended leave of absence.

W. Mackenzie, President of the Toronto Ry., returned from Europe Dec. 3, having left his daughters in Florence.

R. Archibald, General Manager of the Canada Coal & Ry. Co., at Joggins, N.S., was married at Oxford, N.S., recently to Miss Minnie Robbs.

Miss M. M. Colclough, daughter of the Superintendent of the International Bridge & Agent of the G.T.R. in Buffalo, will appear upon the concert stage shortly.

R. S. Logan, Secretary to the General Manager of the G.T.R., was married at St. Louis, Mo., Nov. 10, to Miss Annie Ranken. Mr. Hays was among the wedding guests.

Hartley Gisborne, M. Can. Soc., C.E., of Winnipeg, has been appointed by the Council of the Institution of Electrical Engineers, London, Eng., their local Hon. Sec. & Treas. for Canada.

Sir C. Rivers-Wilson, President of the G.T.R., is Chairman of the British Electric Traction Co., which has a subscribed capital of £300,000, preference shares of £100,000 & £100,000 5% debenture stock.

On Thanksgiving Day the Montreal Herald published a symposium, "What we have to be thankful for." Among the contributors was Sir William Van Horne, who gave the laconic answer, "The Dingley Tariff."

W. W. Dawson, of New York, is acting as District Superintendent of the Wagner Car Co., at Montreal, with headquarters at Bonaventure Station. It is said the appointment is only temporary, however, as M. C. Garey expects to resume his duties shortly.

C. R. Hosmer, Manager of the C.P.R. Telegraphs, & Mrs. Hosmer, returned to Montreal Dec. 9, after a 6 weeks' trip to London & Paris, having left their daughter Olive in the latter city to pursue her studies. On Dec. 12 a cable was received stating that she was very ill & Mr. & Mrs. Hosmer started for Paris again immediately.

A daughter of J. Lake, engineer of the St. Catharines Niagara Central Ry., narrowly

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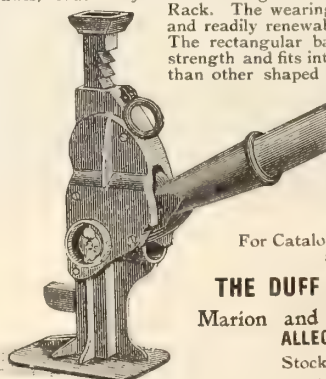
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No. 1 Trip.

escaped death during a recent storm about midnight. A telephone wire was attached to a large chimney, & under the great weight of snow on the wires the chimney fell, crashing through the roof into the bedroom where she was sleeping. The bed was covered with debris, & she was struck, her head being badly cut & her body badly bruised.

P. F. Hodgson, who for the past 5 years has been Signal Engineer for the G.T.R., with headquarters at Toronto, has resigned to accept the position of Secretary & Manager of Saxby & Farmer, Ltd., manufacturers of railway signals & safety appliances, Kilburn, London, Eng., & will leave for England this month. During Mr. Hodgson's term of service on the G.T.R. he has carried out a lot of important work, particularly the interlocking switch & signal system at the Toronto Union Station yards. He will be succeeded by W. H. Patton, of Montreal.

At the recent Canada Club dinner in London, Eng., Sir C. Rivers-Wilson, President of the G.T.R., made an earnest appeal to the Dominion Government to seriously grapple with what he regarded as the most vital problem of immigration. Canada could not rest content while three & a half millions of square miles were occupied by less than six millions of people. Hon. Mr. Dobell retaliated by imploring Sir Rivers-Wilson's help to bridge the St. Lawrence at Quebec, & make the Ancient Capital what it must ultimately become, the great trans-shipping port of North America. He also urged a railway & steamship route via Hudson's Bay. "What is the population?" interjected Sir Charles Rivers-Wilson humorously; "A little off our line, I am afraid."

The Railway Agent recently published a portrait & interesting sketch of Jas. Charlton, General Passenger & Ticket Agent of the Chicago & Alton. He entered railway service April, 1854, as junior clerk in the Freight Department of the Newcastle & Carlisle Railway, Newcastle-on-Tyne, Eng. When he resigned his connection with that Co. he had attained the position of chief clerk & cashier in the freight department. He entered the Auditor's office of the Great Western Ry. of Canada April, 1857, as assistant to the Chief Clerk, & served as clerk in charge of statistics & freight accounts, Chief Clerk, Auditor & General Passenger Agent. He left the service of the Great Western Ry. in Mar., 1870, for the position of G. P. & T. A. of the North Missouri Co., which he held until he resigned in July, 1871, from which date he has occupied his present position with the Chicago & Alton, with headquarters in Chicago.

Geo. S. McKee, Master Mechanic of the Western Division of the Wabash at Moberly, Mo., has been transferred to the Eastern Division, & his supervision extended to include the Buffalo Division. His headquarters are at Fort Wayne, Ind.

Under the management of Archer Baker, European Traffic Agent of the C.P.R., a series of lectures, at which the cinematograph is used to illustrate Canadian Northwest life & farming in a realistic series of pictures, is being given in Great Britain. The idea is most cordially welcomed by the schools, colleges & clubs.

White Pass & Yukon Railway.

In previous issues (June, pg. 98; July, pg. 123; Aug., pg. 152) we gave very full particulars in regard to the construction of this line. Very few people, probably, have any idea that over \$1,200,000 have already been expended in construction from Skaguay to the summit of White Pass. In addition to what we have already published, supplied us from official sources, the following, condensed from the Railway Age, will prove of interest. This fall work was somewhat retarded by bad weather & the necessity of establishing & moving into winter camps & making trails & waggon roads connecting the new camps. Some 1,500 men were employed most of the summer, but towards fall the discovery of gold at Lake Atlin caused a large number to abandon railway work & become prospectors. Many have returned & some 1,200 are now employed. Notwithstanding these embarrass-

whatever have been encountered beyond Cariboo Crossing, & the principal items of expense will be a bridge about 350 ft. long over the Tahkeena River & a span 150 ft. over the crossing of the river at Five Fingers. The distance from Skaguay to Ft. Selkirk via the surveyed line is 312½ miles, & the distances from Skaguay to intermediate points between that place & Ft. Selkirk are as follows: To summit of White Pass, 20 miles; to head of Too-chi Lake, 40 miles; to head of Windy Arm, 56½ miles; to Cariboo Crossing by way of Windy Arm, 74½ miles; to crossing of the Tahkeena River, 144.6 miles; to the Hoochi River, on the Dalton trail, 186.9 miles; to point 5 miles west of Rink Rapids, 266.6 miles. A survey is being made for a branch from the main line at Log Cabin to the Lake Atlin gold fields & a preliminary reconnaissance shows that no engineering difficulties are presented. It is proposed to push the work on the branch line so as to accommodate the requirements of this new & extensive gold region.

From Log Cabin to Cariboo Crossing 2 routes are under consideration, one of which runs along the shore of Lake Bennett. If the latter line is decided upon, some heavy work will be necessary to cross the mountains, which cannot be undertaken until next summer. If the route to the east of Lake Bennett by way of Windy Arm is selected, the work will be comparatively easy. From Cariboo Crossing to Ft. Selkirk there is nothing but plow & scraper work, & the grade can be completed with great rapidity with favorable weather. The line passes through grass lands & small timber, & there is no work of a difficult nature. The Co. has not only been granted right of way & has its track laid on the main street of Skaguay, but it is also building a line to encircle the entire city, giving it control of the principal part of the water front. The passenger depot in Skaguay at the foot of Broadway is about completed, & work is in progress on the freight depot. The machine shop & blacksmith shop are completed & in operation, & material for 50 cars is on the ground ready to be put together. The principal part of the work on these cars is done at Seattle, & the various portions are shipped to Skaguay ready to be put together with little work.

The road from Skaguay to the summit of White Pass is a veritable shelf in the mountains, & in order to secure a line, the

maximum curvature of which is but 16 degrees, & which has a maximum grade of only 3.9%, some very heavy work has been necessary to reach the summit, which is 2,850 ft. above sea level, with so light a grade. Another item of heavy expense on the first 20 miles has been the construction of 3 long, level sidings, where trains can pass—these in addition to a number of short sidings & switches. At the summit there is a mammoth granite cliff, which will have to be shot off into the canyon below to make way for the roadbed. The road has a gauge of 3 ft., & is laid with 56 lb. rails.

During the summer the Co. was able to keep 2 shifts at work 11 hours a day each, without the use of artificial light. The workmen received 30c. an hour & board, & the Co. has its own tents, hospitals & physicians. Although the present year will close with not over 35 miles of road constructed, it is the hope of President Graves to build the line



GRADING AT PORCUPINE HILL ON THE WHITE PASS AND YUKON RY.

ments, good progress has been made along the line, & all the heavy work, including that most likely to be retarded by bad weather, has been completed to the summit, & 2 miles of comparatively light work has been done beyond, finishing the line to the provisional international boundary. Work is still being pushed on beyond, & it is hoped to have the road ready for operation to Log Cabin, 15 miles beyond the boundary line, before Christmas, by which time it is anticipated the severe weather will cause a cessation of active operations, although it is the intention to keep somewhat of a force employed throughout the winter. In addition to the 1,200 men now employed, arrangements are being made to bring several hundred more from Dawson City to work on the grade.

The survey has just been completed from Cariboo Crossing to Ft. Selkirk, which shows a much better line than it was thought possible to obtain. No engineering difficulties

through to Ft. Selkirk next year, as all of the heavy work is practically out of the way.

The company is now operating a pack train from White Pass to Bennett, having a train of 60 mules, & more are being purchased for this service. There is a large, warm warehouse at Log Cabin, & another at Bennett, with agents stationed at each. Every shipper sending freight over the line will have his goods cared for in these warehouses, storage free for any reasonable length of time.

Canadian Freight Association.

The following circulars have been issued :

"In order to overcome the difficulty existing at present in connection with the cartage in Canada on business to & from U.S. points, the rates upon which are governed by the official classification, the railways in Canada have decided that in the application of the cartage arrangement the Canadian Joint Freight Classification shall govern, excepting articles taking 6th class rates as per official classification which will be entirely exclusive of cartage. Also that the rates to & from U.S. points on commodities which classify 5th class or higher (official classification), but upon which 6th class or lower basis of rates may be authorized, shall be entirely exclusive of cartage. Also that the present arrangement covering a minimum charge of 25c. to or from the junction point on any shipment of freight consigned to or shipped from points in the U.S. shall continue, as also the exaction of a minimum cartage charge of 10c. for each cartage service performed. This to take effect Jan. 1, 1899."

MINIMUM CARLOAD WEIGHTS.

"The Canadian railways have agreed that on & after Jan. 1, 1899, the minimum carload weight of 5th & 6th class freight will be 24,000 lbs. instead of 20,000 lbs. as at present, with some exceptions of light & bulky goods as provided for in classification. This arrangement will apply on standard cars of 35 ft. long or under. The present improved car equipment of Canadian railways are capable of carrying this & greater weights, & the business public will no doubt appreciate this change, which will enable them to ship larger quantities in one car & thus extend their business in many directions."

Freight Notes.

The G.T.R. is making a change in its rates on pulpwood, basing the rate on weight instead of bulk, as at present.

The Dominion Atlantic Ry. has carried this year from different points of the Annapolis Valley to Halifax over 100,000 barrels of apples, which have gone to the English market.

One of the conditions under which the C.P.R. received a subsidy of \$3,500,000 from the Dominion Government for constructing the Crow's Nest Pass Ry., was a reduction of 3c. a bus. in the rate of freight on grain. This went into effect Dec. 5.

The Ways & Means Committee of the U.S. Congress has authorized a favorable report upon a bill to remove the restrictions which at present prevent the shipment of goods in bond to interior points in less than carloads. Under the terms of the bill, goods can be shipped in less than carloads under regulations to be prescribed by the Treasury.

The new Parry Sound route, may or may not "revolutionize" grain transportation from the Northwest to the seaboard, but when, as we are informed was the case, a shipment of grain to Montreal from Toledo recently took that route in preference to the Buffalo route, it is clear that Parry Sound cannot be ignored by the routes which have questioned its ability to compete with them.—American Elevator.

The Lumbermen's Association of Ontario has asked the railways for the equalization of freight rates on hardwood & pine lumber. There is a difference of from 1c. to 2½c. per 100 lbs. in the rates charged from different points in Canada, & as the export trade in hardwood is increasing, it is contended that it would be a distinct advantage to the country generally to have all hardwood worked up closely, in place of being often wasted. Lumbermen think that the discrimination against hardwood in freight rates should be done away with.

The Rate War Settlement.

The G.T.R. & C.P.R. having settled their differences, rates were restored Nov. 26, & C.P.R. northwest traffic was resumed between Toronto & North Bay. The officials will not give the text of the agreement, but enough is known of it to give a fair idea of how the difficulty was settled. The C.P., it is understood, agrees to pay the G.T. on all business originating on C.P. points the full fare for the haul between Toronto & North Bay, that is, \$6.85. On all business for the west, originating at G.T. points, the latter road is to receive the proportion it would obtain were it to send the business by way of Chicago, & over the U.S. lines into Manitoba. In return for this, the G.T. agrees to restore rates on 2nd-class business to what they were previous to the rate war, which gives the C.P. its old differential of \$5.45 over the U.S. route. By this means the C.P. forces the business over the Canadian route, which, it has always claimed, is the way it should go, while the G.T. obtains as much out of the haul as it would had it routed the business by way of Chicago. The extra the C.P. pays the G.T. in this way is expected to be made up by the increased business the line will receive. The losers under the new arrangement will be the Chicago-St. Paul lines, & the Northern Pacific & Great Northern Ry. The G.T. routing its Manitoba business over the C.P. will deprive those lines of a large amount of 2nd-class business which they enjoyed while the rates were equal.

Under the previous arrangements, the C.P. paid the G.T. about \$80,000 a year for passenger business over the North Bay route; under the new agreement the latter road will receive very much more than this. It is under-

stood also that the G.T. agrees to give C.P. agents the privilege to issue tickets over the North Bay line, so that they will be able to sell through tickets from all C.P. points to the West, an arrangement that will facilitate business. Under the old arrangement the C.P. was required to send all its transcontinental business from points east of Peterboro' by way of North Bay, instead of sending their passengers round by way of Smith's Falls. Some such division of territory is probably included in the new agreement which also includes the running of freight trains again over the North Bay line.

A number of railway men from the U.S. met the officials of the C.P.R. & Grand Trunk in Montreal Dec. 14, for the purpose of adjusting a number of matters, some action in reference to which was necessitated by the recent re-arrangement regarding traffic by the G.T.R. & C.P.R. upon the termination of the rate troubles between those two lines. All the details dealt with were of a technical character & were satisfactorily arranged. Several of the Western officials gave an unqualified denial to the report that their lines had charged the G.T. with disloyalty in connection with the recent resumption of traffic relations with the C.P.R. A Star reporter in the course of an interview with P. S. Eustis, General Passenger Agent of the Burlington System; A. F. Merrill, Assistant General Ticket Agent of the Milwaukee System, & J. W. Lee, representing Mr. Caldwell, the Chairman of the Western Passenger Association, was informed that the recent newspaper reports that the Western lines were charging the G.T. with disloyalty, were entirely unfounded, that there was not now nor had been at any time any lack of confidence in the present relations heretofore existing between the G.T. & the Western lines, & the amiable settlement of grievances between the G.T. & the C.P.R. had their full approbation. The reports arose out of the fact that by the new arrangement with the C.P.R., considerable Western traffic originating on the G.T.R. is now handed over to the C.P.R. at North Bay, instead of being handed over to the Western roads at Chicago.

L. L. Stenseth has been appointed Route Agent of the Western Express Co., with headquarters at Marquette, Mich., vice H. E. Gilmore, resigned.

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Bridge at Edmonton, Alberta.

Edmonton is on the north side of the north branch of the Saskatchewan river, situated on the high table land above the deep valley of the river. On either side of the river, the higher plateau is at an elevation of about 190 ft. above the river level, & the slope toward the lower plateau, or narrow valley, is very sharp. On the south side of the river is South Edmonton, the terminus of the Calgary & Edmonton Ry., from which all freight for Edmonton & the northern districts has to be taken by waggons using ferries to cross the river.

In 1892, a survey was first made by the Dominion Government to select a site for a traffic bridge across the Saskatchewan at Edmonton. The location of the bridge was fixed nearly opposite the centre of the town, where roads, leading to the foot of the hills, existed, or could easily be built. It was first intended to build a highway bridge for general traffic only, & the location was made with this end in view. Subsequently the town of Edmonton offered a contribution of \$25,000 on condition that the Government would build a combined railway & traffic bridge. After some delay this was accepted & plans ordered. Tenders were called for the substructure & the contract awarded in Aug., 1897, to F. Lemoine, of Montreal. The contract for the superstructure has not yet been given, but it is expected it will be shortly.

The superstructure, as designed, consists of 4 through steel spans of the riveted type of girders, resting on 3 piers & 2 abutments. The length of each span is 170 ft. 11 in., the distance

yds. capacity daily, was used in removing the material. The caissons are built of British Columbia red fir. Piers no. 1 & no. 3 are founded on piles driven in the caissons, & cut off 5 ft. below low water level. The caissons were then filled in solid with Portland cement concrete from hard pan foundation.

After some borings & tests at pier no. 2, it was decided not to drive any piles there. The material underlying the gravel was found to be much harder than at piers nos. 1 & 3. Tests as to its bearing capacity showed that under a load of 350 lbs. to the sq. in., or 25 tons to the sq. ft., no signs of yielding were apparent. Concrete was deposited under water in the caissons, with a specially constructed box. When 2 or 3 ft. had been deposited in this way, the caissons were pumped out & the concrete continued in the dry up to low water level. From that level the body of the pier proper was started in a timber casing which was built up as the work progressed. A service bridge was built for piers nos. 1 & 2. For pier no. 3 the materials were brought by scows, a steel wire having been strung across the river for the handling of the scows.

As regards the materials used in the substructure, which, as mentioned before, is entirely built of concrete, the cement employed is the best Portland, finely ground. The tensile strength for most of the briquettes made, after 9 days' immersion in the water, was over 500 lbs. to the sq. in., the briquettes having been previously allowed to set 18 hours before immersion. Quite a number of tests gave a strength of over 650 lbs. to the sq. in. at that age. The weight per striked bushel was between 115 & 120 lbs., with a residue for several tests of not more than

resumed Mar. 27, 1898. From that time the work was pushed rapidly & completed June 20, 1898.

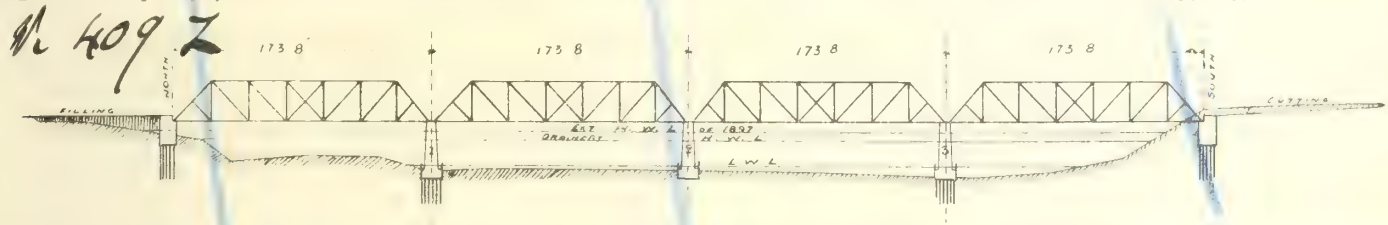
The work done & forming the nature of the contract was as follows: Building of 3 concrete piers & 2 abutments; excavation in foundations; piling in foundations; three caissons for piers; rip rapping; filling north approach; cutting south approach.

The illustration on this page shows a section of the river & side elevation of the bridge, scale 80 ft. to in.

Surveys, Construction & Betterment.

Brandon & Southwestern.—It was recently stated that surveys had been completed from Brandon southwest to Waskada, 90 miles, & that construction would begin at the southern end before Nov. 1, the date by which the extended charter required that it should be started. We have been unable to confirm these statements. The promoters & the reputed contractor do not answer enquiries addressed to them. We do not think any construction work has been done. If it has it was simply infinitesimal, to make a show of holding the charter. (Aug., pg. 156.)

Brockville, Westport & Sault Ste. Marie.—This line, which extends from Brockville, Ont., to Westport, 45 miles, has been considerably improved this season. The whole line has been relaid with cedar ties & largely reballasted. Cattle guards & culverts have been renewed with new timbers, several bridges have been entirely rebuilt, & the frame work of all water tanks has been reconstructed. (Nov., pg. 237.)



from centre to centre of piers being 173 ft. 8 in., & the total length of the bridge 694 ft. 8 in. The roadway is 18 ft. in width, & 2 foot passenger ways, each 4 ft. 4 in. wide, supported on brackets, are provided on both sides of the bridge. The same flooring is used for both trains & wagons. The clear height under the bridge at low water is about 30 ft.

The piers, which are made entirely of concrete, are of rectangular section, & at the top carry a cap of cut stone for the bridge girder plates. At the base, both up-stream & down-stream ends are rounded, & the ice cutter brought up with a slope of 1 to 1. The smallest section of the pier at the top is 7 ft. x 24 ft., & the largest section at base is 9.4 ft. by 35.4 ft. The caissons have a width of 14.6 ft., & an extreme length of 52.6 ft., the foundation area being 656 sq. ft.; the average total height of the piers from the foundation bed is 38 ft. The piers are not founded on rock, nor is there any available rock to be found in the location close to the surface. They are founded below the alluvial gravel deposit made by the river, on indurated clay, permanent in character, which is the same material as forms the foundation of the bluffs adjoining the river. This material is called by the miners hard pan or country rock. It varies very much in hardness, some spots being found relatively soft, some other places as hard as shale. Generally it crumbles to pieces when exposed to the air, excepting the hardest variety. At the bridge location the depth of the drift gravel is from 1 to 6 ft., the foundation bed level for the three piers averaging 8 ft. below low water level. A small dredge built for gold washing on the Saskatchewan, of about 150

1.7% after passing through a sieve of 2,500 holes per sq. in. The concrete is composed of 1 part of Portland cement by measure, $1\frac{3}{4}$ part of sand & 5 parts of stone; a special finer concrete for the surfaces being composed of 1 part Portland cement, $1\frac{1}{2}$ part of sand, 4 parts of broken stone. Some gravel was also mixed with the broken stone, but it required so much washing to get it free from silt & coarse coal particles, that very little of it was used. Mortar composed of 1 part of cement & 1 part of sand was used to flush all the surfaces along the timber casing. The facing was very successful, showing after the removal of the timber work a smooth dense surface without pits or irregularities.

As it was necessary to complete the piers before the high water in June, work on the 3 piers was pushed simultaneously & with rapidity. For this reason a great number of iron rods passing through the body of the pier were used to keep the casing from bulging out under loads of fresh concrete. After stripping off, these rods were cut flush with the face of the concrete & the ends painted over to keep them from rusting. The abutments were built well up into the river banks, the foundation bed being about 16 ft. above the river level. Piles were driven down to firm stratum & cut off 6 in. above the formation level. A strong grillage was laid & well spiked on top of piles, & then the concrete was started, rammed around the head of the piles & between the pieces composing the grillage. No timber was left exposed. The abutments are rectangular in shape with short wing walls. Work, which had been started early in Sep., 1897, was stopped Nov. 9, 1897, on account of freezing weather, &

Canada Atlantic. President Booth states that plans are being prepared for a Union Station in Ottawa to cost about \$130,000, & to accommodate the 3 lines now running into Ottawa. The station will extend from the present building at the canal basin over the vacant lot of land to Rideau St., with an entrance from Sapper's bridge. There will be a train shed in the rear. The lower floor will be used for waiting rooms, ticket offices & dining hall, & the upper floors will be devoted to railway offices. The building will be of stone & brick, & it is expected the work will be commenced early next spring.

The announcement was recently made that the New York Central had purchased the Lebanon Springs Ry. from Bennington, Vt., to Chatham, N.Y., 60 miles. The plan, as stated by a prominent railroad man, is to operate a road from the Canada Atlantic line to New York, by a route over the road for which a charter has been procured by the Canada Atlantic line to Burlington, then a road to Rutland by the Rutland road, now controlled by the Central, thence over the Bennington & Rutland & Lebanon Springs Ry. to Chatham, & from there to New York by the Harlem road, owned by the Central.

In connection with the foregoing, General Manager Chamberlin of the C.A. says: A survey party is at work on the C.A. right of way at Swanton, & the new road will connect with the C.A. system either at that point or at Alburg Springs. When this road is completed the route from Ottawa to New York, via the C.A. & connections, will be shortened by about 20 miles, & the running time, which is now 14 hours & 15 minutes, will be reduced considerably.

Cassiar Central. In our last issue, pg. 18, we gave from a Fort Wrangel, Alaska, paper a reputed interview with E. D. Self, who was spoken of as General Manager of this Co., in which it was stated as the purpose of the Co. to build a line from Glenora, B.C., to Dease Lake in the spring, & that surveys were being made for a continuation of the line from Dease to Teslin. The interviewer, no doubt, meant to speak of E. W. Self, who is the Co.'s Consulting Engineer, who has been in charge of the examination & exploration, & whose report thereon to the directors—London, Eng., has not been made public. C. P. Woolley, one of the directors, who spent a good deal of the past summer in the country to be traversed by the projected line is reported to have stated at Wrangel, recently, that the road would be built as soon as the directors were satisfied the country would justify them in building it & not before, & added that they were satisfied as far as they had gone. The B.C. Review, of London, Eng., says:—“H. Cohen, who purchased the Cassiar Ry. charter from Warburton Pike, the concessionaire, & transferred it to the African B.C., corporation, has postponed railway construction until satisfactory assurances are received of the existence of payable mineral. It is probable that without more definite assurances as to the advantages to be derived from a railway, the Corporation will hesitate before entering upon so expensive an undertaking. . . . The land grant & mineral rights are extensive, & should the concessionaires, by undue delay, forfeit their charter, there is little likelihood of the Government again granting such foolishly liberal terms.”

Great Northern (U.S.).—A rumor has been current in Vancouver, B.C., that this Co. wants to secure the site of the recently burned Hastings mill for station purposes. It is said the Co. has engineers at work at New Westminster & Vancouver. The G.N. now reaches the south bank of the Fraser River, opposite New Westminster, by the New Westminster Southern Ry., which runs thence 23 miles to the International Boundary at Douglas, B.C., where it connects with the G.N. branch to Seattle, 120 miles farther south. It is rumored the G.N.'s schemes include a bridge over the Fraser at New Westminster, & an extension to Vancouver.

A recent despatch from Tacoma, Wash., says the G.N. is preparing to build a 200 mile extension from the main line at Wenatchee, Wash., through the Okanogan mining district, into British Columbia, with a branch to the mining camp at Eureka, Wash. The proposed line would follow the Columbia River from Wenatchee north to Lake Chelan & thence along the Okanogan River to B.C.

Kootenay Ry. & Navigation Co.—Mention was made in our Nov. issue, pg. 238, of the letting of a contract to Foley Bros. & Guthrie, of St. Paul, Minn., for some 50 miles of line from Bonner's Ferry, Idaho, to Kootenay Lake, B.C. Work was started Nov. 26, & it is said the line is to be completed by July 1, 1899. As explained in our last issue, the line on the Canadian side will be built under the charter of the Nelson & Bedlington Ry. Co. In this connection the Nelson, B.C., Miner says: “The stakes of the proposed route of the Nelson & Bedlington Ry. are alongside the C.P.R.'s Crow's Nest Pass road from the eighth siding to Kuskanook siding. The N. & B. railway is anxious to be allowed running rights over the other line for that portion of the route, or at any rate to be allowed to lay its track in the C.N.P. right of way. This would mean that the new line would not only avoid an expensive piece of construction, but also that all the tracklaying it would have to do this side of the boundary would be from the boundary to the eighth siding, about 13 miles, & from Kuskanook siding to Kuskanook, 8 miles. It is doubtful whether, under the charter, the C.P.R. could grant these privileges, & permission will probably have to be obtained from the Railway Committee.” We venture the opinion that the privilege is not likely to be granted by the C.P.R.

A party under J. A. Gray has returned to Kaslo after being in the field some two months surveying for the proposed Lard-Duncan branch of the Kootenay Ry. It is said excellent grades have been secured.

The K. V. R. & N. Co. is an English organization working in connection with the Great Northern Ry (U.S.). Full particulars of its organization were given in our Aug. issue, pg. 181.

Lake Erie & Detroit River.—The bridge over the Thames river on the Erie & Huron division is to be replaced with a through girder, with 2 spans of 75 ft. each, with a draw span resting on a centre pier, each arm being 64 ft. in length. The total length of the bridge will be 278 ft. The base of the rail will be 74 ft. above low water level. The piers and abutments will be made of concrete masonry on pile foundation. The contract for the substructure has been let & plans for the superstructure are completed. The Co.'s engineer is Owen McKay, Windsor, Ont.

The slip dock at Sarnia is not expected to be ready until the opening of navigation next year.

Lake Manitoba Ry. & Canal Co.—Work for the season was closed early in December. Practically all the grading done this season has been laid with rails, 56 miles having been laid from Sifton Jct., carrying the line to the edge of the Swan Lake district.

The country between the Dauphin Valley & that of Swan River & the accompanying streams is said to be one vast muskeg threaded by the sandy ridge upon which the railway is constructed. This is nothing less than the old sandy beach of the glacial Lake Agassiz. The whole country is heavily wooded with tamarac, spruce & some Jack pine, & will be in the future a valuable source of wood supply. Fire has done great damage to the bush, but where the forests have escaped the ravages of fire the trees are of gigantic size.

Mr. Armstrong, C.E., who has been engaged in locating the line, has completed his work for 50 miles beyond Swan River, to the base of the Porcupine Hills. The line, after passing through the Swan River Valley, skirts the Porcupine Hills until it reaches the valley of the Red Deer River, one of very similar formation to that of the Swan River, only much greater in extent. It runs westward between the Pasqua Hills and the Porcupine Mountains, about 100 miles. Thirty miles beyond the Red Deer Valley the Carrot River Valley is reached. Between this river & the Saskatchewan is said to be a rich plateau. The valley of the Carrot River, near the western end of which Prince Albert is situated, contains, it is estimated, about 1,500,000 acres of land. The original location of the C.P.R. was through the Swan River country. The intention was to strike the rich valley of the Saskatchewan, in which Prince Albert, Battleford & Edmonton are situated, following it westward to the mountains.

It is the intention to continue the line to the Great Saskatchewan River, in the vicinity of the Pas Mission, next year, & the Co. expects to reach Fort Churchill, Hudson's Bay within 4 years.

Manitoba & Southwestern.—Track has been laid this season from St. Boniface southeast 46 miles. Temporary arrangements have been made with the C.P.R., under which the M. & S. E. Co. gets the use of the former's tracks from St. Boniface to Winnipeg, & of its Winnipeg passenger station & freight sheds. The M. & S. E. is running 2 trains a week from Winnipeg to the end of track, & the indications are that a good business will be done throughout the winter, & that it may be necessary to increase this temporary service. The line traverses a splendid farming district through Springfield, Tache & Labroquerie municipalities, from which there is a good deal of wheat to be brought out. In the Cypress Hills, near the end of track, there is a large amount of timber. It is expected to do a large wood trade with Winnipeg. These hills are only about 80 ft. above the surrounding country, & the road will run along them

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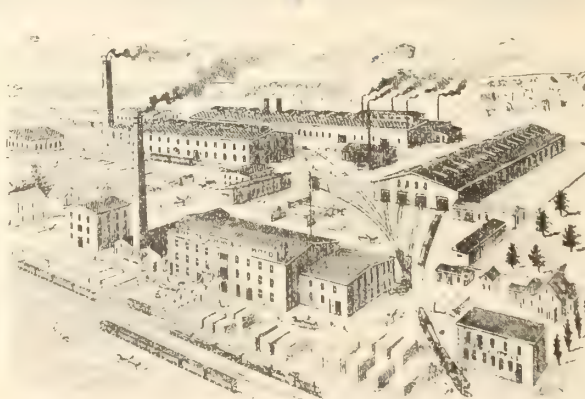
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for some 30 miles till it strikes the Roseau River.

Mention is made on another page of a rumor in Winnipeg that the C.P.R. has bought a large block of land, much nearer the centre of the city than its present station, for station purposes. Another rumor says this block, which lies east of Rorie Street, between Bannatyne & McDermott Streets, on the Winnipeg Transfer Railway, has not been bought by the C.P.R. but by the M. & S.E., & that it will be used by the latter for station purposes.

At the last session of the Manitoba Legislature the Government was authorized to aid the M. & S.E.R. Co. by guaranteeing the principal & interest of the Co.'s 1st mortgage bonds for \$8,000 a mile, the bonds bearing 4% interest & maturing in 30 years, & by exempting the Co. from taxation for the same period (see May issue, pg. 65). This aid is for the 1st link of the road from Winnipeg, southeasterly 80 miles to near Whitemouth Lake, thence to Lake of the Woods or to near the mouth of Rainy River. Whitemouth Lake was selected as a common point from which the line can run either across the narrows of the Lake of the Woods, entirely within Canadian territory, or go round the southwest corner of the lake, passing for some 35 or 40 miles through Minnesota, & entering Canadian territory again near the mouth of Rainy River. From Whitemouth Lake to Lake of the Woods is about 25 miles & to the mouth of Rainy River about 60 miles, making the distance from Winnipeg to the Lake of the Woods by the Canadian line 103 miles & by way of Minnesota 140 miles. The decision as to which route is to be adopted rests with the Manitoba Government & has to be given by Jan. 1 next. We have every reason to believe that the route through U.S. territory will be chosen. The Government has the power to similarly bonus the portion of the line in U.S. territory, taking as security a mortgage on the line within Manitoba. Surveys of both routes have been made by Mr. Bruce, C.E., & it is urged against the all-Canadian line that the bridging of the narrows of the Lake of the Woods would be too expensive & that a considerable distance of unproductive country on each side of the lake would be traversed. For the U.S. route it is contended that a better country would be passed through in the southeast corner of Manitoba & on entering Ontario, the Rainy River district being splendid farming land & already well-settled along the river front all the way from the mouth of the river to Fort Frances. There are numerous swamps on some portions of the route, but they are shallow & do not present any great difficulties in the way of construction.

Michigan Central.—It is rumored this Co. will ask the Dominion Government to deepen Kingsville harbor with a view to run coal boats from Sandusky, Ohio, to that town, the M.C.R. promising to extend its railway from Essex to Kingsville, some 15 miles.

Midland of Nova Scotia. Construction, on which good progress was made from the Windsor end during the summer, has been delayed owing to a disagreement as to the route from the crossing of the Shubenacadie River to Truro. The latter town voted a bonus of \$30,000, & the adjoining municipality voted \$6,000 additional on condition that the road be built via Clifton. On the other hand, the people of Windsor, New Glasgow & the Stewiacke district want it to go via Brookfield & the Stewiacke Valley. It is said that the Clifton route has been decided on & that M. J. O'Brien has received a sub-contract for the section between the Shubenacadie River & Truro. (Sep., pg. 184.)

Musquodoboit. At the last session of the Nova Scotia Legislature a charter was granted for a railway from the Musquodoboit Valley to some point on the I.C.R., it being pro-

posed for the road to run from Parker's Corner to Windsor, about 40 miles. A survey made during the summer by W. Yorston, C.E., did not prove satisfactory, as part of the line would be very expensive to build & unremunerative locally. Another survey will be made which will take the shore route, as it has been proved from an old survey that this line can be much more easily built than was expected, & there is a strong probability that this route will eventually be adopted. (June, pg. 99.)

The Northern Pacific has this year built the Souris River branch in Manitoba, starting from its Brandon branch, about midway between Belmont & Hilton stations, running southwesterly to the head of Pelican Lake, thence easterly on the centre line of sections from sec. 22, 1st sp. 5, r. 17 west to the west boundary of sec. 20, 1st sp. 5, r. 19 west, thence northwesterly to the s. w. corner of sec. 31, 1st sp. 5, r. 20 west, thence west on the line between 1st sps. 5 & 6 to the west boundary of range 22. The distance built this year is 46½ miles, but it will most likely be extended next year to a connection with the C.P.R. at Hartney or Lauder, for a point between them, the extension having been postponed this year on account of some difficulty in regard to right of way. The route traversed is through one of the best parts of Manitoba, well-settled by prosperous farmers. The work through Lang's Valley is exceptionally heavy for prairie work, in the way of cuts & fills, though bridging is light. The town sites are Dunrea, 14 miles from the junction; Minto, 27 miles out; & Elgin, 38½ miles out. The contractors were J. D. McArthur, of Birtle, Man., for the grading & tracklaying; C. Chamberlin, Winnipeg, for the buildings. The survey was commenced in the middle of April & construction at the beginning of June. (May, pg. 65.)

Norton Bay & Yukon Ry.—The Anglo-Alaskan Syndicate of London, Eng., whose U.S. officers are at Seattle, Wash., has completed arrangements for building the Northern Bay & Yukon Ry., & is inviting tenders for rail & rolling stock of U.S. builders. This line is to run from Norton Sound above Fort St. Michael, Alaska, east about 120 miles to Yukon River, cutting off some 400 miles of difficult river navigation.—Railroad Gazette.

Ontario & Rainy River.—E. F. Fauquier, who has the contract for the first 20 miles of this line, from its starting point at Stanley, on the P.A.D. & W., has completed the grading up to the heavy rock work which is now under construction. Ties will be taken out this winter all along the route & work will also be gone on with on the Kaministiquia bridge. Several survey parties are in the field between the end of the first contract & Rainy River. (Sep., pg. 184.)

Ottawa & New York.—An Ogdensburg, N.Y., despatch says: Engineers investigating the cause of the collapse of the pier which allowed 2 sections of the Cornwall bridge to fall into the St. Lawrence River, while in course of erection, report that the pier was built on hardpan of insufficient strength to stand the huge weight. A diamond drill operated in the bottom of the river at the base of the fallen pier bored through 2 ft. of hardpan, then struck into a muddy deposit of clay formation. Through this the drill sank 14 ft. without striking hard bottom. Further investigation is being made.

A Cornwall despatch of Dec. 2 says:—The anchor span of the north bridge on the north side of the channel, has been completed & cleaned up, & the false work removed. Nothing now remains to finish the bridge but to throw the cantilever span across a gap of 200 ft. or so to connect with the work already done on the south side. Mr. Hendershot, who has the contract for rip-rapping the piers of the Cornwall railway bridges, has

nearly completed his work on pier no. 8, in the north channel.

Air was pumped into some of the pontoons attached to the wrecked span in the south channel, & it moved down 300 or 400 ft. & stuck there. Capt. Leslie has been working at it since to get the rest of the pontoons filled, & expects to have the huge structure in a safe place in a day or two. It is said the south end of the span is badly smashed.

Pembroke Southern.—This line which runs from the C.P.R. at Pembroke, Ont., to Golden Lake, on the O. A. & P. S. R., 21 miles, has been completed & inspected by R. McCallum, Engineer of the Ontario Public Works Department. (Sep. pg. 184.)

The Quebec Central is erecting shops at Newington, 1 mile from Sherbrooke. The machine shop includes boiler shop, smithy, casting & pattern room, & has brick walls, granite windowsills, coping stones, etc., iron roof, steel trusses, each truss guaranteed to support 10 tons over & above weight of roof for crane work. One 10 ton trolley runs full length of machine shop. One 20 ton travelling crane runs transversely in boiler shop. Full length of shop, 198 ft. 8 in.; full width of shop, 86 ft. 2 in.; height of walls, 22½ ft.; height to ridge of roof, 44 ft. The heating & ventilating plant is the fan system of warm air. A 100 h.p. boiler is to be installed. All the works are now being run & lighted by electricity. The paint shop is just completed & will accommodate 4 passenger cars. Its length is 150 ft., width 36 ft. An oil & waste store house has been completed. Seven stalls of the round house have been built, all with patent wood smoke stack. Three of the old stalls will be rebuilt next year. The coal shed is completed. A carpenter's shop, 165 x 45 ft., will be built, probably by contract, next spring.

Rutland-Canadian.—Particulars of the incorporation of this Co. were given in our last issue, pgs. 231 & 232. The object is to extend the Rutland Ry., which now runs from Bellow's Falls to Burlington, Vt. The extension will run from Burlington north to Rouse's Point, N.Y., either by Grand Isle County or by way of St. Alban's & Swanton & will connect with the Canada Atlantic. It is said 2 engineering parties are already in the field. The construction of this line will give the Vanderbilts, in whose interest the purchase of the Rutland road was made recently, a line from New York to Canada & the great lakes.

Spokane Falls & Northern.—The management does not propose to repeat the experiences of last winter with slides if it is possible to prevent it. With that end in view it has had a large force of men at work on the road ballasting & putting the track in shape for the winter. Considerable work has been done at the Seven Devils, where there was so much trouble last winter. The river bank has been cribbed to prevent washouts & the overhanging bank has been cut down so that in case of slides the track will be too far removed to be damaged.

Thunder Bay, Nipigon & St. Joseph.—This proposed Co., which intends applying for a charter, has secured sufficient funds for a preliminary survey, which is to be made by Z. Malhiot.

Vancouver, Victoria & Eastern.—This line is projected to run from the Mainland coast at B. C. in the neighborhood of English Bluff, near Point Roberts, via Chilliwack, to Penetanguishene, approximately 200 miles, thence to Boundary Creek district, approximately 100 miles. The charter is controlled by McKenzie & Mann, & the B. C. Legislature last session granted a cash bonus of \$2,000 a mile for the whole distance from the coast to Boundary Creek, where it will connect with the Columbia & Western extension, with the

C.P.R. is building, & thence with the Crow's Nest, thus affording a second through line from the Pacific Coast to the Prairies. Very little survey work has been done west of Pentteton, but from Pentteton southeast towards Moxey engineers have been at work all summer locating. A little grading has been done from the Pentteton end, & it is said to be the intention to complete the line within 18 months, though, on the other hand, it is said this will depend on the obtaining of a Dominion subsidy, as the work is very heavy. It is also said that the point at which the C. P. R. shall cease building the Columbia & Western extension westward, & at which the V. V. & E. shall begin, has not yet been decided on.

C.P.R. Betterments, &c.

Napierville Junction Ry.—A rumor has been going the rounds of the Quebec Press to the effect that the C.P.R. has under consideration a proposition to complete this line. Enquiry of the C.P.R. general management elicits the reply that there is nothing to say on the subject at present. The N. J. Ry. & Quarry Co. was chartered in 1881 to build from St. Remi to Napierville, Que., with an extension to St. John's, & built about 8 miles. The Dominion & Quebec Parliament have each voted \$3,200 a mile subsidy; the municipality of St. Edward has voted a bonus of \$2,500, & the municipality of Napierville \$10,000.

Windsor St. Station Montreal.—We are officially informed that the plans for the proposed extension have not yet been approved, & that it has not yet been decided when the enlargement will be proceeded with.

Sault Ste. Marie Bridge.—Work on the piers & abutments of the new bridge across the canal is proceeding apace, & the mason work will shortly be completed. The superstructure will be erected when the canal is closed for the season. Meantime the operation of dismantling the pier in the centre of the canal is going on, so that upon the close of navigation its entire removal will be speedily accomplished. The new bridge will swing clear over the canal.

St. Clair Tunnel.—The Railway World, Philadelphia, says: "The Canadian Pacific proposes building a tunnel under the St. Clair River at Point Edward. The object is to offset the advantage the Grand Trunk gets from its tunnel at that point." It is not believed the C.P.R. has any intention of building a tunnel to accommodate its western states travel. Its crossing is from Windsor to Detroit by car ferry, & it has no line to Point Edward, which is 2 miles from Sarnia, on the G.T.R., or anywhere near it.

Winnipeg Station.—It was recently reported in Winnipeg that the Co. had purchased a large block of land in the centre of the city, fronting on Red River, upon which a union station will be erected next year, the present

station to be utilized as freight offices. The block is bounded by Rorie, Bannatyne & McDermott streets. The rumor lacks confirmation.

Stonewall Branch.—Neil Keith & Co. have finished this extension from Stonewall to Foxton, Man., 18 miles. (Nov., pg. 236.)

Pipestone Branch.—It was intended to complete 25 miles of the extension westward from Roston, Man., but on account of cold weather, work had to be stopped after the rails had been laid for 20 miles into the heart of a big French settlement, where farmers have needed railway facilities for some time. (Nov., pg. 236.)

Mountain Divisions.—In addition to the work mentioned in our last issue, pg. 236, a 5-stall stone round-house is to be built at Laggan.

Arrowhead to Kootenay Lake.—It is the impression at Revelstoke that the Co. will start work at an early date on an extension of the Revelstoke-Arrowhead branch from the latter place through the Lardeau to the head of Kootenay Lake. Manager Whyte, of the Western Lines, informs us he is not aware that it has been decided to make the extension referred to this winter.

Columbia & Western.—The standardizing of the line between Trail & Rossland is proceeding rapidly. The grading has been completed, & track is being laid with 70 lb. rails. A branch will be built across Centre Star gulch to the War Eagle & Centre Star mines & an extension will be built to the Columbia & Kootenay mine. Rossland City Council will build a bridge over the tracks on Washington St. (Nov., pg. 236.)

The final plan for Rossland Station has not yet been prepared. The Co. has acquired the necessary land in a choice situation, which permits of changing the plan first decided on, which owing to the circumscribed area of land available was not suitable for Rossland. (Nov., pg. 236.)

Boundary Creek Smelter.—On returning to Winnipeg on Dec. 6 from a consultation with the President & Vice-President in Montreal, Manager Whyte, of the Western Lines, announced that the Co. had decided to erect a 1,000-ton smelter in the Boundary Creek district of B.C., in advance of railway construction, thus meeting the wishes of many mine owners in that region. The point at which the smelter will be located has not yet been decided on. Work will be commenced in the early spring, & it is expected it will be completed in the autumn. It will cost upwards of \$60,000, & will no doubt be of great usefulness to the mine owners in that district. By its means the Canadian smelting industry will receive a decided impetus. The smelter at Trail will be ready this month to treat lead ores.

Hotel Vancouver.—The great increase in business necessitates another addition to this hotel, the second in a few years. Plans are

being prepared by E. Maxwell, Montreal. It is expected the addition will be on the west side, taking in a good part of the present grounds. The ground floor will be devoted to corridors & billiard rooms, & the floors above will contain about 150 bedrooms.

Minneapolis, St. Paul & Sault Ste. Marie.—The Bismarck extension has been completed from Kulm to Hebard, N.D., about 78 miles, & no work beyond the latter point will be done this year. The new stations opened are Lehr, Wishek, Beaver Lake, Napoleon, Braddock & Hebard, all of North Dakota. Next year the line is to be extended to Bismarck.—Railroad Gazette.

The Twenty-four Hour System.

H. W. D. Armstrong, C.E., writes us:—The 24-hour system of dividing the days of the month has been in use in some parts of Canada for some time, & it seems strange that its use has not become general, for wherever used it appears to have given satisfaction. I believe the C.P.R. lines west of Fort William & the Intercolonial at the other end of the Dominion find it an improvement over the a.m. & p.m. method of marking the hours, & people generally living in the districts traversed by the railways mentioned have found no difficulty in adopting the 24-hour system.

But, to my mind, in some cases at least, it is improperly used. I refer to specifying any time by naming the hours belonging to one day with the minutes belonging to the following date, viz., 24-05. For instance, a certain time bill is announced to come into effect at 24-01 on Jan. 15. This appears to me to leave an opening for a mistake of 24 hours. The coming 15 of Jan. will fall on Sunday, & this time bill is intended to take effect at midnight between Saturday & Sunday, plus one minute. Now, 23 o'clock on Sunday does not arrive until within 1 hour of Monday, therefore (saying 24-01 on 15th) makes it appear that 24 o'clock comes before 23 o'clock, which is obviously wrong. As I look at it in this case, the date of Saturday the 14th terminates at 24 o'clock (being midnight between Saturday & Sunday) & after that we have no hours on the 15th until one o'clock, & the time when this bill should be said to take effect is 0-01 on Sunday, Jan. 15.

The Great Falls & Canada Ry. is putting 3 sleeping cars on its line, which runs from Great Falls, Montana, to Lethbridge, Alta. They are, of course, narrow gauge & will have lower berths only.

Notice is hereby given that The British Yukon Mining, Trading & Transportation Company will apply to the Parliament of Canada, at the next session thereof, for an Act authorizing the said company to construct & operate a line of railway from a point at or near Fort Selkirk to a point at or near Dawson City; thence westerly to the one hundred & forty-first Meridian; also to construct & operate lines of railway from a point at or near Cariboo Crossing or from or near Tagish Houses to Teslin Lake or River & to Atlin, & with the consent of the Governor in Council, to construct & operate branch lines in the Yukon District not exceeding fifty miles in length; to change the name of the company to "The British Yukon Railway Company," & to divide the undertaking of the company into sections, & to borrow money separately upon each of said sections, or on any two or more of them combined; also to confirm the proceedings taken upon the organization of the company; & to further amend the Act incorporating the company.

CHRYSLER & BETHUNE.

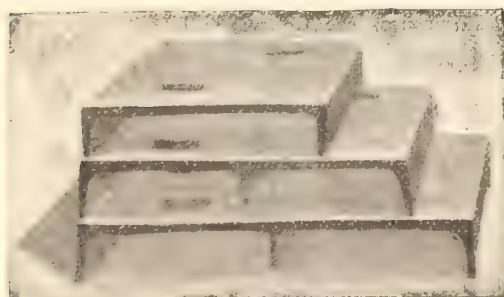
OTTAWA, 10th November, 1898.

CANADA SOUTHERN RAILWAY CO.

Notice is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act to extend the times limited for the commencement and completion of the unconstructed lines or branches of railway of the Canada Southern Railway Co.

KINGSMILL, SAUNDERS & TORRANCE,
Solicitors for the Applicants.

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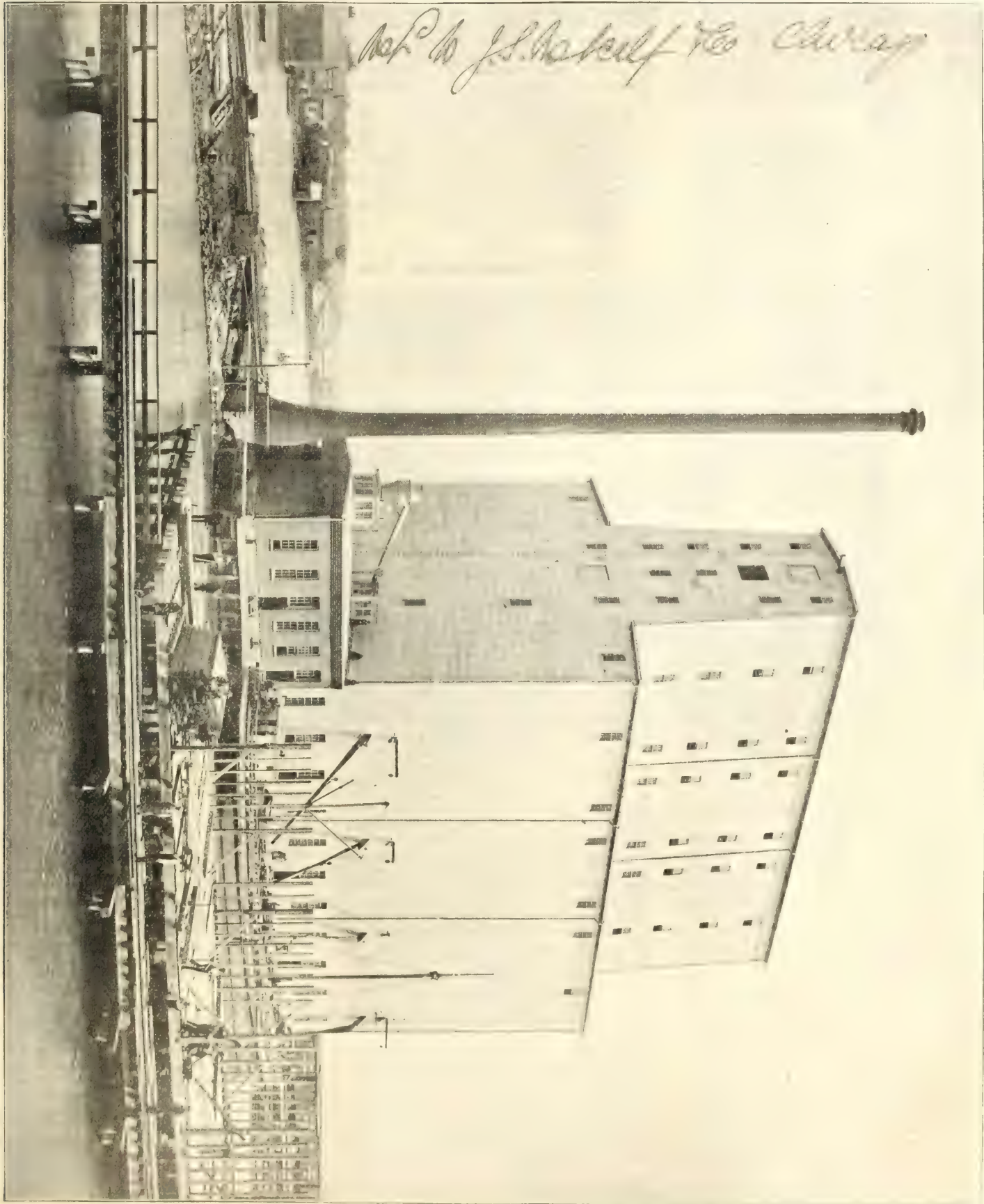
Office—17 Place d'Armes Hill.

Canada Atlantic Elevators.

The two elevators built by this line & its auxiliary, the O. A. & P. S. Ry. during this & last year, are illustrated in this issue. The illustration given below shows the elevator at Coteau Landing, Que., on the St. Lawrence

River, the other illustration, on pg. 267, shows the elevator on Depot Island, Parry Sound, Ont., the Georgian Bay terminus of the system. The Depot Island elevator was built last year to receive grain from boats for transfer to cars for shipment eastward. It is of the storage type, & is 80 ft. wide by 290 ft. long,

with bins 70 ft. deep. It has a capacity of 1,000,000 bus. It stands back from the face of the dock 100 ft., & on the wharf is a marine tower containing a marine leg of 15,000 bus. capacity per hour, & all grain for this elevator is received by it. The leg is supplied with a pusher & marine shovels. In



the tower is a receiving scale of 200 bus. capacity. The tower is connected with the elevator by means of a belt gallery containing a 30-in. belt conveyer.

A loftier leg of 16,000 bus. capacity in the elevator receives the grain from this conveyer, & by means of 2 belt conveyers over the bins will discharge it to any bin in the house. Underneath the bins, in the basement, are 2 systems of belt conveyers, which bring the grain from the bins to the working end of the elevator & discharge to 2 shipping legs, each having a capacity of 10,000 bus. an hour. The grain is weighed out in the cupola & spouted direct from the scales to the cars. The car spouts are metal & supplied with bifurcated loaders.

The power house is of brick & is located 100 ft. from the back end of the elevator. The power is transmitted to the elevator by a rope drive running up to & over the deep bins to a line shaft in the cupola, from which power is distributed to the different parts of the elevator & to the marine tower by means of ropes.

The Coteau Landing elevator was built this year. The main building is 143 ft. long by 90 ft. wide & 155 ft. high. It rests on a foundation of piles, heavy grillage & masonry, & is built out into the river so that barges can receive grain from either or both sides of the elevator. This arrangement gives also a wharf 8 ft. wide on either side of the elevator. The 1st story consists of heavy post & girder work, which supports the bins. The latter are 59 ft. deep, built of planking, & are surmounted by a cupola running the entire length of the building & 5 stories high. On east side of the elevator are 4 shipping bins, each of 5,700 bus. capacity. These, with the 74 others in the house, give a storage capacity of over 500,000 bus. The walls are covered with galvanized corrugated iron, & the roofs with tar-felt & gravel.

The engine & boiler house is of brick, 53x41 ft. in size, 23 ft. high, & stands close to the west end of the elevator. The smoke-stack is of steel plates lined with brick. It is 12 ft. in diameter at the base & 155 ft. high.

The elevator is equipped throughout with all of the modern conveniences & special machinery for handling grain with the least possible delay. It has 6 elevator legs, with 18x7x7-in. cups & 84-in. head pulleys. Three of these legs are for receiving, & are located between the 2 tracks, which run clear through the center of the building. Any one or all of the 6 legs may be used for shipping, & each has a capacity of 8,000 bus. an hour. Three pairs of Clark shovels are located between the tracks in the 1st story, and 3 30-in. belt conveyers are located in the basement to carry grain across the house & discharge it to the 3 elevators in the south end.

On the 1st floor is located a powerful friction-driven geared car-puller, with wire rope drum, arranged to handle cars on either of the 2 tracks. South of the middle of the house are 3 loading spouts, to discharge grain to cars standing on the house tracks.

The 1st story of the 5 story cupola is the distributing floor. It contains 12 distributing spouts, which take the grain from the scale hoppers to the different bins. The 3rd story contains six 1,200-bus. hopper scales, which receive grain from 6 large garnerers in the story above. The 4th story contains also the cupola line shaft, which extends the full length of the elevator. This shaft receives power from the engine shaft by means of a rope drive, & each of the 6 elevator heads is driven direct by rope transmission from this cupola shaft. The top story is occupied by the elevator heads & the spouting from them to the garnerers. Each elevator head is provided with a switch valve, so that the grain may be spouted to either of 2 garnerers. All power transmissions through the house are supplied with friction clutches, so that any

part of the machinery can be shut down or started at will.

On each side of the elevator are 4 dock spouts, which receive grain from the shipping bins, each spout being supplied with wire tackle & a hand winch for handling the spout. Each spout will discharge grain to the barges at the rate of 15,000 bus. an hour.

The power plant consists of an engine 18-in. diameter & 42-in. stroke, & 2 boilers 72-in. diameter by 16 ft. long. A complete electric light plant, with dynamo, operated by an engine, is included in the equipment. The fire-protection system consists of a powerful fire-pump, with complete system of standpipe & hose connections on each floor, & hose reels, with hose & nozzles at convenient points throughout the building. The outfit is deemed sufficient for any emergency. There is also a complete system of pneumatic sweepers throughout the house, arranged to discharge the dust to the furnaces under the boilers.

Both elevators were designed & erected by J. S. Metcalf & Co., of Chicago.

The C.P.R. Toronto-Sudbury Line.

The survey of this route commenced in Mar. last under H. D. Lumsden, C.E., was completed early in Oct. Four engineering parties were employed in making the preliminary & location surveys. The plans have been completed for filing with the Department of Railways at Ottawa.

The line, as located, starts from Kleinburg, on the Co's Owen Sound section, 21 miles from Toronto, & joins the main transcontinental line at a point between Romford & Sudbury Jct., about 3½ miles east of the latter point, the whole distance from Kleinburg to the main line being 226 miles, making a distance of 250 miles from Toronto to Sudbury, as against 306 by the G.T.R. route via North Bay.

From Kleinburg the line runs almost due north, passing about 1½ miles west of Lloyd-town, thence a little east of north to near Allandale, passing about ½ mile west of Bondhead, & about 2 miles east of Cookstown. At Allandale it crosses the G.T.'s Hamilton & Northwestern branch by an overhead bridge, & the Collingwood branch on the level. After passing through Barrie the line runs almost due north to Midhurst & Craighurst, then n.e., passing Coldwater, & continuing almost in a direct line to the crossing of the Severn River, 9 miles up stream from Port Severn. From this crossing it continues a little e. of n. to Bala, the outlet of Muskoka Lake, where it crosses the south branch below & the north branch above the falls. From Bala the course is a little w. of n. to Parry Sound, touching Lake Joseph at Hatherley's Bay, & crossing the O.A. & P.S. Ry. by an overhead bridge about 3 miles from that Co's Rose Point or Parry Sound Station, running through the town of Parry Sound, & crossing the Seguin River at the falls near the grist mill where the electric light plant is now located. From Parry Sound the line goes a little w. of n. passing through the townships of McDougall, Carling, Shownaga, Harrison, Wallbridge & Mowat, reaching the crossing of French River on an Indian reserve near Cantin's Island. The 2 branches of French River are crossed about 2 miles apart, & the line continues generally in a n. w. direction to the connecting point near Sudbury, crossing the Wahnapiatae River about 12 miles below Wahnapiatae Station on the main line.

An excellent line has been obtained with maximum grades ascending northerly of 1%. Coming south the maximum is ¾ of a foot per 100. The maximum curvature is 6 degrees, or a radius of 955.37, but these are only at a few exceptional places in the rocky country north of the Severn. There is no rock work be-

tween Kleinburg & the centre of the township of Matchedash. From there to the northern terminus a considerable amount is met with. For the length of the line the bridging is not heavy. The heaviest bridge will be just north of Kleinburg, where the Humber Valley, 1,200 ft. wide & 110 deep, has to be crossed. The only other streams of importance to be crossed are the Severn, with a span of 150 ft.; the Musquash at Bala, 1 span of 100 ft. & 1 of 150 ft.; the O.A. & P.S. Ry. & adjoining stream by 2 spans of 60 ft.; the Seguin River at Parry Sound, 2 spans of 100 ft.; Shownaga River, 1 span of 100 ft.; 2 branches of the Nosquetiwan River, spans of 100 ft. over each branch; Magnetawan River, 1 span of 100 ft.; Key River, 1 span 100 ft.; French River, 2 branches, 1 span of 150 ft., 1 of 250 ft.; Wahnapiatae River, 1 span of 100 ft.

The line goes through the heart of the Muskoka tourist district, tapping both Muskoka Lake & Lake Joseph, & it would shorten the time between Toronto & Lake Joseph by several hours. It is still impossible to speak with any degree of certainty as to the C.P.R.'s intentions as to the construction of the line, but in view of the recent settlement of the C.P.R.-G.T.R. difficulties, it is almost a foregone conclusion that the work will not be gone on with at present. We are inclined, however, to think that there has been no abandonment of the idea, but merely a postponement. Ten years ago the C.P.R. had a preliminary survey made of the route, which was referred to in the Co.'s annual report for 1888. At about the same time the G.T.R. acquired the Northern & the Northwestern Rys., & an arrangement was effected between the C.P.R. & G.T.R. in regard to the former's northwest traffic going over the G.T.R. between Toronto & North Bay. The C.P.R. has for years shown a direct line from Kleinburg to Sudbury on its maps, & no doubt intends to build it sooner or later. The new arrangement with the G.T.R., which no doubt is satisfactory as regards northwest traffic, gives the C.P.R. no share of local business. The tourist traffic to the Muskoka Lakes has been greatly developed by the G.T.R. in the last 2 or 3 years & may now be said to be only fairly started. With proper hotel facilities it is capable of almost indefinite expansion. It can hardly be doubted that the C.P.R. has its eye on this traffic, & that when the time is opportune it will reach after it by a line that will traverse the heart of the lake district. At present the C.P.R. has more important work on hand in strengthening its position in British Columbia, where, in addition to the western portion of the Crow's Nest line yet to be completed, it has the Robson-Midway line under construction, 105 miles of the heaviest work on the Co.'s system, which is being built without a dollar of subsidy & the financing of which alone is quite enough of an undertaking for one year.

The C.P.R. has no charter for a line from Toronto to Sudbury, but it would appear that it could be built under the powers conferred by the Co.'s original Act of 1881, which gave the Co. the right, from time to time, to lay out, equip, maintain & operate branch lines of railway from any point or points along its main line to any point or points within the Dominion. In 1895 W. Mackenzie, H. D. Lumsden, C.E.; G. A. Cox, F. Nichols & D. D. Mann obtained a Dominion charter for the James' Bay Ry. Co., with power to build a line from Parry Sound to Doke's Indian reserve, thence to the easterly line of Lake Wahnapiatae, & to the mouth of Moose River, James' Bay. In 1897 another act was passed, empowering the Co. to extend its line from Parry Sound to Toronto, it being provided that the railway from Parry Sound to James' Bay, & the extension from Parry Sound to Toronto should be commenced within 2 years therefrom, & 15% of the capital stock of \$1,000,000 expended thereon. This charter is con-

trolled by Mackenzie, Mann & Co., & might, no doubt, be utilized should the C.P.R. wish to build under it.

For the country north of the C.P.R. main line there is power to build under a charter granted in 1884 to W. Hendrie, W. Thomson, Jas. Walton, J. Macnabb, W. B. McMurrich, J. C. Bailey, P. A. Scott, A. Kirkwood & A. Nairn, who were incorporated as the Lake Nipissing & James' Bay Ry. Co., with power to build a line from at or near the junction of the Callender branch with the C.P.R., or from near Callender to Moose Factory, or some other point on James' Bay. In 1889 the name was changed to the Nipissing & James' Bay Ry. Co. In 1896 the acts relating to this Co. were consolidated, the proposed railway was declared to be a work for the general advantage of Canada, & it was provided that the line should be completed to Lake Temagami within 3 years, to Lake Temiscamingue within 5 years, & the balance within 7 years from the passing of the Act. It is said this charter is also controlled by Mackenzie, Mann & Co., or, at all events, it is in hands that are friendly to their interests.

At the 1st session of the Ontario Legislature this year the James' Bay Ry. was granted, to aid in the construction of 90 miles of its line from Parry Sound to, at or near Sudbury, \$3,000 a mile for a distance not exceeding 40 miles, & the unearned subsidy of \$3,000 a mile for a distance not exceeding 50 miles which was granted to the Nipissing & James' Bay Ry. in 1889, the unearned subsidy being transferred to the James' Bay Ry. This makes a total cash subsidy of \$270,000 for the 90 miles.

Early this year the City Council of Toronto appointed G. Gooderham, J. H. Mason, R. Davis, W. R. Brock, L. M. Jones & Mayor Shaw as the Toronto & Hudson's Bay Ry. Commission, W. T. Jennings, C.E., being appointed Secretary & Consulting Engineer to the Commission. At the last session of the Dominion Parliament the Commissioners secured incorporation as the Toronto & Hudson's Bay Ry. Co., with power to construct & operate a standard gauge line from Toronto to or near the mouth of Moose River, Albany River or Churchill River, on the west side of Hudson's Bay & James' Bay, with a branch to the Northern Pacific Jct. Ry. at or near Gravenhurst, a branch southward from the main line adjoining the watershed near Timagami Lake, thence to the Northern & Pacific Jct. Ry. at or near North Bay or Nipissing Jct. & a branch from near Parry Sound to or near Sudbury, thence to Wahnapiat Lake. In consequence of the opposition of the holders of the 2 charters above mentioned, it was provided that the operation of the Toronto & Hudson's Bay Ry. Act should be suspended for 2 years as far as power to lay out & con-

struct a line is concerned, & if at the end of that time the James' Bay Ry. Co. has commenced & substantially proceeded with the construction of its line from Toronto to Sudbury via Parry Sound, & if at the end of such time either the James' Bay Ry. Co. or the Nipissing & James' Bay Ry. Co. has commenced & substantially proceeded with the construction of a line northward from the present main line of the C.P.R., the Act shall be similarly suspended during such time as the substantial proceeding with the construction of the lines above mentioned continues, & upon the completion of those lines the Act shall cease.

Robson to Midway, B.C.

We are officially informed that about 5,000 men are at work on this line, which is being built by the C.P.R. under the Columbia & Western charter. About 70% of the grading, including rock work, has been done, & it is expected the line will be open by May next. (Nov., pg. 237.)

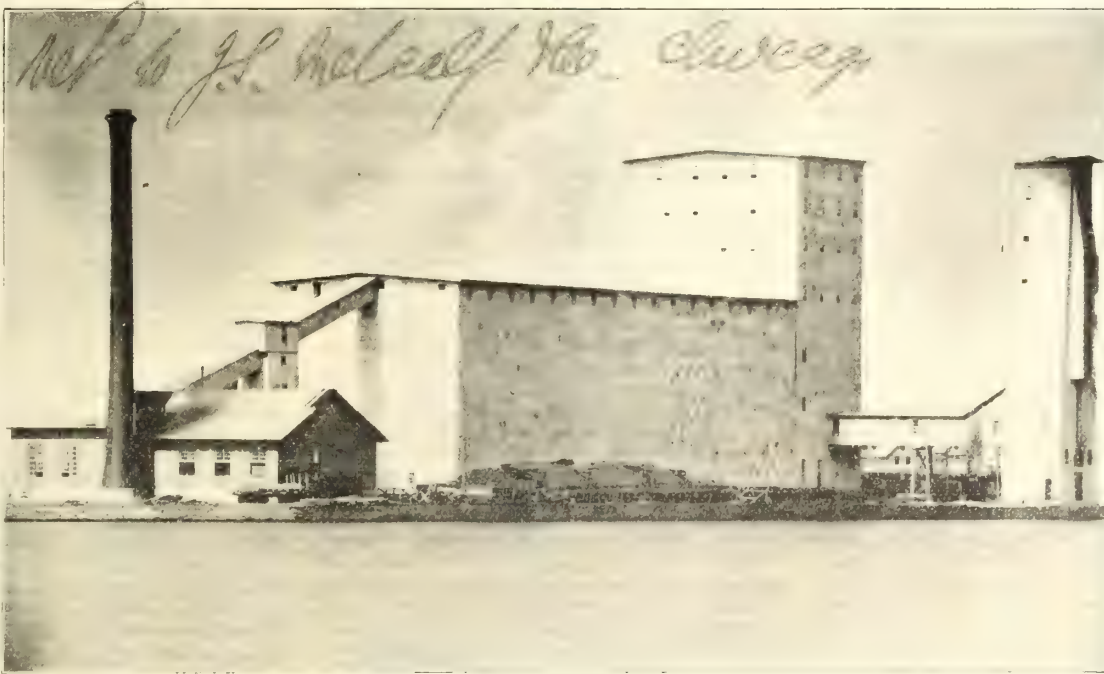
A recent despatch from Brooklyn, B.C.,

fact that the contract has had the personal supervision of the contractors themselves. Either Mr. Foley or Mr. Larson are almost always present at headquarters or out somewhere on the line of construction supervising the work. In addition to this, W. F. Tye, Chief Engineer of the C. & W., & his assistant, Mr. Sullivan, are also on the ground most of the time with their corps of some 125 assistant engineers & helpers.

The first month or two were largely occupied in preparations for future work, & in securing men. At first men were scarce, but latterly they have been more plentiful & the more than 5,000 now on the line from Robson to Glenwood are making the dirt & rock fly at an astonishing rate. Long stretches are completed, & the sub-contractors have moved on to secure more work. Yet in other places the work has scarcely been touched, & of course the bridges can not be put in place until the steel reaches them, & the timbers can thus be brought forward on the cars.

The long-looked for 14-drill air compressor plant, which was ordered some two months since for use on the 3,000 ft. tunnel, to be

driven about 4 miles out from Brooklyn, has arrived at the C.P.R. dock here, & the big job of hauling the heavy machinery to the scene of operations is now being undertaken. It is estimated that it will take about 3 weeks to get it installed & at work. Included in the plant are three 80 h.p. boilers & 2 large air receivers. The machinery will be installed on this side of the tunnel, but will be operated from both ends, the air for the work at the western end



CANADA ATLANTIC RAILWAY ELEVATOR AT DEPOT ISLAND, ONT.

says:—One of the marvels of modern railway building is the speed with which the present contract of the 105 miles of the Robson-Midway branch of the Columbia & Western Ry. has been pushed. The contract was signed by Mann, Foley Bros. & Larson & the representatives of the C.P.R. in St. Paul June 4, & inside of 5 days the contractors had a force of men & the first of the supplies on the ground.

This promptness in taking hold of this gigantic contract has been a characteristic one of the work all through up to this time. No stone has been left unturned by which the work could be in any way facilitated. With the ablest of superintendents & assistants, with almost unlimited capital to carry any undertaking of this character, coupled with an experience of many years in the business, the contractors were in a position to successfully attack the great obstacles in their path before the iron horse could be sent over the new steel highway that will connect one of the richest mineral belts in North America with the outside world.

Possibly one secret of the successful prosecution of the work to the present stage is the

being delivered in a 5-in. pipe nearly a mile long. At the west end a small boiler will be installed to operate a blower to drive the smoke from the tunnel, while a similar work will be performed at the eastern terminus by the main plant. Seven drills will be used on each end—6 on the heading & 1 on the bench. The machines are fitted with a 3½ in. piston & 2¼ in. bits, the drills being 5 ft. long. The cost of the outfit was about \$15,000, & it is being used by McLean Bros., who have the tunnel contract. It is complete in every respect, & will greatly assist in boring the 16 by 21 ft. hole through the mountain. While waiting for the plant to arrive, work has been commenced by hand, & on the eastern end the heading is into the mountain about 16 feet. Timbering has already commenced & may be necessary for 100 feet.

McLean Bros. have also received a patent steam scraper, the first one of the kind manufactured. Contractors are awaiting with interest the outcome of the trial. It is operated by a single 35 h.p. boiler, & it is claimed that the scraper will handle 3 cubic yards of gravel at one operation. The engine is of the donkey variety & can be made to proceed uphill

or down side by its own power, there being 1,700 ft. of $3\frac{1}{2}$ in. steel cable. The whole operation has been hauled to the second contract of McLean Bros., near the new town of Gladstone, where it will be set to work as soon as possible on some of the immense gravel fills & cuts. It will probably save a large amount of labor.

P. A. O'Farrell, writing to the Globe, says of this line: The Columbia & Western Ry. is being rushed with all speed to the Boundary Creek country. It will be completed to Midway. Between Arrow & Christina Lakes, a distance of about 50 miles, the new road will climb 3,000 ft. above the lakes, & the up & down grades will lead through a frightfully rough country. From Robson the road rises gradually till at Brooklyn it is fully 1,000 ft. above the lake, & then it cuts through a 3,000 ft. tunnel to reach Dog Creek. Western pioneers have an unhappy knack of inflicting inappropriate names on the mountains, creeks & rivers of this far northwest. Dog Creek is a noble torrent that rolls through a glen & valley of enchanting loveliness. One of its tributaries is Lup Creek, & the mountain at whose base it flows to a junction with Arrow Lake, is called Bull Dog Mountain.

From the summit of Bull Dog Mountain I recently beheld a vision of terrestrial scenic beauty, the peer of which my eyes had never yet seen.

Picture 10,000 rolling mountains lifting their heads proudly to the skies, hundreds hoary with everlasting snows, & thousands covered even to their crests with the great primeval forests of the land. Picture, too, a brilliant autumnal sun casting light & shade upon all that vast panorama of glen, & canyon, & torrent, & slope, & mountain. There, where the sun kissed mountain tops & shelving hillsides in the shadow & far below, in the midst of these glorious mountains stretched the waters of Arrow Lake, too unutterably beautiful to be portrayed by poet or painter, much less by this inartistic pen of mine. It were hard to tell whether forest, lake, glen, mountains, the light or the shade, the dark blue sky studded with fleecy clouds or the glorious autumnal sun added most to this magnificent scenery. It was the tout ensemble that made the picture so enchanting—a picture that must abide forever in the memory of him whom the Fates led thither to behold it. When the Columbia & Western Ry. is completed the traveller through the Kootenay will catch a glimpse of this magnificent scenery as he winds around the slope of Bull Dog Mountain. But the mountain-climbers only can behold it at its best. Were it not that nature had stored her richest treasures in these mountains of the Kootenay, these beautiful lakes & forest-clothed glens & glades & mountains must have for ever been given over to the empire of loveliness. Often for hundreds of miles there is not enough arable land to support a family, & yet in that same stretch there are mines of copper & gold, of lead & silver, sufficient to enrich an empire.

On the shelving sides of Bull Dog Mountain I examined a copper mine, called the Mountain Chief. I was amazed to find on this mountain side, $2\frac{1}{2}$ miles from the lake, the finest copper prospect that I have yet seen in B.C. The Columbia & Western Ry. was projected to give an outlet to the world's markets to the almost unlimited copper ores of the boundary country. That is the country west of Kootenay. Within a year Boundary can supply smelters with 1,000 tons of copper ore a day, & from what I have seen on Bull Dog Mountain I am convinced that rich copper ore will yet be developed on the way from Robson to Midway. A good copper mine is the most valuable of all business investments. The demand for copper is always greater than the supply, & the price of copper is as steady as Government bonds. The Anaconda mine clears \$5,000,000 profit yearly. The mining, smelting & refining of Kootenay & Boundary copper ores can be effected as cheaply there as at Anaconda as soon as the railway from Crow's Nest Pass to Midway is completed.

More smelters must of course be built, more steamboats on the lakes & rivers, more coke furnaces, more villages, camps & cities. Lead, copper, gold & silver mining must then become the greatest industry of the Dominion, provided Canadians continue the smelting, refining & handling of the product of their rich mines at home.

Coming down the lake, on the fine C.P.R. steamboat, the Rossland, I looked over the freight which loaded it down to the gunwale. There was a carload of California peaches, 2 carloads of Manitoba flour, 2 carloads of hay from Regina, dry goods from Montreal, preserves from Ontario & machinery from Quebec, & the pursers of the Rossland & the Kootenay told me that all the boats on the lakes are busy as can be conveying freight & passengers. Their carrying capacity is strained to the utmost. Since F. A. Heinze turned the Rossland-Robson road over to the C.P.R. the express business on that road has increased threefold. It is booming now, & this business must be enormously increased in the near future. The Crow's Nest Pass Ry. will be in fine running order by January, & when it is in full swing they will start out shipping into the Kootenay about 200 tons of coke a day & about 500 tons of coal. Moreover, farm & food products of all kinds will be speedily forwarded over that line from Manitoba & the Northwest Territory, & the supplies that now reach Kootenay from Washington will then come from Canadian farms. The developments of the coming year will be the most astonishing that B.C. has yet seen, & will attract the attention of the world.

Frenchwoman (travelling for some time on Metropolitan Railway, London, to fellow passenger)—My station do seem very long to arrive at. I have passed Bovreel, Asbestos, Liebig, Pears' & Bouillon Fleet, but I come not to the Adeeson Road.

The Crow's Nest Pass Ry.

The construction of this line has been pushed very rapidly. Construction commenced July 20th, 1897, & the last rail was laid Oct. 7, 1898, completing the line between Lethbridge, Alta., & Kuskanook, Kootenay Lake, about 290 miles. From Kuskanook the cars are taken on barges, each of which carries 15 cars, down Kootenay Lake, & down the Kootenay River to Nelson, where connection is made with the Co's Columbia & Kootenay branch, thus giving through traffic to Rossland without breaking bulk, besides effecting a considerable saving of time. The Co. has 2 years within which to complete the line to Nelson, & notwithstanding reports to the contrary, Vice-President Shaughnessy states that the terms will be carried out to the letter.

From Lethbridge the line runs via Macleod & Pincher Creek. After reaching the Crow's Nest Pass, which lies on the boundary line between Alberta & British Columbia, the line follows pretty closely the stream known as the Middle Fork, afterwards taking a southerly course along the Michel River to the region of the Elk River. Crossing the Kootenay River into the East Kootenay mining country, it goes up the west side of the river for 50 miles until it reaches Cranbrook. Thence it crosses the summit of the Purcell range of the Selkirks to the Moyie River, which it follows for 50 miles until it strikes the Goat River valley, & follows it to the head of Kootenay Lake, which is the temporary western terminus of the railway.

The coal mines, of which so much has been heard, lie in the Elk River district beyond the Crow's Nest Pass, & the great advantage of the road is that it establishes communication between the gold & the coke which is required for smelting it, all within the Dominion. Moreover, it opens up the East Kootenay mining country, which is most promising. Already several properties are working in the district. On the St. Mary's River, the North Star is in an advanced state of development, & the Sullivan group is also working. On the Moyie River the St. Eugene property is also being worked. Copper as well as gold is making a good showing in the country.

The country crossed by the railway is mountainous, but the valleys are wide & contain land good for agricultural purposes. Splendid grazing lands are to be found all along the route. Moreover, the lakes & waterways are navigable the year round. Owing to the Chinook winds they do not freeze in winter. Another advantage to East Kootenay & the Rossland district is the fact that the food products of the Edmonton district have direct access thereto. This is one of the chief boons of the railway.

From Fernie, 35 miles west of the summit of the Rockies, the junction of Coal Creek & Elk River, a branch line runs 5 miles up Coal Creek to the coal mines which are already working & where 300 coke ovens are building. The Coal Co. has also a reserve mine,

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north of the main line, near Michel Creek, about 10 miles west of the summit. From Morrissey Creek, about 41 miles west of the summit, it is intended to build a branch eastward up the creek about 4 or 5 miles to the coal deposit, the vein extending through the spur of the mountain from 5 miles up the creek from Fernie to Morrissey Creek, appearing again on Morrissey Creek. A branch from Cranbrook to Fort Steele is also talked of.

Mixed trains have been running between Lethbridge & Cranbrook for some time, & the service has now been extended to Kootenay Lake. A train runs from Lethbridge to Cranbrook, the division point, returning the next day, & there is a similar service between Cranbrook & Kootenay Lake. Not much passenger traffic is anticipated for the winter months, but there will be a very heavy freight traffic, principally in coal, timber & ore. On Nov. 15, Manager Whyte of the Western Lines took over the Crow's Nest line from the Manager of Construction, & as there is a good deal of work yet to be done west of the Rockies, especially west of the loop, he appointed as Superintendent M. H. Macleod, who since H. D. Lumsden, C. E., came east to make the Toronto-Sudbury survey, has been Chief Engineer of Construction. G. Erickson, heretofore Roadmaster of the Mountain Section at Field, B.C., has been appointed Trainmaster. The line has been attached to the Western Division. The portion between Macleod & Cranbrook has been designated the Elk River Section, & that between Cranbrook & Macleod as the Goat River Section. Mr. Whyte says the ballasting of the road will be pushed forward as rapidly as possible, in order that passenger traffic may be well accommodated in the spring. He expects that next season trains will be able to make as good time on the new road as on any other part of the system. There will be little snow to contend with, & it will not be necessary, therefore, to erect any snow sheds in either of the two mountain ranges.

Early in December, at the invitation of the C.P.R., a number of West Kootenay business men made a trip from Nelson to Kootenay Landing by boat, & thence over the Crow's Nest line to Fernie, the centre of the coal fields.

Rossland papers have been continually asserting that the Crow's Nest line would not be extended from Kuskanook up the west side of Kootenay Lake to Nelson, but that it would be built almost directly west via Salmo, Sayward & Trail. When Sir Wm. Van Horne was at Nelson recently he emphatically denied this, saying: "We don't want to go over

the tops of the mountains. It is too ridiculous to talk about; of course we are coming through Nelson."

The question of building a line into the Ymir & Salmo districts is another matter. It is said the C.P.R. has had a survey made & that the route is practical. Speaking of the matter, at Nelson, Sir Wm. said: "We are here for business, & wherever it is to be got we are after it. Ymir I have not visited, but if it be as great a camp as you say the C.P.R. will get into it. We are looking for trade & will do all we can to secure it."

Hydraulic Filling on the C.P.R.

E. J. Duschenay, C.E., Superintendent of the Selkirk & Shuswap sections of the Pacific Division of the C.P.R., has, in response to a request, kindly furnished us with the following particulars of the hydraulic filling of trestles:

The C.P.R. Co., anxious to replace all its wooden structures, built during first construction, by permanent works, such as steel bridges, masonry arch culverts and solid embankments, has had a large force of men,

with the latest improved plant, at work for the last 12 years over the whole system. The new embankments were mostly made up with steam shovels loading gravel on cars, hauled sometimes long distances. In 1892 the Co. was engaged in doing a very large amount of filling of trestles in British Columbia, especially along the canyons of the Fraser River. At various points mountain streams intersect the railway line, & one may even to-day see where the pioneer miners utilized these streams to wash the gravel benches along the river in their mining pursuits. The management, always on the alert to improve & cheapen its manner of works, struck on the idea of using this water power which nature was offering, & decided to discard the use of its excellent steam shovels, with improved ballast unloaders, even the most ingenious air dump-cars, for hydraulic wherever it could be done. The expectation was that the ultimate cost of filling these bridges by this method would be about half that of doing the same work as formerly. The results have fully proved this & have been most satisfactory.

Two large structures were replaced in this manner along the Fraser River, & the Co. is now completing a large embankment, across the wide ravine of Mountain Creek, near the summit of the Selkirk Range. This bridge has a total length of 1,071 ft., & is 155 ft. in depth, & is fully described & illustrated in the "Treatise on Wooden Trestle Bridges," by W. C. Foster. The cost of installation of this hydraulic plant has been very great. A flume 2 miles long had to be built along a very broken side hill, steep & rocky, & across the path of many snow slides. The stream of Mountain Creek is rapid, & in this distance of 2 miles from the railway track it rises over 380 ft. A dam was built across, so as to divert part of the stream into the flume at its head. The water is thus brought down in this flume, built 4 ft. wide, & on a gradient of 20 ft. per mile, so the flow of water is of uniform volume & speed throughout. It empties into a reservoir, or box, called "Penstock," which stands at a height of 180 ft. above the railway track. A line of steel pipes 14 inches in diameter is connected with this reservoir, & leads to the present pit on the east side, a distance of 2,200 ft. Although the cost of building the flume, laying the pressure pipe line, & all other installation expenses amounted to a very large sum, the ultimate cost of the



material retained in the embankment will prove a great saving to the Co. over other methods. It is expected this will be at least 50. A probability there will be favorable circumstances.

There are a dozen operations, viz: 1st. Washing the bank down, leading & delivering by the end of a series of sluice boxes to where the filling is to be made. 2nd. Retaining & impounding the material after it is deposited. 3rd. Extracting mines, the first operation only is done, since the tailings or gravel after the gold has been extracted are of no further use, therefore are deposited to the nearest dumping ground & allowed to go to waste.

The pipeline terminates with what is called a "Monitor" or "Giant" so constructed with ball joints, that the large volume of water, coming to under great pressure can be controlled & directed with greatest ease. There is a gate, a short distance behind the "Giant" which acts as a valve & closes the water when necessary. The piper & monitor men direct the jet of water at the foot of the bank of gravel, soon a cave-in of the bank takes place, & the water, gravel & boulders all run into the sluice boxes placed at the lowest point of the working pit. The sluice boxes, 33 in. wide by 2 ft. high are built of planks, with the bottom covered with pieces of old steel rails so to prevent the wear. When necessary to have the line of these sluices turn any small or large angle, the forward length of sluice boxes has to be built a few inches lower, so to prevent the gravel blocking the sluice, & forming bars at the turning point. They are on a steep or 8% grade, running down to the point of unloading, generally at the centre of the embankment to be made. Thus the gravel & all filling material is carried into the proposed filling. Now begins the difficulty of controlling, holding this material in its partly liquid state from wasting itself all over the country. Not only is it necessary to control it, but it must be held within the limits of the slope, usually $1\frac{1}{2}$ to 1, or angle of rest of an earth embankment. This is done by alternative rows of logs & brush, hand-laid along the outside face of the filling, each row receding the required distance to form the slope required. All the gravel, rocks, &c., are thus held back & the water only is allowed to fall over, & run down the face of the embankment already built. The filling at Mountain Creek began in Aug. 1897, & continued till Oct. 1897, when the winter weather stopped all possibility of work. It was resumed again last May & in all probability will be completed this fall. This was written Sep. 3. The volume of water used may be reckoned as 800 miners' inches, under a pressure of 180 feet.

The smaller of the two illustrations on page 270 shows the monitor at work, the larger illustration shows the hydraulic fill on the west side made to a height of 90 ft., also the sluice boxes fastened on the side of the trestle work.

F. S. Barnard, Resident Director in British Columbia of the B. C. Electric Ry. Co., is visiting England.

P. J. Myler, who has been Secretary & Asst. Treasurer of the Westinghouse Mfg. Co. since its establishment in Hamilton, Ont., & who has been Acting Manager since G. F. Evans went to St. Petersburg to establish the Co.'s Russian works, will, it is understood, be appointed Manager as well as Secretary at the next board meeting.

Grand Trunk Betterments, &c.

Portland Terminal Facilities.—Owing to the steady increase in the Co.'s business at Portland, Me., the officials have been greatly hampered in the narrow limits & small capacity of its yard. Various expedients were tried to extend the capacity of the freight yard, but it was not until the land near the East Deering stock yards was purchased & fitted up as a yard that the problem of handling the large business was solved in any satisfactory manner. Now the Co. has 2 yards, one near the passenger depot, extending out towards the bridge around the base of the Munjoy Hill & past Fish Point, & the other yard, the new one, about $1\frac{1}{2}$ mile from the passenger station & steamer docks.

The new yard begins just above Verandah street, where the Yarmouth road crosses the G.T. tracks. Its northerly end is at the stock yards, 2,500 ft. from the commencement of the yard. The yard contains $11\frac{1}{2}$ miles of tracks & holds 1,300 cars. The yard is 25 tracks across, the longest track being 2,400 ft. & the shortest about 1,300 ft. At the Verandah street entrance the yard branches out from the main line, which at this place is a double track, & this is the only entrance to the yard. It was the original intention to make the yard much longer than it now is, but this was prevented by the failure to secure a proper deed of the land near the northern terminus of the yard, & when the deed finally was secured it was too late to grade the land & lay the tracks for this season. This extension will probably be constructed as soon as it is required.

Grading for the yard was commenced July 22 & was done by contract. The big fields were smoothed down & the hollows filled in, making a perfectly level tract of land for the laying of the tracks. On Sep. 28 the work of putting in the tracks commenced. This required 23 miles of rails, 35,000 sleepers & hundreds of car loads of gravel for ballasting.

Victoria Jubilee Bridge.—The new superstructure is all completed, the removal of the old tube having been accomplished, with the exception of the centre span. As this will require a different method of handling, on account of its length, it will probably require more time than has the removal of the others. The laying of the floor is closely following the removal of the spans. The illustration on page 271 shows a cross section of the 11th pier, & of the 12th span. The old tubular bridge is shown inside the new span.

Crossing at St. Henri.—The application of the corporation of St. Henri (Montreal), for permission to open Gareau street across the G.T. tracks again came before the Railway Committee of the Privy Council Nov. 10. This application had been twice refused by the Committee on account of the danger to life of additional level crossings of the G.T. & also because there is already a crossing at Fort street, which is the next street to Gareau. The Mayor of St. Henri & Mr. Bruneau appeared for the City, & produced a quantity of new evidence to show that the municipality had the right of way before the building of the G.T., & that the right had never been surrendered. The necessity for the crossing was also urged, in view of the crossing being needed by the large population on the other side of the tracks. W. Wainwright, on behalf of the G.T., urged the

danger to life of permitting additional level crossings, & contended that there was already ample accommodation for the public in the existing crossings. Speaking of the danger of level crossings, Mr. Wainwright said it had been so great in Montreal & vicinity that the G.T. was seriously contemplating the raising of its tracks into the city, so as to do away entirely with level crossings. The case was adjourned.

The Contract.—McCormick & McLeod, of Bracebridge, have been awarded a 3 years' contract for ties for the Northern division & main line between Toronto & Montreal. During the past year they held the contract for the Northern division only. It is estimated that fully 450,000 ties will have to be supplied yearly under the contract.

Midland Elevators.—The management is said to be considering the advisability of erecting a third elevator at Midland, Ont., the present structures being overtaxed to accommodate the grain passing through that port.

Bridge Near Allandale.—At a meeting of the Railway Committee of the Privy Council Nov. 10, residents of Innisfil township, in the vicinity of Allandale, tendered an offer of \$500 towards the building of a bridge over the G.T. tracks. The Co. expressed its willingness to contribute half of the cost, but could not accept the offer of \$500. The Committee not being able to announce any unanimous finding, reserved judgment.

The Black Rock Yards.—On Dec. 6 a Buffalo, N.Y., paper published a Washington, D.C., despatch as follows: "The G.T.R. Co. has secured control of the Canadian section of the bridge to be built across the Niagara River at Grand Island, & the Co. has in view the removal of its yards at Black Rock to Grand Island, where unlimited space can be secured. The agitation to connect Grand Island with the mainland by a bridge has been carried on for years, but has been held up on account of the enormous expense attached to the construction of the 2 big spans, one on the U.S. side of the island, & the other on the Canadian side. It is stated now that the G.T. Co. has offered to build the Canadian section, & it is believed that the scheme will be carried out. The island affords splendid dockage facilities, which it is believed the G.T. Co. would make use of."

We are officially authorized to deny the statements, as there is no basis for them.

Grand Haven Harbor.—A second warehouse, 400 ft. long, & several hundred feet of additional dockage are being built by the Co. north of Krause & Co.'s elevator. The river in front of the Co.'s property is being dredged to a depth of $17\frac{1}{2}$ ft.

Jurisdiction in a Railway Case.—In a recent case in which the writ was issued out of the High Court of Justice for Ontario, to recover damages against the railway company for an accident which happened in British Columbia, & was served on the defendant's claims agent in Toronto. The head office of the railway was in the Province of Quebec, but the Co. did business in Ontario, where it had many hundreds of miles of railway, millions of capital invested, & where hundreds of its officers & employes resided. Mr. Justice Meredith held that the action was properly brought in Ontario.

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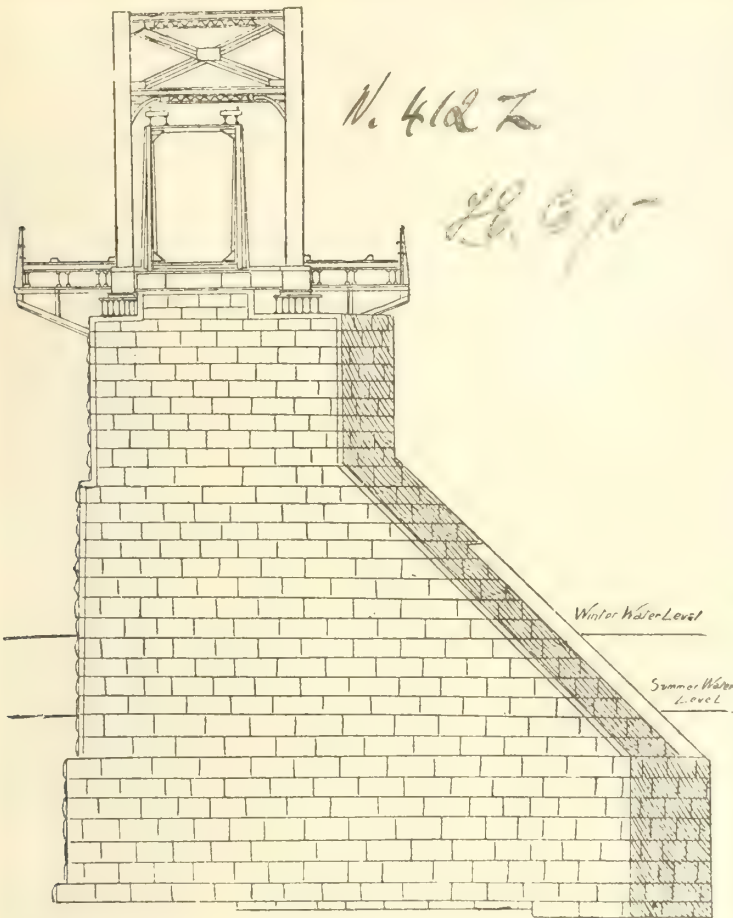
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ELECTRIC RAILWAYS.

The London Street Ry. Strike.

General Manager Carr writes us in reference to the article under this heading on pg. 241 of our last issue:—"I wish you would kindly correct the error in the last paragraph of the article, stating that the men secured a small increase in pay & recognition of the Union. The pay was increased as stated, but the Co. did not recognize the Union, as you will readily see from a copy of the agreement that was entered into between the Co. & its employees, each employee signing the enclosed agreement."

As the agreement is of considerable importance & interest we give its provisions in full as follows:

The wages for motormen and conductors employed by the Co. shall be on the following scale: For the first 6 months, 13c. an hour. For the second six months, 14c. After one year, 15½c. All men to be listed at once upon said scale according to length of previous service. All overtime to be paid for according to regular rate men are receiving. Nine hours to constitute a day's work for all regular men, with a leeway as near 2½ hours as time table will allow. Regular relief men to receive remaining hours, which will not be less than 8.

All employees of Co. shall have full liberty to affiliate with any lawful association or club, and shall not be required to sign any document abridging their full rights under this agreement.

All conductors & motormen in the employ of the Co. to be marked upon the blackboard in accordance with the time they were hired. The spare men to get all spare work, which, as far as practicable, shall be equally divided among them.

All conductors & motormen shall report at the carbarns 15 minutes before their run goes out, & anyone failing to do so, his place shall be filled by the first man on the spare list, & any motor man or conductor failing to report or send word within 4 hours after his run goes out shall lose the next day also, unless his services are required.

No motorman or conductor shall be required to pay for any breakages unless it is proven that the breakage was due to his own carelessness.

No conductor or motorman shall lose his own time to look up accident reports when he is requested to do so by Manager or Superintendent, but in such case his pay shall go on at the regular rates.

All employees in the employment of the Co. to have free transportation over all lines operated by the Co. No more than 4 employees to be on 1 car.

Any employee laying off with permission of the Co. shall have his place on the list when he returns to work.

The Co. to have the right to make such rules or regulations as may from time to time be deemed necessary, but not inconsistent with this agreement.

One week's notice to be given by employees before leaving the Co.'s service, or failing such notice, forfeiture of equivalent wages.

None of the employees who went out on strike on Oct. 27, 1898, to be refused reinstatement in their former position on account of having struck work as aforesaid, & no dismissal of such employees to be made except for other & good cause. Also that R. Westby, W. Crawford, W. Kerr, J. Fitzgerald, M. Delisle, & J. Pickell be reinstated to the runs they were on previous to their dismissal.

The Manager of the Co. to hear at any time any complaint or grievance of any employee, & that such employee, if dissatisfied, shall be heard again with any one or more employees who can substantiate or prove the justice of his complaint or grievance; & further, that in case such employee is still dissatisfied with the Manager's decision, an appeal shall lie to the President & directors, if made within 3 days of the Manager's decision; & in case where conductors or motormen are suspended or dismissed, & it is found that they are not at fault, they shall be reinstated on their former run, with full back pay.

The employees to be at liberty to purchase their uniform where they see fit, subject to the same meeting the approval of the Manager as to uniform material & style, not exceeding in quality those in present use.

This agreement to be in force for 6 months, or for such further period as the employees may continue in the service of the Co.

The petition presented by the men on Oct. 2 contained the following clause:

"None but residents of London shall be employed, & before they start to train they must deposit their initiation fee with the Secretary of our Division, & receive a permit card. After 30 days' experience, if satisfactory to the Co., they must become members of our Association."

This was not agreed to by the Co.

British Columbia Electric Railway Co.

This Co. recently issued 12,000 non-cumulative 5% preference shares of £10 each, ranking for additional dividend rateably with the ordinary shares after the latter have received 7%, at the price of £11 a share. The issue was explained in the Co.'s annual report (Oct., pg. 216), & is for the purpose of carrying out extensions & improvements at a cost of some £55,000, & to redeem, at a cost of £60,000, the non-cumulative 6% income bonds outstanding.

The Co. is now operating 41 miles of fully equipped line in Victoria & Vancouver, & between the latter place & New Westminster.

The earnings & expenses for Oct. were:

	GROSS EARNINGS	EXPENSES	NET PROFITS
Railway—Vancouver	\$1,000	\$8,775	\$7,775
Victoria	500	4,281	3,719
Westminster	7,833	10,364	2,531
Lighting—Vancouver	6,281	11,159	4,878
Victoria	1,000	5,085	4,085
Total gross earnings	\$7,775	\$28,564	\$20,789
Working expenses	\$18,280	\$11,000	\$7,280
Net profits	\$9,497	\$19,789	\$7,509
Aggregate Gross Earnings from April to Oct. 31	\$18,497	\$28,564	\$7,089
Aggregate Net Profit from April to Oct. 31	\$19,497	\$19,789	\$7,708

The aggregate gross earnings & net profit for 1896-7 are from April 15 only.

Maritime Province Lines.

Bedford Electric Co.—At the last session of the Nova Scotia Legislature M. Chisholm & others, of Halifax, were incorporated under this title, with power to build & operate an electric line in Halifax county, outside Halifax city, & with other powers. It was recently reported that the Co. had in contemplation the building of a line around Bedford Basin, through Dartmouth & down to Cow Bay.

Ontario Lines.

Brantford.—There has been a revival of the rumor respecting electric roads into Brantford, & it is possible something may be done next summer. The Brantford St. Ry., it is stated, would be willing to extend its Mohawk Park route to Cambridge for consideration. The residents of this village & Echo Place, many of whom are employed in the city & prefer living in the suburbs, are very anxious that the electric road should be extended out there, & it is said that they would be willing to pay a bonus. Manager Barron stated to a Courier reporter that he had been approached on the matter, but had replied that it would take a bonus of \$10,000 to extend the line out the Hamilton road. He went on to state that the Hamilton & Chedoke Ry. Co. is still very anxious to build its line to Brantford, & it was possible it might yet do so. There is now a road of only 10 miles between Brantford & Hamilton.

Brockville.—The Brockville Times says: "While we are not opposed to the town building an electric railway, we believe that the council would actively endeavor to interest capitalists in the matter, it would be possible to secure the construction of an electric line by a company with an agreement that would guarantee a good service & low fares. A Brockville electric railway might in course

of time be made the centre of a system of radial electric lines extending to a number of tributary towns & villages. For some reasons it might be better to have such a system owned & operated by private capitalists. The gas & electric light systems are used only by the people of Brockville. An electric railway could be used by many outsiders, & in case of extension to other towns might belong to them as much as to Brockville. Still some strong arguments might be advanced in favor of the ownership of an electric railway, & if the council should decide in favor of it we would not oppose it, although we believe a satisfactory arrangement could be made with a company if the council would go about it in a proper way.

Galt, Preston & Hespeler. The proposal to extend this line from Preston to Berlin & Waterloo appears to be dormant. The town of Waterloo voted a bonus of \$12,000 on June 10 last & \$28,000 was expected from Berlin, but it was thought inexpedient to submit a proposal.

Hamilton, Grimsby & Beamsville. When the case of Saltfleet Township Council against this Co. came up in Hamilton Dec. 1 Judge Street said he had read the pleadings & found the case was largely a question of engineering skill, concerning the operation, maintenance & repair of the road. In regard to the use of the red light in front of the cars, he observed that the clause in the by-law so ordered & it should be followed. Instead of hearing a mass of general evidence, he suggested that an independent engineer be engaged to inspect the road & report to him. He suggested the name of W. T. Jennings, but plaintiff's counsel objected & the Judge appointed R. McCallum, Inspector of Railways for the Ontario Department of Public Works, & aided by counsel, drew up a memorandum of the work which Mr. McCallum will be expected to do. When he has completed his report, it will be forwarded to Justice Street, who will then proceed with the trial in such a way as he finds expedient. The plaintiffs dropped the clause referring to the sale of tickets.

International Radial.—The directors of this Co., which was incorporated by the Dominion Parliament in 1895 to build from Hamilton to Guelph & other places, are negotiating with Hamilton City Council. The Mayor of Hamilton having recently stated that an attempt might be made to block the building of the road by the Hamilton St. Ry. Co. claiming the exclusive right to use the high level bridge & not entering into an agreement to give the new Co. running powers over its tracks, representatives of the H. S. R. Co. say that Co. will not take any such stand, but is willing to discuss terms with the International Co. for running powers over the lines inside the city.

London.—The gross revenue for Nov. was \$5,599.75, against \$7,380.31 for corresponding period, an increase of \$1,219.44.

The local Court of Revision has sustained the assessment of the Co.'s property at \$302,542. The Co. contended that instead of valuing the road & plant at an assumed cost of construction, the rails, poles, wires, etc., should be assessed on the basis of the price they would bring if removed & sold. No objection was taken to the assessment of \$73,725 on the power house, car barns & other realty, but to the following:—Rails, poles & wires, \$136,780; bridges, \$19,220; asphalt pavements, \$22,817; personal property (rolling stock), \$50,000. The rails, poles & wires last year were assessed at about \$80,000, & the bridges & asphalt pavement were not assessed at all. As the question is one of legality, the case will doubtless go to the Court of Appeal.

The Co. has given notice of application to the Ontario Legislature to confirm certain by-laws of the City of London, & of the townships of London & Westminster.

On account of threats non-union employees of the Co. asked permission to carry revolvers. The police refused.

Metropolitan.—A conference between the Railway Committee of the York County Council & President Warren & Manager Moyes of this Co. was held at Aurora recently to settle the alignment & location of the railway extension through the town, the Co. having taken objection to the route as laid out by the Council some time ago. After considerable discussion & an absolute refusal on the part of the railway to accept the conditions, the matter was finally settled by the town's consenting to the route & alignment suggested by the railway people. Now that this matter has been satisfactorily settled, it is understood the construction of the road north of Bond Lake through to Newmarket will be proceeded with at once.

The Co. has given notice of application to the Ontario Legislature for an Act to confirm by-laws of the Town of Newmarket, the villages of Aurora & Richmond Hill, & the townships of Whitchurch, King, Vaughan & Markham, under which the property of the Co. in the municipalities mentioned is exempted from taxation for 10 years, & also to confirm agreements made between the Company & the municipalities.

Niagara Falls Park & River.—A contemporary recently published the following:—"It is rumored that there is a possibility of the Niagara Falls Park & River Ry. being extended to Niagara-on-the-Lake on the north & to Fort Erie on the south. The present route of the road is between Chippewa & Queenston, Ont., along the bank of the Niagara River on the Canadian side. It has entrance to Niagara Falls, N.Y., over the upper steel arch bridge, & it is expected to enter Buffalo or to secure a connection with the

roads in that city over the International Bridge, which is soon to be rebuilt, when it will afford room for trolley as well as steam car tracks. The Co. controls the necessary franchises."

General Manager Phillips, in response to an enquiry, says:—"The press item referred to originated in the imagination of the correspondent, as we have no intention of making any extensions the coming year, but there is no doubt we shall extend the road to Fort Erie as soon as the international bridge is rebuilt, so as to admit of trolley travel, for we still hold the franchise from Chippewa to Fort Erie."

Ottawa.—The Railway Committee of the Privy Council has refused the application of the Co. for permission to cross the Canada Atlantic Ry. tracks at Elgin St., so as to continue the line to the exhibition grounds. (Nov., pg. 243.)

The cost of the proposed extension to Britannia, which is not likely to be taken up before next spring, is estimated at \$125,000. It is also suggested that the road be extended to Rockland, 22 miles.

J. Shepherd is suing the Co. for damages for wrongful ejection from a car. Several weeks ago, he alleges, he boarded a car, & at the time was smoking a cigar. He entered the car at the front vestibule, & merely held the cigar in his mouth while taking a car ticket from his pocket book. He further alleges that he was forcibly ejected by the conductor without remonstrance, & in attempting to board the car a second time at the rear entrance he was again pushed off, & in the fall sustained a severe sprain of the ankle, with which he has since been laid up.

Parry Sound to Depot Harbor.—The Parry Sound Board of Trade has appointed a committee to obtain information as to the cost

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of building an electric railway between the points named.

Peterboro.—The rumors of extensions to neighboring villages have again been revived.

Port Arthur.—In our last issue, pg. 243, we mentioned the inspection that had been made of this line by Manager Phillips, of the Niagara F. P. & R.R., at the instance of the Ontario Government. We have since obtained some additional particulars. The construction of this road into Fort William in the first place was bitterly opposed by the business people & the authorities of that town, as it was viewed as an attempt to capture the trade of a new & growing place, & to keep the business centre in Port Arthur. In consequence, a sullen opposition has been maintained ever since to everything in connection with the road, ever accentuated by the rivalry existing between the two towns. While Fort William has had just cause of complaint in respect to the condition of the roadway & crossings throughout the town, as shown by Mr. Phillips' inspection, the successive councils were themselves to blame for the weak & irresolute manner in which they acted in the matter. The track was not in the first place put in the condition required by the Order-in-Council, but, in places, the ties were exposed & never covered between the rails at all. This & sundry violations of the agreement were allowed to continue, with feeble protests & complaints lodged from time to time. Port Arthur, on the other hand, has run the road at considerable loss, so far as making it revenue producing, & has given a very fair and regular service. While the object of the road was to bring grist to its own mill, it has, it is generally admitted, been quite accommodating to the people of both towns, in the way of special trains, etc., as should be expected, but there has been little effort made to keep their track and crossings in repair. The management claims that the Fort William people are unreasonable, & that they will not meet them or co-operate with them in the work of repair or maintenance, & thus wrangle & vituperation are continually in evidence.

Mr. Phillips has made a lengthy report on the condition of the line. He finds that on some portions of the line within the limits of Fort William there is no planking inside or outside the rails, & that on other portions the planking is in very bad condition, that the rails in places are about street grade, & the earth filling below the level of the rails, & that the ends of the ties are exposed. At some street intersections there are no crossing planks. Frogs at turnouts are not packed as required by law. The trolley wire, no. 4 copper, is too small, & it appears from the number of splices that there has been considerable trouble with the wire breaking. At places the wire is too low, being only 12 to 14 ft. above the rails, on account of the span being slack, the poles on the sides of the streets leaning towards the roadways owing to the soft nature of the soil, or imperfect setting. There is no guard wire over the trolley wire to protect telephone & telegraph wires from contact with the trolley wire. A great number of the insulators used in attaching the trolley wire to the span wire are in bad condition, & must allow the span wires to become charged with electricity in a number of places. An iron wire was noticed off the insulator & lying on the cross arm. The rails are being rebounded with copper bands. The cars are in good condition, being clean & well kept, & apparently run on schedule time. In conclusion, Mr. Phillips, under the authority vested in him by the Government, requires that the repairs, &c., pointed out as necessary be made forthwith, & it is said the Fort William authorities will insist on this being done.

Sandwich, Windsor & Amherstburg. This Co. has given a chattel mortgage of \$150,000 to G. Gooderham & T. G. Black-

stock, of Toronto. We are informed that this is merely a renewal & should not in any way affect the credit of the Co. any more than for the past 5 years. The mortgagees have held the Co.'s bonds since 1893, and are secured by chattel mortgage.

St. Catharines & Niagara Central.—Application will be made to the Dominion Parliament next session for an Act to incorporate the Niagara Falls, St. Catharines & Toronto Ry. Co. with power to assume the assets, privileges, etc., of the St. Catharines & Niagara Central Ry. Co., the name of which was changed in 1895 to the Niagara, Hamilton & Pacific Ry. Co., and to extend the line to Port Dalhousie & to Hamilton, with power to operate the line by steam or electricity, also to sell electric power & to operate steamboats, etc.

Toronto & Mimico.—The Toronto daily press recently stated that it had been definitely decided to extend this line to the Long Branch ranges, & possibly to Lorne Park. Manager Keating informs us that while he has been looking into the matter for some months, no decision has yet been reached, so that he is unable to say whether the extension will be made or not.

Toronto & Scarborough.—As mentioned in our last issue, the question of extending this line about 7 miles from its terminus near the Hunt Club to the west side of Highland Creek Hill, is under consideration, but Manager Keating advises us that no decision has yet been reached as to whether the extension will be made or not.

Toronto Ry.—The gross earnings of this Co. are as follows:—

	1898	1897	Increase.	Decrease
Jan.....	\$86,562.36	\$74,543.55	\$12,018.81	.....
Feb.....	82,402.19	69,744.01	12,657.38	.....
Mar.....	92,818.12	78,891.45	13,926.67	.....
April.....	86,898.83	73,756.38	13,142.45	.....
May.....	92,670.35	82,461.51	10,208.84	.....
June.....	94,119.32	91,533.44	2,585.88	.....
July.....	104,302.92	105,381.64	.....	\$1,078.72
Aug.....	110,300.54	93,224.33	17,076.21	.....
Sep.....	138,021.74	113,672.44	24,349.30	.....
Oct.....	99,650.16	86,404.22	13,245.94	.....
Nov.....	99,735.01	88,607.96	11,127.05	.....

The percentages paid to the city in Nov. of the past 3 years have been as follows:—1896, \$6,091.65; 1897, \$7,155.79; 1898, \$8,016.40.

Province of Quebec Lines.

Hull Electric Co.—The cars of this Co. between Hull & Aylmer have been equipped with headlights, which have 5 lamps of 16 candle power each, placed together before a strong reflector. It is said the equipment will be altered so that the running speed may be increased to 40 miles an hour.

Montreal Island Belt Line.—The cars between Montreal & Bout de l'Isle have been fitted with an arc light reflector on the front vestibule, which acts as a powerful searchlight, small objects a quarter of a mile ahead being plainly visible to the motorman.

Montreal Park & Island.—The Town Council of St. Louis is urging the Co. to increase its service on Park avenue & has passed a by-law requiring the Co. to remove snow, etc., thrown to the sides of the streets by snow plows, etc.

Montreal Street.—The gross earnings are as follows:—

	1898	1897	Increase.
Oct.....	\$133,419.69	\$110,097.00	\$23,322.69
Nov.....	110,645.00	110,608.98	14,426.12

The road committee will ask the City Council to take steps to have all electric wires, except trolley wires, placed underground.

Quebec, Montmorency & Charlevoix.—In our last issue, pg. 241, we gave full particulars of the issue by this Co. of \$1,500,000 5% 1st mortgage gold bonds. On Dec. 6 we were advised that from \$700,000 to \$800,000 of the bonds had been sold & that the vendors felt

warranted in saying that it had been a most satisfactory and successful issue, as bonds were being sold every day.

The Co. gives notice of application to the Dominion Parliament for an act amending its act of incorporation, to change the name of the Co. to "The Quebec Ry. Light & Power Co." to confirm the purchase of the property & franchise of the Quebec District Ry. Co., the issues of bonds & stock made for the purpose of paying therefor, & to authorize the Co. to build railways or tramways in the counties of Levis, Bellechasse, Dorchester, Beauce & Lotbinière, to ratify the purchase by the Co. of the property of the Montmorency Electric Power Co., & the issues of bonds & stock made by the Q. M. & C. Ry. Co. in connection with that purchase, to empower the Co. to carry on the business carried on by the Montmorency Electric Power Co.; to acquire water powers & to construct & maintain dams, locks & other constructions necessary to improve the water powers; to expropriate for the purpose of placing poles & carrying wires; to authorize the purchase of gas & lighting companies, & for other purposes.

RAILWAY PROJECTS.

The Atlantic & Northwest Ry. Co. gives notice of application to the Dominion Parliament for an act extending the time within which it may complete its works. This line, originally chartered in 1879, is leased to the C.P.R.

Arthabaska.—Notice is given of application to the Dominion Parliament to incorporate the Arthabaska Ry. Co. to build a line from a point at Dudswell, on the Quebec Central Ry., to Maddington Falls, on the north side of the I.C.R., & with other powers.

The B.C. Southern Ry. Co. gives notice of application to the Dominion Parliament for an act authorizing it to proceed to construct its eastern section until Jan. 1, 1904, & to build a railway between a point on its line in the neighbourhood of Fort Steele to or near Golden on the C.P.R., by a route having the same general direction as the valleys of the Columbia & Kootenay Rivers, & also branch lines therefrom not exceeding in any one case 30 miles in length. The eastern section above referred to is defined by the Dominion Statutes of 1896-7 as commencing at the junction of Summit Creek with Michel Creek, thence by way of Michel Creek to Elk River & the Upper Kootenay River, with power to go to the 49th parallel & the Tobacco Plant.

B.C. Yukon Ry. Co.—Application will be made to the B. C. Legislature for an act to amend this Co.'s act passed in 1897, so as to empower the Co. to build a branch line from its main line in B.C. to the Taku Arm of Tagish Lake & thence to Atlin city.

Canadian Yukon.—F. B. Gregory, solicitor, Victoria, gives notice of application to the B. C. Legislature for an act to amend the C. Y. Ry. Co. Act, 1898, by striking out sec. 40, which provided that the Co. should within 6 months after the passing of the act deposit with the Government \$5,000, as security that it would expend not less than \$10,000 in surveys or construction before June 30, 1899. An alternative amendment is to substitute 18 months for 6, & June 30, 1900, for June 30, 1899. This is a Mackenzie & Mann charter.

Carp, Almonte & Lanark.—A statement which has been extensively published to the effect that work is to begin soon on this road is at least premature. The charter granted by the Ontario Legislature has lapsed without any work being done, & Andrew Bell, C.E., of Almonte, Ont., who is interested in the scheme, informs us that it has not yet been decided whether application to revive the charter will be made next session, though it is probable it will be if arrangements for

building the line are made by that time. The lapsed charter was for a line from the O.A. & P.S. Ry. at Carp, 20 miles west of Ottawa, through Almonte & Lanark to Bridgewater, Hastings Co., where connection was to be made with the since disused Madoc branch of the G.T.R. Mr. Bell says this would make the shortest possible line, with least work required, from Ottawa to Toronto, & adds that the country through which the line would pass is generally easy for railway building, especially as it was intended to utilize some 40 miles of the grading done by the intended Toronto & Ottawa Ry.

East Kootenay.—Notice is given of application to the B.C. Legislature to incorporate a company to build a railway from some point on the B. C. Southern Ry. between Wardner & Cranbrook, or at either of those places, to St. Mary's River; thence along the St. Mary's River to or near North Star mine; thence along the St. Mary's River to Kootenay Lake, with power to extend the line easterly to Fort Steele; & also from a point on the line of the railway so to be built to Upper Arrow Lake; & from a point on the last-mentioned line, via Windermere, to Golden, on the Columbia River, & with other powers.

Edmonton District.—Application will be made to the Dominion Parliament by this Co. next session for power to construct a railway from some point on the line which it is already authorized to construct, either to Yellow Head Pass, to Peace River Pass, or to a port in British Columbia, or to connect with a railway which the British Pacific Ry. is authorized to construct, with authority to construct a branch line to the navigable waters of the Yukon River, to change the name of the Co. to that of the Edmonton, Yukon & Pacific Ry. Co., to declare valid the organization of the Edmonton District Ry. Co., & for other powers.

Fort Simpson to Telegraph Creek.—Notice is given of application to the B.C. Legislature to incorporate a company to build a railway from or near Fort Simpson to or near Glenora or Telegraph Creek, & for other powers.

Haliburton, Whitney & Mattawa.—Gordon & Sampson, solicitors, Toronto, give notice of application to the Ontario Legislature to incorporate the H.W. & M. Ry., with power to build a railway from or near the present terminus of the G.T.R. at Haliburton, Ont., to the Ottawa, Arnprior & Parry Sound Ry. at or near Whitney, thence northerly to or near Mattawa, & with other powers.

Hamilton & Caledonia.—Nesbitt, Gauld & Dickson, solicitors, Toronto, give notice of application to the Ontario Legislature for the incorporation of the H. & C. Ry. Co., with power to build a railway from Hamilton to Caledonia, Ont., & to extend it to Cayuga, to Selkirk, & to the shore of Lake Erie, & with numerous other powers.

Kitamaat.—Notice is given of application to the B.C. Legislature for an act to amend the "Kitamaat Ry. Act, 1898," by conferring on the Co. power to construct the railway authorized by that act from the head or north end of Kitamaat Inlet north to Copper River, & east to the telegraph trail; thence south & east to the south end of Babine Lake; thence north & east to Germansen Creek at or near its confluence with Omenica River in latitude, approximately, 55.47 north, in lieu of the route originally prescribed, & branch lines in connection therewith, & with other powers.

Kootenay & Northwest.—McPhillips & Williams, solicitors, Vancouver, give notice of application to the B. C. Legislature to amend the Kootenay & Northwest Ry. Co.'s Act, 1898, by confirming & consolidating in that Co. all the powers granted by the East Kootenay Ry. Act, 1897, to the E.K.R. Co., & granted by the Southeast Kootenay Ry.

Act, 1898, to the S. E. K. Ry. Co., & purchased by the K. & N. W. R. Co., & to extend the times limited in the acts for the commencement & completion of the works, & extending the time of giving any security for 3 years, & for extended powers. The owners of the charters are L. Hirsch & others, of London, Eng.

Lake Winnipegosis to Edmonton.—J. H. Coburn, solicitor for applicants, gives notice of application to the Dominion Parliament for an act authorizing the building of a railway from Lake Winnipegosis to or near Edmonton, Alb.

Lindsay, Bobcaygeon & Pontypool.—Notice is given of application to the Dominion Parliament to revive & amend the act to incorporate the L. B. & P. Ry. Co., to extend the time for commencing & completing the railway, also to reduce the capital stock, & for other purposes.

Lytton to Quesnelle River.—Notice is given of application to the B. C. Legislature to incorporate a company to build a railway from the C.P.R., near Lytton up the Fraser River Valley, to or near the mouth of Quesnelle River, with other powers.

The North Star & Arrow Lake Ry. Co. gives notice of application to the B.C. Legislature for an act to amend its act of incorporation granted last session. This act empowers the Co. to build a railway from Cranbrook, B.C., or some convenient point where the Crow's Nest line crosses the Kootenay River, up the St. Mary's River to or near the North Star mine, thence along St. Mary's River to Kootenay Lake, with a branch to Upper Arrow Lake. Power is now sought to also build from or near Fort Steel to Golden. The act of 1898 provides that the Co. shall within 6 months of its passing deposit with the B.C. Government \$5,000 as security that it will expend not less than \$10,000 in surveys or construction before June 30, 1899. It is sought to extend both the periods above mentioned by one year. W. Mackenzie, Toronto, & D. D. Mann, Montreal, are the principal incorporators of the Co.

Ottawa to Meach's Lake, &c.—G. E. Kidd, solicitor for applicants, gives notice of application to the Dominion Parliament to incorporate a company to build a railway or tramway, operated by steam, electricity or other motive power, from Ottawa, Ont., through the Township of Nepean, by Kingsmere to Meach's Lake, Que.; with branches to Hog's Back & Graham's Bay, in the Township of Nepean, & the town of Aylmer & city of Hull; also to build a railway, foot passenger & vehicular bridge across the Ottawa River from the Township of Nepean to the Township of Hull, at or near the Remous Rapids.

Pacific Yukon Ry. & Navigation Co.—Notice is given of application to the Dominion Parliament to incorporate a company under this name, to build a railway from or near Pyramid Harbor, near the head of Lynn Canal, or from a point on the International Boundary, near Lynn Canal, through the Chilkat Pass to Dalton's Post on the Alsek River, thence to below Five Finger Rapids on Lewes River, & with other powers.

Quesnelle Forks to Hazelton.—Notice is given of application to the B.C. Legislature to incorporate a company to build a railway from or near Quesnelle Forks to or near Hazelton, near the junction of the Wat-sau-Kwa or Buckley & the Skeena Rivers.

Revelstoke to Atlin Lake.—Notice is given of application to the B.C. Legislature to incorporate a company to build a railway from or near Revelstoke, northerly through the valleys of the Columbia, Canoe, Fraser & Parsnip Rivers to the 56th parallel of latitude, thence to the northerly boundary of B.C. to a

point on or near the Liard River, or westerly to the northerly boundary at or near Atlin Lake.

Skagway to Dawson.—Col. Domville, M. P. for Kings, has, according to a cable despatch, recently stated in London, Eng., that the Dominion Government will propose a State-aided railway from Skagway, via the Dalton Trail, to Selkirk & Dawson. This lacks confirmation.

Spence's Bridge to Nicola.—Notice is given of application to the B.C. Legislature to incorporate a company to build a railway from or near Spence's Bridge, along the Nicola River, & south through the Nicola Valley to the lake sources of the Nicola River or thereabouts, & with other powers.

St. John, N.B., to Sydney, N.S.—A North Sydney paper gives currency to a rumor, said to have originated in the west, that the C.P. R., failing to acquire the Intercolonial or to obtain satisfactory running powers over it, has about decided to build a line from St. John, N.B., to North Sydney to connect with the Reid steamers. We have not thought it necessary to ask the C.P.R. management for a confirmation or denial of this rumor, which is about as unlikely to be true as any of the rest of the batch of sensational stories published from time to time.

Taku Inlet to Atlin Lake.—Notice is given of application to the B.C. Legislature to incorporate a company to build a railway from or near the International Boundary Line, on the headwaters of Taku Inlet, to Atlin City, or some other point on the shores of Atlin Lake, with branch lines to the south end of Taku Arm of Tagish Lake, or to the south end of Bennett Lake.

Trail to Salmon River.—In our Oct. issue, pg. 204, we gave particulars of an application to be made to the B.C. Legislature to incorporate a Co. to build a railway from or near Trail to Sayward, on the Columbia River, thence to Salmo, thence following the Salmon River to its junction with the Pen d'Oreille River. The preliminary organization of the Co. has been effected by the election of the following provisional officers: President, F. Fletcher; Vice-President, J. A. Gilker; Sec.-Treas., W. A. Galliher; Chief Engineer, F. Moberly, all of Nelson, B.C. Coast papers say the C.P.R. is behind the scheme.

Vancouver, Northern & Yukon.—As a result of a recent meeting of Vancouver citizens steps are to be taken to secure Dominion & Provincial charters for a railway from Vancouver to the Yukon. In 1891 a charter was obtained for the Vancouver, Northern Alaska & Peace River Ry., but was allowed to lapse. A charter for the Burrard Inlet Ry. & Ferry Co. suffered a similar fate. It is proposed to secure legislation embracing the principal powers of both these companies. A large & influential committee was appointed by the recent meeting to carry out its views, & subsequently the matter was placed in the hands of a sub-committee, with A. Williams as Solicitor, & W. Moberly, C.E., as Secretary. Notice has already been given of application to the B.C. Legislature to incorporate the V. N. & Y. R. Co. to build a railway from Vancouver or some other convenient point on Burrard Inlet; thence northerly by Seymour Creek, or the most feasible route, to Squamish Valley; through Pemberton Meadows to Lillooet; northerly to Quesnelle; north-westerly to Hazelton, or some other point on Skeena River; & northerly to the northern boundary of B.C., with a branch from or near Hazelton along the valley of Black River to the northern boundary of B.C.; with branch lines to Fort St. John; & east & west from the main line along the north shore of Burrard Inlet to Howe Sound, & the west shore of the North Arm of Burrard Inlet, & with other powers.

SHIPPING MATTERS.

The Allan Line & St. John.

On Dec. 2, to inaugurate the adoption by the Allan S.S. Line of St. John, N.B., as a winter port, the Company entertained a number of St. John's prominent citizens at luncheon on the S.S. Parisian. Hugh A. Allan, who presided, in proposing St. John & Maritime ports, made an important speech as follows:

It is a great pleasure to me to meet you here to-day, as it has been the wish of the Allans on both sides of the Atlantic, who are connected with the active management of the business, to have a closer connection with the Maritime Provinces for sometime past. It is a great surprise to me to see the wonderful development in the port of St. John during the last two years, & I feel sure that no one could help being struck with the amount of energy that is shown as a result of the work that has been done in that time. Your terminal facilities here reflect the greatest credit both on the municipal authorities of the city & the management of the C.P.R. The enlargement of the elevator, the dredging of the basins, the extension of the wharves, & the enlargement of the yards, not only at Carleton but also outside the city, & the increased accommodation in sidings along the route, make it possible to accommodate successfully a very much larger business than heretofore; & all these improvements, I feel sure, will enable the C.P.R. to accommodate all the traffic offering, even in such a prosperous season as this is likely to be.

Of course it will not do to stop content with what has already been achieved. In order to compete with other ports, improvements of every kind must be pushed to a completion, & amongst the most important of these are the lighting & buoying of the approach to the harbor, & the dredging of the harbor itself. Everything that the work of man, aided by the most modern improvements, can accomplish must be done in this connection in order to make this port not only equal to those south of us—for that I am sure is not what we wish to accomplish—but to make it better than any of them. No doubt your Board of Trade will see that the Government does its share.

Your railways have done a great deal, but they stand in the position of the philanthropist who builds an institution & who generally finds it necessary to endow it. Your railway companies have not only to invest their capital in building their road to, & terminals at this port, but they must endow it to the extent of carrying the traffic to & from the port at rates which will enable exporters & importers to compete at least on equal terms with those doing business at other cities on the Atlantic seaboard. For I need not tell you that steamers will go to the ports at which they can make the most advantageous arrangements, & if the railways to this port are not able to compete with their rivals at Portland, Boston, New York & Philadelphia, you will not be able to get satisfactory steamship connections to come here.

The line I represent was founded by Capt. Alex. Allan in 1825, & at that time consisted of the brig Favorite. In 1855 the Government made a contract with my uncle, the late Sir Hugh Allan, for a fortnightly line, the subsidy agreed upon being \$120,000, & the service was opened in April, 1856, the first steamer to carry the mails being the North American. In 1858 the service was increased to a weekly line, & the subsidy paid was advanced to \$208,000 a year, & subsequently further increased to \$416,000 a year. In 1872, the fleet having been considerably increased by such steamers as the North Britain, Nova Scotian, Bohemian, Hungarian, Norwegian, Hibernian, Peruvian & Moravian, a contract was entered into with the Newfoundland Government for the carriage

of the mails between Great Britain and St. John's, Nfld. This contract has been carried on ever since, & is still being maintained by us, the steamers employed in the trade having their terminal port on this side of the Atlantic at Philadelphia.

The contract for the carriage of the mails between Great Britain & Canada was altered from time to time, but remained always in our hands—latterly in conjunction with the Dominion Line—up to the close of navigation 1897. At that time the Government gave the tender to the Beaver Line, which has carried the mails for the last 12 months. The Dominion Line & ourselves have again taken up the mail contract for a period of 6 months, or until May 1 next, & this has given us the opportunity we have so long desired of establishing closer connections with the Maritime Provinces. As our line has grown we have been obliged to find outlets at U.S. ports from time to time. In 1880 we established an office in Boston, Mass. Later on the Philadelphia service was inaugurated, & finally an opening was found in the New York trade to Glasgow.

For 10 years or more the Canadian Government have been asking for an improved mail service, & during that time we have stood up in competition with the world & have retained the contract, except for the 12 months just past. During these 10 years we have put in tenders or have discussed the terms of contracts for vessels varying in speed from 15 to 20 knots, but none of our tenders or offers have been accepted. It seems to have been the desire of the different Governments to make contracts for lesser subsidies than we have been able to accept, & we think that on looking back the stand we have taken has been justified by the result. After years of waiting for a decision in this matter, we last year determined to make some additions to our fleet, which have been delayed so long pending the adoption of some decided policy with regard to the mail contract. Consequently we have given orders for 5 new steamers—one of 8,800 tons & 14 knots speed, two of 10,000 tons & 15 knots speed, to be used either in the Liverpool-Montreal passenger trade or on the New York service, & two cargo steamers of 8,000 tons & 12 knots speed for the St. Lawrence service. Of these, the Castilian is already launched; the Bavarian, 10,000 tons, is contracted for delivery in May. The Tunisian, 10,000 tons, is promised for Aug. & the Sicilian & Corinthian, the 2 cargo steamers, will probably be ready by the end of next St. Lawrence season. With these additions to our fleet we can, without at all encroaching on our other services, arrange for a permanent connection with the Maritime Provinces.

No one who has been in the trade during a period of years & has seen the ups & downs & the difficulties to be contended with in this trade will venture on a scheme of such magnitude & requiring such an investment of capital as a fast service to the St. Lawrence, without securing for himself & his associates adequate remuneration to enable him to carry the enterprise to a successful issue. The fact that all these years no one of substance has come forward to carry out such an undertaking, has, I maintain, proved that our judgment has been sound, & that our stipulation for an adequate subsidy, which has been considered excessive, is in reality not so.

I yield to no one in my opinion of the capabilities of the St. Lawrence. With the developments that are taking place in the deepening of the canals, in the improvement of the harbor at Montreal, & in the increased railway connections to that port, I see possibilities for its future which were not dreamt of even a few years ago. These canals, when complete, will enable vessels drawing nearly 14 ft. to bring cargoes from the west down to Montreal, & thus put that port in a position to compete on favorable terms with the ports of New York, Philadelphia & Newport News.

In addition to these, however, the opening up of the Parry Sound route has increased shipment from the port of Montreal enormously, & these can still further be increased if the Canada Atlantic Ry. secures an entry into the port of Montreal or a direct connection with the Intercolonial Ry. to that port. You may judge of the vast benefit of this route by the facts which I shall allude to later on.

The Canada Atlantic Ry. has brought to Montreal this season, the first year in which they have been doing business, between eight & ten million bushels of grain, & about 46,000 tons of package freight. Such a connection is invaluable, & there is no reason why the port of St. John in the winter should not, to a large extent at any rate, reap the benefit of this connection, if the facilities for getting into Montreal are accorded to Mr. Booth's railway. In addition to their large elevators at Depot Harbor & Coteau, they will undoubtedly erect a large elevator at Montreal, & these would all serve as storage for grain, which would be exported by the maritime ports in winter, & would thereby increase the traffic over these routes to an enormous extent.

Glancing at the map of Canada, we see that there are 3 main arteries for the carriage of western wheat to the east, viz.: the G.T.R., the C.P.R., & the Canada Atlantic. Turning to the two latter lines of railways referred to by me, viz., the C.P.R. & the C.A.R., the interest of these two roads lies in the development of the maritime ports. The C.P.R. has a direct connection with St. John & Halifax. The C.A.R. may also be given a direct connection with these ports by means of the I.C.R. The C.A.R. takes its enormous freight from the wheat fields of the western states, as also other products, which must necessarily find their way to the eastern markets in the winter months.

Via maritime ports navigation on the lakes is open at least for a month longer than the St. Lawrence route. Wheat & other freight can be landed at Parry Sound by water, for a month or more after navigation has closed at Montreal. This, with a proper elevator system would enable the C.A.R. to store at Parry Sound & other points along its lines, enormous quantities of grain, which, with proper connections to the lower provinces, would find their way to the markets of the east via maritime ports. This would be a trade in excess of what is now coming to the maritime ports via the C.P.R. The freight carried by the C.A.R. this summer was diverted from Buffalo & went to Montreal. What it has done in the last 12 months for Montreal may, in perhaps a lesser degree, easily be done for St. John & Halifax. It is for the people of the lower provinces to be alive to their own interests, & to encourage by every means possible, the building up of their ports. They should be able during the winter months to control the greater part of the Canadian freight & a large proportion of the freight originating in the western states carried by the Canadian lines.

At the same time, in considering the question of the fast mail service, it must be remembered that Montreal port is only open for 7 months of the year, & that a contractor undertaking a fast service must look for connections elsewhere for the other 5 months, & in getting these connections he must guard against the competition of all ports to the south of him in winter, just as he has to guard against them at Montreal in summer. It is, therefore, necessary that the railway connections to the Canadian winter port should be in a position to offer an intending contractor terms for the conveyance of both export & import cargo at rates equal to those obtainable at the other Atlantic seaboard ports. With such an arrangement in hand, I would be glad to go to the Government & ask for a tender for a service of 16-knot steamers, which I believe is the speed which Canada is

at present most in want of. With such vessels capable of making the passage from Moville to Rimouski via Belle Isle in 5 days & 23 hours, & via Cape Race in 6 days & 12 hours; & from Moville to Halifax by the short route in 5 days & 20 hours, & by the long route in 6 days & 9 hours, as against 6 days & 4 hours to 6 days & 12 hours by the New York routes, at an average speed of 19 knots, we would be able to secure a fair share of passenger traffic besides the higher classes of freight traffic. Such vessels would be capable of steaming 17 to 18 knots in fair weather, & would in summer make the passage in very much less time than I have indicated. No country in the world, as far as I know, has leapt in a bound to the highest acme of speed in its steamship service, & it seems to me both unlikely & undesirable that Canada should attempt to do so.

It should, however, be realized, that in order to secure a good mail service an adequate subsidy must be allowed, or failure will surely ensue. A great deal of money has been spent in the subsidizing of railways. Trains are being run from the Atlantic to the Pacific for the carriage of passengers not only from one point of Canada to another, but for the accommodation of trans-continental, Australian, Japanese & others who are attracted to Canada by the beauties of the scenery on the C.P.R. route. It seems, therefore, that the link is not complete without an improved service. The speed I suggest would give steamers that would be capable of making the passage in as fast time as the fastest vessels to New York, & would also be able to carry a considerable quantity of cargo, & thus accommodate the many high-class dairy industries of Canada which have sprung up of late years, & which are bound to increase & multiply as time goes on. The shipping of butter, poultry & eggs, as well as many other goods, in cold storage is only in its infancy, but we have had sufficient experience in the trade to know that they can be produced in this country of a quality to compete in the English market with the rest of the world, & it only requires time & the attention of our farmers to allow of the trade being developed to an enormous extent.

Facilities for the free & economical movement of traffic are a chief factor in the building up of a seaport. Montreal has the immense advantage of possessing interior water facilities during the season of navigation. Her railway facilities are also great & growing. Formerly she had but one railway, the G.T.R. Afterwards the C.P.R. was established, & simultaneously the G.T.R. found it necessary to double its tracks in order to accommodate its trade. And last season a new line, the Canada Atlantic, came into operation, bringing to Montreal some 8,000,000 bus. of grain, & 50,000 tons package freight for export to Europe; & this without apparent diminution of traffic by other lines. St. John might do worse than promote the extension of the Intercolonial to connect with the new road. But facilities are not everything. Without men to use them they are, indeed, comparatively valueless. The facilities of Montreal are in a great part used by the merchants of Montreal. Merchants of St. John, it is for you to do likewise. In this way you will hold the destinies of your port in your own hands & continue to be worthy sons of your own fair city.

I am a Canadian, born under the sunny skies of this fair Canadian climate. I know & realize that our national development for the last half century has been slow. To the student of history the reason has been plain. We have to the south of the line a vast country that has attracted, for many reasons, the tide of immigration. We have waited patiently, knowing that our time would come. It has, thank God, in the day and generation of us who sit around this board, come at last.

There are no longer on the other side or within the borders of our neighbors to the south, lands to be taken up by the surplus population of Europe. Where must they come? To Canada. We have in our boundless Northwest millions upon millions of acres that only require the hand of the agriculturist to turn them into a garden from which we can feed the multitudes of Europe. Canada to-day is the proudest jewel in the British crown. The progress & development which followed the events of 1775 in the U.S., will be repeated in Canada in future years, dating from the jubilee year of 1897.

We, in this country, occupying as we do the northern portion of the continent of America, inhabited as it is by a sturdy & loyal race, possessing as a national heritage millions upon millions of acres of rich virgin soil from which we can supply the food which the eastern hemisphere must necessarily draw from the west; our destiny is plain. The history of the Roman & Grecian empires has taught the world that a northern race must ultimately triumph over a people reared under a southern sun. I do not utter these words in disparagement of the valor & the commercial enterprises of our neighbors to the south, but I, as a Canadian, whose interests & future are identified in every possible way with Canada, know that history must repeat itself, & that as the northern race in a barbarian age overran the Roman & Grecian empires by the force of arms, so with the Canadian people, occupying as they do, the same position territorially as the Goths & the Vandals occupied to Rome, we will, in the near future, attain a dominant position in the world of commerce in this, the western hemisphere.

Mr. Blair, the Minister of Railways, in the course of a speech said he hoped soon to have the Canada Atlantic Ry. connected with the sea, & as a result he believed the maritime ports of St. John & Halifax would be benefited & the trade of Canada increased.

General Superintendent Timmerman, of the C.P.R., said that Co. was ready & willing to compete with the rates to New York, Boston & Portland, thus overcoming the physical disadvantages of the maritime port of St. John. The C.P.R. had made & was making every effort to make the St. John winter port business successful & every department of the road seemed to be working to that end. To do this great efforts were required & no small sacrifices, for it was no small undertaking to divert business which had long been established at nearer although foreign ports.

The Trade of the St. Lawrence.

The shipping of the St. Lawrence ports for 1898 has been extensive. In 1897 there entered the port of Montreal 479 vessels, with an aggregate tonnage of 1,054,225; this year there arrived 516 vessels, with the tonnage of 1,212,747. It will be readily seen that the gain in tonnage is proportionally much greater than the gain in the number of vessels entering the port.

The coastwise steamers in Montreal harbor also show a substantial increase, both in vessels & tonnage. In 1897 there arrived 300 vessels, while this season 330 arrived. The tonnage for 1897 was 317,000 tons, & this year 345,800, being an increase of 28,800.

Both imports & exports from Montreal show a marked increase. That of the former is indicated by the customs returns. The customs receipts at Montreal from May 1 to the close of navigation a year ago were \$3,708,345.46, while during the same period of 1898 they were \$4,842,695.35, an increase of over \$1,100,000 in less than 7 months. All the St. Lawrence ports, with the exception of Quebec, show an increase in the imports of coal, Montreal, Sorel, Three Rivers & Quebec taking 932,793 tons, as against 896,157 tons

the previous year. There was an extraordinary movement for export from Montreal, as is to be gathered from the following table:

	1898.	1897.
Wheat, bushels.....	8,933,393	7,027,058
Corn, bushels.....	19,115,891	6,778,866
Peas, bushels.....	1,640,406	1,805,533
Oats, bushels.....	6,801,239	2,631,785
Barley, bushels.....	320,297	247,148
Rye, bushels.....	909,943	301,627
Flour, barrels.....	856,314	774,124
Meal, barrels.....	34,171	40,014
Pork, barrels.....	2,757	585
Lard, barrels.....	44,675	85,043
Meats, packages.....	136,261	228,752
Eggs, cases.....	186,173	141,553
Hams, bacon, boxes.....	12,484	8,123
Apples, barrels.....	385,475	725,016
Cheese, boxes.....	1,888,785	2,102,985
Butter packages.....	278,922	225,268

The decreased movement of peas, meal, lard, meats, cheese & apples is more than made up in the increase in other Canadian staple products.—Monetary Times.

Sault Ste. Marie Canal Traffic.

The Marine Record gives the following figures of freight & passenger traffic to & from Lake Superior during Nov.:

EAST BOUND.

ITEMS.	U.S. CANAL	CANADIAN CANAL	TOTAL
Copper, net tons.....	16,068	553	16,621
Grain, bushels.....	2,338,842	524,673	2,863,515
Building stone net tons.....			
Flour, barrels.....	1,216,513	119,499	1,336,012
Iron ore, net tons.....	604,089	154,743	758,832
Iron, pig, net tons.....	3,716		3,716
Lumber, M. ft. B.M.....	84,771	133	84,904
Silver ore, net tons.....			
Wheat, bushels.....	13,758,421	2,217,820	15,976,241
Unclassed freight, net tons.....	12,222	836	13,058
Passengers, number.....	453	109	562

WEST BOUND.

ITEMS.	U.S. CANAL	CANADIAN CANAL	TOTAL
Coal, (hard) net tons.....	90,809	6,200	97,009
Coal, (soft) net tons.....	299,432	48,271	347,703
Flour, barrels.....	311		311
Grain, bushels.....	11,200		11,200
Manufactured iron, net tons.....	20,108	2,805	22,913
Salt, barrels.....	70,005	1,874	71,879
Unclassed freight, net tons.....	55,897	6,750	62,647
Passengers, number.....	96	240	336

East bound freight, net tons..... 1,623,182
West bound freight, net tons..... 535,103

Total..... 2,158,285
Total craft, United States..... 1,394
Total craft, Canadian..... 281

Total..... 1,675
Total registered tonnage, U.S..... 1,545,524
Total registered tonnage, Canadian..... 270,018

Total..... 1,815,542

The returns to the Department of Railways & Canals gave the following figures for Nov.:

Year.	Vessels.	Vessel tonnage.	Freight tonnage.
1897.....	203	28,937	406,523
1898.....	280	270,749	306,044

For the entire period of navigation to Nov. 30 the figures are:

Year.	Vessels.	Vessel tonnage.	Freight tonnage.
1897.....	4,166	3,739,992	4,858,599
1898.....	3,043	2,745,216	2,965,301

Ontario & the Great Lakes.

The people of Whitby want the Government to take over the harbor & to deepen it to 14 ft.

The steamer North King has been put in dry dock at Kingston, to remain there till the spring.

A steam launch is being built at Kingston, Ont., for Dr. Evans, for use on the river Jordan, Palestine.

The schooner *Peruvian*, which sunk near Foresters' Park, while trying to make Deseronto harbor, with a cargo of iron ore, is a menace to navigation in that part of the bay, & will be raised.

The Government dredge & scows, which have just finished working on the improvements at Kingston, will winter at the Government dry dock. They will undergo repairs during the winter.

The car ferry *Shenango* is having considerable difficulty in making Port Stanley. The Captain says the water is shallow, but the L. E. & D. R. people say there is $1\frac{1}{2}$ ft. more than she draws.

The Hamilton Harbor Committee has forwarded to Ottawa petitions from lake captains, vessel-owners, & local yachtsmen, asking for a range light on the west end of the south pier on the bay side of the Beach canal.

The harbor improvement work at Port Burwell, for which provision has been made in the estimates, will, it is said, be immediately commenced under the supervision of Mr. Teel, engineer of the T. H. & B. Ry. construction work.

The str. *Edna Brydges*, plying on Lake of the Woods & Rainy River, between Rat Portage & Fort Frances, encountered thick ice in the Falcon Rapids on her last down trip of the season. A hole was made in her bow & she was beached just in time to prevent her sinking.

The barge *Toronto*, carrying 18,200 bus. of wheat, was cut through by ice in the Lachine Canal, Nov. 29, & about 4,000 bus. of her cargo damaged. She did not sink, & the balance of the cargo was unloaded in good condition. She was on her way from Fort William to Montreal.

The wreckers have abandoned the schooner *Hector*, ashore near Wellington. The schooner *Kildonan*, which went on at the same time, has been released & was towed to Kingston. The wreckers were driven away from the *Hector* by bad weather. She is valued at \$8,000 & is not insured.

The schooner *Sophie*, which has been tied up at Sarnia for the winter, carried 18 cargoes of lumber to Point Edward, & took up 2 cargoes of supplies from Sarnia to French River. This is a greater number of cargoes than any one sailing vessel has ever carried from Georgian Bay to Sarnia or Point Edward in the history of these places, & sailing both ways. The *Sophie* is owned by the Ontario Lumber Co.

About 3 years ago the steamer *Fairbank* was almost destroyed by fire at Port Colborne. Since then she has been idle, no material repairs having been made to her. She has been bought by Captain Strong, of the tow barge *Calhoun*, & towed to Tonawanda Creek. During the winter she will be rebuilt, & put into commission at the opening of navigation next season. It is estimated that it will cost about \$6,000 to make her fit for service again.

The handsome steam launch *Wanda*, the property of the T. Eaton Co., recently built by the Polson Iron Co., is being enlarged & remodelled, & 15 ft. added to her length. Her speed will be increased to 17 miles an hour. A number of apartments will also be added, & when finished she will be one of the prettiest yachts afloat on Muskoka Lakes. She is being repaired at her moorings in Gravenhurst, where she will winter.

At a meeting of the Executive Committee of the Lake Carriers' Association with a number of vessel owners not members of the organization, held in Cleveland, Ohio, Dec. 13, a resolution was adopted providing that navigation should not open before April 25 next year. In order to bring about what is desired, it was decided to solicit the aid of the grain

underwriters. The object is to prevent the usual early rush of boats for cargoes & the subsequent demoralization of rates.

A number of freight & passenger steamers doing business on the Lake of the Woods & up the Rainy River as far as Fort Frances, make their headquarters at Rat Portage & take considerable business to the town. This year has witnessed a great increase in the popularity of the run to Fort Frances as a pleasure trip, & the twin-screw steamer *Keenora*, which makes tri-weekly trips to that point, is said to have secured considerable revenue from this source.

The big steel propellers *Rosedale* & *Algonquin*, which generally winter at Toronto, have secured new berths at an outside port for the coming winter. Both vessels have been engaged in conveying grain & general merchandise between Fort William & Prescott during the past season. Both belong to Toronto, & would have wintered there had not the Cuba, Persia & Ocean of the Merchants' Line been tied up at Geddes Wharf. There is no other suitable place for shelter along the water front, so the owners decided to tie them up in Owen Sound Harbor, where they will undergo a renovating for next season's work.

As usual the last cargoes of the season carried westward were enormous. The large C. P. R. liner *Manitoba* cleared from Owen Sound for Port Arthur with a record cargo. She carried in all 1,548 tons of freight, equal to 118 car loads. In all 129 cars were awaiting shipment, but 11 of them had to go direct to their destination. The cargo included 22 straight cars of sugar, 3 cars of whiskey, 6 cars of iron pipe, 5 cars of salt & 82 cars of miscellaneous merchandise. The *Owen Sound Times* says: "When the steamer left the dock she was weighted down an inch or more below the water line, & was drawing 15 ft. of water aft & $12\frac{1}{2}$ ft. forward."

The Winnipeg Produce Exchange was anxious that the Minister of Public Works should keep Fort William harbor free of ice to the latest possible date this fall, owing to large quantities of wheat which were late in moving. Mr. Tarte did not give the grain men much encouragement. His reply was as follows:—"We cannot do anything to keep the Fort William harbor free of ice during the winter. Nature is stronger than man, & as we have no proper equipment either for Fort William or other harbors, we have to let things follow their natural course. We would like very much in Montreal to have a few days' more navigation, but we can't get them."

The storms that have swept over the lakes this season have been the most disastrous for shipping in the history of navigation. A cursory estimate places the total losses to underwriters & vessel-owners on the lakes for the season of 1898 at \$2,500,000, & gives it first place for losses in the history of lake navigation. The year 1895 had hitherto held the record with a total loss of \$2,097,000. It still stands as the closest rival with the memorable season just brought to a close. On an average the boats lost have been more important & larger than usual. There have been almost 100 accidents during the last 2 months. A great deal of freight has been recovered from some of the sunken vessels, while others are a complete loss. The storms of Oct. & Nov. made this an extraordinary year. Lake Superior has had a share of the wrecks, with the Straits of Mackinac & narrow passages of the north to increase the totals. Three steamers went down with a loss of \$375,000. Only one mishap occurred on Lake Ontario during the past season, but several vessels have been wrecked. The accident occurred to the schooner *St. Peter*, which, laden with a big cargo, bound for Duluth, went down with all on board, including the captain's wife.

Charting the Great Lakes.

The Hydrographic Survey in connection with the Marine Department has lately settled down in winter quarters at Ottawa, & the staff are busily engaged placing on charts the information gathered during the season. The survey this season was extended along the south shores of Cockburn & Grand Manitoulin Islands, from the southern entrance to False Detour Channel to near the entrance to Georgian Bay, a distance of 80 miles. Soundings were carried on in boats to an average distance of $1\frac{1}{2}$ miles off the shores at intervals of about 175 yards, or to a safe distance outside the shoal water. Outside of this soundings were taken in the deep water from the deck of the steamer *Bayfield* to an average distance of 11 miles from shore. For this work the 2 boats were rowed by 4 men in each, 1,180 miles, & the ship steamed 950 miles. A great deal of care was taken over the examination of the dangerous magnetic reefs lying $2\frac{1}{2}$ miles off the southeast point of Cockburn Island, & immediately in the entrance to Mississauga Strait. Much time & labor were also spent in carefully sounding out the various channels through the Duck Islands & the extensive area of shoal water projecting from the south end of the group. No doubt the correct marking of these dangers will prove a great boon to those compelled to navigate these hitherto unsurveyed waters. Really good harbors are scarce along the south side of the Grand Manitoulin Island, there being not one from the Ducks to South Bay, a distance of 50 miles. The latitude & longitude of a point on the Ducks, & also the magnetic variation of several places along the shore were carefully ascertained.

Before beginning the regular survey work on Lake Huron a careful inspection was made of the approach to Depot Harbor, Parry Sound, to ascertain if the channel were suitable for the deep-draught boats that were expected there. This channel is now so carefully buoyed & lighted by range lights & well-placed gas buoys that no accident occurred during the season. The steamer *Bayfield* was placed in commission April 23, & the crew was paid off on Oct. 25. During that time she had on board 3 surveying officers, a sailingmaster, 2 engineers & a crew of 17. The season was not a good one for surveying, there being fresh breezes nearly always on shore, making work in the boats & landing on a low flat shore, strewn with boulders, very dangerous. This last season has been the first for hydrographic work on Lake Huron, & it is hoped that before the opening of navigation in 1900 the first sheet chart will be issued, embracing all the shore line & water from the mouth of St. Mary's River to the Ducks. A second chart of the south shore of Grand Manitoulin Island will be issued later.

The hydrographic survey of the Canadian shore of Lake Erie was completed in 1897, & has been partially published by the British Admiralty, which lately issued two coast charts of the Canadian shore from Buffalo to Port Burwell, including Long Point & Port Dover. A new edition of the sailing directions for Georgian Bay is being prepared by the hydrographic staff, & will shortly be issued, embodying in it all the latest information.

Canada's Merchant Marine.

A supplement to the 13th annual report of the Department of Marine, just issued, shows that the total number of vessels remaining on the register books of the Dominion on Dec. 31, 1897, including old & new vessels, sailing vessels, steamers & barges, was 6,684, measuring 731,751 tons register tonnage, being a decrease of 595 vessels & a decrease of 57,545 tons register, as compared with 1896. The number of steamers on the registry

books on the same date was 1,785 with a gross tonnage of 213,804 tons. Assuming the average value to be \$30 a ton, the value of the registered tonnage of Canada, on Dec. 31 last, would be \$21,052,020.

The number of new vessels built & registered in the Dominion during the last year was 231, measuring 17,004 tons register tonnage. Estimating the value of the new tonnage at \$45 a ton gives a total value of \$765,230 for new vessels.

Following is a statement by provinces of the number of vessels & number of tons on the register books:

	No. of Sailing Ships and Steamers.	No. of Steamers.	Gross Tonnage of Steamers.	Total Net Tonnage of Sailing Ships and Steamers.
New Brunswick...	923	115	8,373	103,584
Nova Scotia	2,204	142	19,992	283,056
Quebec	1,481	311	54,059	158,077
Ontario	1,424	896	91,928	135,349
P. E. Island	174	21	4,041	15,812
British Columbia	394	226	29,042	28,604
Manitoba	115	74	6,427	7,272
Total	6,684	1,785	213,804	731,754

The new vessels built & registered during 1897 were as follows:

	No. of Sailing Ships and Steamers.	No. of Steamers.	Gross Tonnage of Steamers.	Total Net Tonnage of Sailing Ships and Steamers.
New Brunswick	33	11	1,459	1,738
Nova Scotia	54	6	211	4,259
Quebec	49	13	1,094	4,227
Ontario	30	43	2,101	3,850
P. E. Island	1	3	33	226
British Columbia	20	24	3,848	2,420
Manitoba	10	15	501	363
Total	231	113	9,247	17,094

In British Columbia Waters.

A small tug, the Troubadour, has been added to the fleet which makes its headquarters at Victoria.

The str. Myrtle B, Capt. Benjafield, is plying on Christina Lake, having been taken in from Arrow Lake.

H.M.S. Egeria recently came out of dry-dock at Esquimalt, & has resumed her work of surveying the coast waters.

A whaling fleet is to make Vancouver its headquarters. A Norway whaler is now on the coast making preliminary arrangements. The Pacific whale is not as valuable as the whale found in the Atlantic, but they are very numerous.

Notice has been given by the B.C. Marine Railways Co. of its intention to deposit with the Dominion Minister of Public Works the plans for, & to apply for leave to build a marine railway & wharf on Burrard Inlet, Vancouver.

The C.P.R. str. Minto was launched at Nakusp in the middle of November. She is a sister boat to the Moyle mentioned in our last issue, pg. 247, & will take the place of the Rossland on the Robson-Arrowhead route during the winter, the Rossland going on again in the spring.

It is announced in Revelstoke that provisional directors have been appointed for the purpose of forming a company to run steamers on the Columbia River from Revelstoke north to the Big Bend district. Letters of incorporation have been applied for. The bulk of the capital will be raised in Great Britain, where it is hoped to float the company.

The Ainsworth, a small steamer plying between Nelson & Bonner's Ferry, was wrecked Nov. 29 during a storm on Kootenay Lake, 6 of her crew & 3 passengers being drowned. She left Nelson on the evening of that day on

her regular trip, & when about 6 miles from shore, during a heavy sea, she was struck by a squall & commenced taking in water. The Captain headed her for shore, but she reeled over on her side, filling immediately. She was owned by Braden Bros. of the Pilot Bay Smelter.

Richelieu & Ontario Navigation Co.

Many of the daily papers spoke of a trip made by the Co.'s new steamboat Toronto last month as the trial trip. But it was only a preliminary trip, & the regular trial trip will take place next spring. President Forget informs us that he refused to have the trial trip made this fall, on account of the late date. On Nov. 30 the boat ran from Toronto to Oakville, covering the distance from light to light, 19½ miles, in an hour, under command of Capt. McGiffen, of the Niagara Navigation Co.'s steamer Chippewa. Wm. Black, of Belleville, will be Chief Engineer of the new steamer when she starts on her run between Toronto & Prescott next season.

All the Co.'s steamers, with the exception of the Hochelaga & Longueuil, are being wintered at Sorel. Heretofore a steamer or two has been stored away for the winter at Quebec, & the same was the case at Kingston.

A new electric light plant is to be put in the str. Richelieu, & her boilers and engines are to be overhauled.

Croil's Steam Navigation

Steam Navigation & its Relation to the Commerce of Canada & the U.S. By James Croil, Montreal, 381 pgs., illustrated. Toronto, W. Briggs. \$1.50.

The author treats of the dawn & early days of steam navigation, the Cunard S. S. Co., North Atlantic S. S. Co.'s, steam to India & the East, steam in the British navy, the St. Lawrence route, steam on the Great Lakes, steam commerce on the Great Lakes, steam navigation in all the provinces of the Dominion & in Newfoundland. As the author states in his preface, the pages are but a compilation of materials more or less intimately connected with steam navigation gathered from many sources during many years, & now woven into homely narrative. But they are very interesting, & contain a lot of information not easily available elsewhere.

TELEGRAPHS & CABLES.

Telegraph Line to Yukon.

The prospectus was issued in England recently of the Canadian, British Columbian & Dawson City Telegraph Co., Ltd., share capital £300,000, which is not offered for subscription. The Co. had made an issue at £95 of £225,000 5% 1st mortgage debenture stock. The lists closed Dec. 15, & a London cable of Dec. 19 says construction operations will commence at once. The directors are, Sir James Grant, Sir A. P. Caron, Ottawa; J. H. Turner, M.P.P., Victoria, B.C.; Alderman J. Hyde, Mayor of Banbury, W. P. J. Fawcus, M.I.C.E., M.I.E.E., Director Edison & Swann United Electric Light Co., London. The Consulting Engineer is Sir T. S. Tancred, Bart., C.E.; Resident Engineer, E. G. Woodford, C.E., late State Mining Engineer, Transvaal; Secretary W. Young, 64 Victoria St., London. The following is taken from the prospectus:—This Co. has been formed for the purpose of constructing & working the telegraph lines to be built by the Dawson City & Victoria Telegraph Co., incorporated by the Dominion Parliament in 1898. From Quesnelle (which is the present terminus of the telegraphic system in B.C. northward), where the telegraph line of this Co. will start, the route lies along an excellent trail to Hazelton on the Skeena

River. From Hazelton the line will go along the trail to Telegraph Creek, thence to Teslin Lake, & then across to Atlin City, where connection will be made with the Skagway-Dawson section. The distance traversed by the 2 sections of telegraph line will be about 1,400 miles. It is contemplated that working agreements with both the Canadian Government & the C.P.R. Telegraphs will be entered into. Particular attention is directed to the report of R. E. G. Woodford, C.E., late State Mining Engineer to the Transvaal Government, which accompanies prospectus. The route traversed by the line lies through important mining centres, including the Cariboo, Omenica & Cassiar districts. A number of large mining & trading companies are now operating there. Outside, therefore, of the very large revenue to be derived from the Klondyke district proper, there should always be an increasing revenue from the first-named district. It is intended to construct a line of telegraph from the vicinity of Skagway to Atlin City, connecting at the latter station with the section of the line from Quesnelle, so soon as the necessary powers have been obtained. From Atlin City the route covers very important trading posts, & the inhabitants of these should be large users of the telegraph line. Customs officers & a force of mounted police are stationed at various points along the line. Police stations are established at the junction of White & Dyea Passes, at Tagish Lake, at White Horse Rapids, at the mouth of the Hootalinqua River at Fort Selkirk, & other important points. The 3 largest companies operating in the North-West Territories are the North American Transportation Co., the Alaska Commercial Co. & the Hudson's Bay Co. The first is directed principally from Chicago, the second from San Francisco, & the last from Winnipeg. The telegraph business of these 3 companies alone should be considerable. It is difficult to estimate the large income which will be certain to be derived from messages to & from Dawson City, New York, Boston, Chicago, San Francisco & London. The directors are of opinion, especially having regard to the heavy investment of European & American capital in B.C. & Klondyke, that the following is a reasonable & fair estimate of net profits to be earned:

50 telegrams a day, averaging 10 words, between Dawson City, London, Paris, Berlin, Ottawa and Montreal at 5s. a word, taking 300 days to the year.....	= £37,500
50 telegrams a day, averaging 10 words, between Dawson City, New York, Philadelphia and Boston at 5s. a word, taking 300 days to the year.....	= 37,500
50 telegrams a day, averaging 10 words, between Dawson City, Chicago, San Francisco, Victoria, Vancouver, Seattle and Winnipeg at 5s. a word, taking 300 days to the year....	= 37,500
50 telegrams a day, averaging 10 words, between all other parts of the world, including America, British Columbia, Australia, Europe, etc., at 5s. a word, taking 300 days to the year.....	= 37,500
Local & intermediate traffic, as described on the other side, say.....	= 37,500
Total.....	£187,500

This gives a gross revenue over the Co.'s system of £625 a day. Allowing £36,500 for wages & maintenance, the net revenue would not be less than £151,000 a year, sufficient to cover the debenture interest 13 times over, or to repay the principal in full in 1½ years. It should be borne in mind that the weather in Klondyke during winter is dry & cold, with scarcely any wind, the snow falling in small crystals & not in large damp flakes, as in more southerly climates. The cost of maintenance should, therefore, be very small. The enormous development likely to take place in the goldfields of Klondyke & B.C. in 1899, should add largely to the revenue. In addition to the sources of revenue referred to above, there will be traffic from press telegrams, which will be transmitted at the usual rates. The line is expected to be in operation not later than April next.

The G. N. W.'s President.

The accompanying illustrations are made from photographs of H. P. Dwight, taken in 1861 & 1898 respectively. Mr. Dwight was born in Belleville, Jefferson county, N.Y., Dec. 23, 1828. He left home at the age of 14 with a capital of 50 cents & started life in a country store in Fulton. In 1847, the first year of its existence, Mr. Dwight secured a position as operator with the Montreal Telegraph Co., at Montreal, where he remained until 1850, occupying at the time of his departure the position of chief operator. While stationed at Montreal the great cholera plague of Quebec broke out & the telegraph office at that point was abandoned. Mr. Dwight volunteered his services & remained in charge of the office there during the whole of that disastrous epidemic. In 1850 he was removed to Toronto, where for the first year he was sole operator. Extensions throughout Western Ontario were planned & executed by him, until the lines of the Co. reached out in every direction. The business soon assumed very extensive proportions, & Mr. Dwight was in a few years appointed General Western Superintendent. On the amalgamation of the Montreal & Dominion companies, in 1881, under the charter of the Great North-Western Telegraph Co., Mr. Dwight was chosen General Manager of the combined systems, & in 1892 was elected President; since which he has occupied the dual office of President & General Manager.

Canada stands second to no country in the world in regard to the cheapness & efficiency of its telegraph system, & this fact is due in a great measure to the foresight & executive ability of Mr. Dwight, who inaugurated the present low rates of transmission which the country enjoys, and under which it is possible to send a message 1500 miles for 25 cents. Mr. Dwight rendered signal service to the country at the time of the Fenian Raid, & also during the Northwest Rebellion, & for the latter service was publicly thanked in the House of Commons by the Minister of Militia.

Aside from the telegraph business, Mr. Dwight has taken a very active part in a number of important enterprises. He was for a number of years a director of the Midland Ry., and is now President of the Birkbeck Investment Co.; Vice-President of the Canadian General Electric Co., & Director of the Toronto Electric Light Co. He is also Chairman of the Investigating Governors of the Royal Canadian Humane Association, & a member of the Ontario Fish & Game Commission. He is a keen sportsman, & a man of broad sympathies.

Telegraph Office Changes.

C.P.R. TELEGRAPH.

OPENED: Montford Jct., Que.; Thessalon Station, Ont.; Leduc, N.W.T.; Beresford, Man.; Turner, Maine; Irishman's Creek, B.C.; 111-Mile House, B.C.; Duck Lake, B.C.

CLOSED: Henryville, Que.; Mount Brydges, Ont.; Sebringville, Ont.; Ferrona, N.S.; McLeod Station, N.W.T.; Bridge Creek, B.C.; Vanceboro, Maine.

GREAT NORTH-WESTERN.

OPENED: Dunrae, Man.; Elgin, Man.; Minto, Man.; Ninette, Man.; Waupoos, Ont.; Aylwin, Que.; St. Lin, Que.

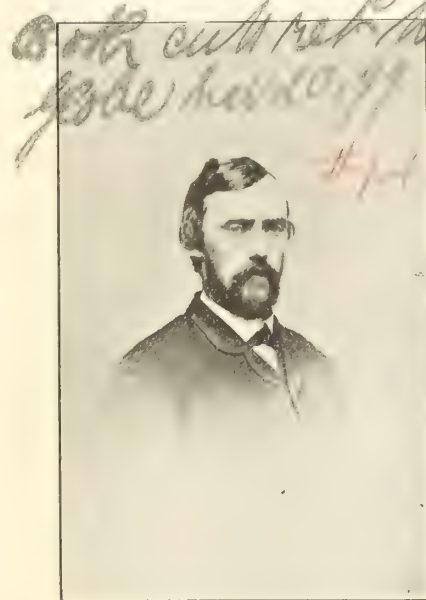
CLOSED: Selby, Ont.; Tobermora, Ont.

Notice is given of application to the B.C. Legislature to incorporate a company to build telegraph & telephone lines from the south end of Teslin Lake, to Victoria via Glenora & Telegraph Creek.

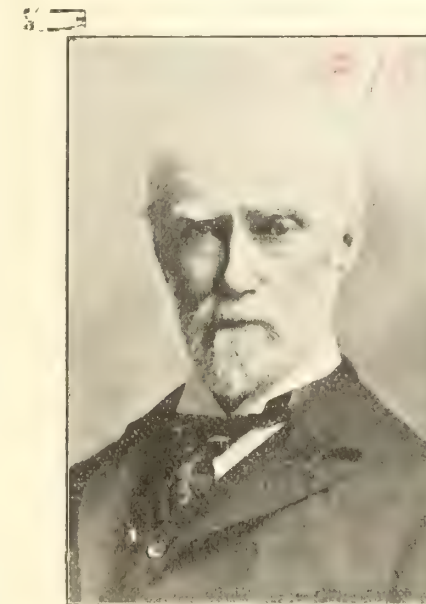
Telegraph & Cable Notes.

The G.N.W.'s chief office in Montreal has been considerably improved by new entrances, marble steps & interior changes.

Sir Sandford Fleming has addressed a letter to the Secretary of State for the Colonies advocating the adoption of a system of state-owned cables connecting every British possession & all Great Britain's naval coaling stations. Sir Sandford proposes 3 sections of



H. P. DWIGHT IN 1861.



H. P. DWIGHT IN 1898.

cables, in the Pacific, Indian & Atlantic oceans, & estimates their cost at £6,000,000. The first step he suggests is a state-owned Pacific cable. He contends that if his proposals were carried out the cost of cabling would be enormously cheapened.

The Morning Post has been urging Colonial Secretary Chamberlain to publish the report of the commission on the Pacific cable question. It would seem, however, that he has been forced to hold over the publication of the report till he knows definitely whether or not the colonies will join in paying their share of the expense of the cable service. Certain proposals are under consideration, & Canada's reply is waited for with the hope that she will see her way to take her part in the scheme—

& to make her decision quickly. The arrangement of the whole matter is said to depend on Canada.

The annual supply of telegraph poles for the British telegraph system, which is under the control of the British post office, amounts to about 100,000 poles, & come chiefly from Norway & Sweden. The specifications have recently been changed so as to include Canadian wood if otherwise meeting the requirements. Any person in Canada desiring to tender for supplying should direct inquiries for information to the Controller of Stores, Postoffice Telegraphs, General Postoffice, London, E.C., Eng., & also to the Engineer-in-chief, General Postoffice, London, E.C., Eng.; they require 25,000 poles immediately.

The C.P.R. Co. recently appealed against the assessment as really of the switchboard & instruments installed in the Toronto office for daily use. The judge dismissed the appeal, finding these things essential to the operation of the system. "The instruments themselves have no use or particular value detached from the connection with the telegraph wires, for they, too, become silent, & of no commercial value, but when united with the wires they form, with the poles & wires, one indivisible whole, a practical working telegraph line." The price & value of the instruments had been agreed upon between the parties, so that their assessability was the only question raised.

TELEPHONE MATTERS.

Bell Telephone Co.

The Co. has arranged an exclusive franchise for 5 years in London, Ont. The city is to receive \$1,000 a year & reduced telephone rates. Business telephones are to be \$40 instead of \$45 a year, residence 'phones \$20 instead of \$30, & doctor's & dentists' 'phones \$25 instead of \$35. The People's Co. has withdrawn from the field. The Bell Co. is erecting an exchange building in London.

After a squabble lasting since last June the Town Council of Windsor, Ont., has finally settled the telephone question, & the Bell Co. has won. Though the rival People's Co. dropped out some time ago, some members of the Council opposed to the Bell Co. continued to block the proceedings & to prevent the Co. from securing the franchise. The by-law has, however, been finally passed. The franchise given dates from June last & is for 5 years.

In St. Thomas, Ont., as elsewhere, the People's Telephone Co. did not materialize & the offer of the Bell Co. has been accepted as follows: To pay the city \$250 a year for 5 years; free 'phone at the hospital, reduced rate for 'phone at waterworks, 1 free 'phone at city hall, rates for residences \$20 a year, & when 3 are on a line, \$15 a year.

In the case of Bonn against the Bell Co. at Chatham, Ont., recently \$325 damages were awarded plaintiff, who claimed \$8,000 for injuries sustained in a runaway accident at Wallaceburg, when his buggy collided with one of the Co.'s poles.

The Bell Co. recently appealed to County Judges Macdougall, Dartnell & McGibbon against the assessment of its Toronto plant by the city. Last year the city lumped the assessment of the Co.'s property outside the land & buildings as "personal property, \$100,000." This year this was increased by over \$500,000. The judges reduced the assessment by over \$500,000, & the assessment is now fixed at \$102,550 instead of \$638,649. There were no legal points in dispute in the matter, the question at issue being simply one of values. The following table shows the details of the reduction made by the judges:

	Judges' figures.	City Assess.
Land & buildings	\$34,750	\$ 34,750
Poles, wires, conduits	53,000	377,992
Longdistance Street switchboard	12,000	177,174
Yorkville & Parkdale switchboards	3,900	59,733

Totals	\$102,550	\$638,649
		102,550

Total reduction	\$530,099
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There was no dispute as to the assessment on land & buildings.

Eastern Township Telephones.

Judgment was recently delivered at Sweetburg, Que., in the case of F. E. Harvey against Louis Pare, of Granby, for \$5,000 damages for false arrest. Harvey was formerly the proprietor of the Citizens' Telephone Exchange, with head office at Waterloo, & became insolvent. At the curator's sale of the effects the lines, poles & instruments of the Exchange were sold to Pare. Another lot which included the perpetual leases of a certain line of the Sherbrooke Telephone Association, running from Waterloo to Sherbrooke, was bought by H. B. Brown, Q.C., of Sherbrooke, acting in trust for other parties. Mr. Harvey was appointed by the trustees as manager of this line. On the other hand, Pare claimed that this particular line was part & parcel of the lot he had bought. Harvey, in his position as manager of the line, cut the wires connecting it with the wires of the former Citizens' Telephone Exchange. Pare caused Harvey to be arrested & brought before the District Magistrate, who dismissed the case. Harvey then took out the action for damages against Pare, alleging loss of reputation & time, injury to feelings & loss of money expended in defending himself before the District Magistrate. The court held that there was no loss of reputation, that the plaintiff had been paid by the trust for his loss of time, & also that it had been proved that the trust had paid the expenses of plaintiff's defence before the District Magistrate. The value of the injury to plaintiff's feelings he assessed at \$10, & held that defendant had acted with malice in causing plaintiff to be arrested. As to the real ownership of the disputed line the court was not called upon to adjudicate. Judgment for \$10 & costs.

Spokane & B.C. Telephone Co.

A Myers Falls despatch of Nov. 14 says: The management of the Spokane & British Columbia Telephone Co. has been a matter of litigation in the courts for some time past. On October 10 Messrs. Oakes & Aris, President & General Manager, respectively, sold a controlling interest in the stock of the Company to C. O. B. Reddin, of Rossland, B.C., & resigned upon condition that they should be retained, the former as a Director, & the latter as General Manager. The new management failed to accord them these positions, but voted them out. They refused to give up control of the lines & Reddin began suit to gain possession of the property of the Co., & secured a restraining order enjoining Oakes, Aris & all their agents & employes from interfering with the management of the business. This order did not oust them out, & Reddin sent N. R. Stone here this week to take possession, which was refused. Stone then tapped the main wires of the line for the purpose of cutting out the general office. Aris cut these wires, & with F. J. Lively, C. Chamberlain & S. Crager was arrested. Aris caused a warrant to issue for Stone, & he was held to answer under \$500 bonds. Yesterday evening Aris & his associates were released. Judge Richardson yesterday issued an order to Aris, Oakes & their associates to show cause why they should not be punished for contempt of court for violating the restrain-

ing order. The lines of the Co. cover a distance of 200 miles, & are estimated to be worth \$35,000.

British Columbia Telephones, Ltd.

In our last issue, pg. 252, we mentioned the registration of this Co. in England, with a capital of £100,000. Notice has since been given of application to the B. C. Legislature for an act to incorporate the B. C. Telephones, Ltd., for the purpose of enabling the Co. to acquire & take over all rights, assets, &c., held by the New Westminster & Burrard Inlet Telephone Co., & the Vernon & Nelson Telephone Co., & to assume the liabilities entered into by those companies & with other powers.

Within two months after the recent disastrous fire in New Westminster, the N. W. & B. I. Telephone Co. had established a new central office & thoroughly equipped its system throughout the town. The switchboard in the new central has capacity for 150 metallic subscribers. There is also a 10 point trunk line switchboard. At present there are 7 trunk lines, 2 from Vancouver, & 1 each from Ladner, South Westminster, Port Moody & Chilliwack, &, of course, intermediate points, & another from Blaine, Wash., where connection is made with the Sunset Telegraph & Telephone system. Apart from the loss sustained by the Telephone Co. by the fire, the cost of restoring the system has been considerable, & includes the erection of 100 new poles & the stringing of 150 miles of new wire, apart from 1,000 ft. of cable along Columbia Street, which contains 102 wires. The wire weighs 56 lbs. a mile, or over 40 tons in all.

Telephone Items.

A local telephone line is projected from Cannington, Ont., to Hartley, Victoria Road, & Kirkfield.

The Little Salmon River Telephone Co. has been granted the privilege of carrying its line into St. John, N.B.

The People's Telephone Co., of Sherbrooke, Que., is applying for confirmation & amendment to its letters patent, & for powers to increase its capital stock & issue bonds.

G. T. Baird, of Perth Centre, N.B., & others give notice of application for incorporation, under the N.B. Joint Stock Co.'s Act, as the Victoria Telephone Co., to build & operate lines within the counties of Victoria & Madawaska. Capital \$5,000.

Notice is given of application to the B. C. Legislature to incorporate a company for electric lighting the town sites at Teslin Lake, Glenora, Telegraph Creek, & Atlin City, with power to operate telegraph & telephone lines within & between the town sites.

The Metis Telephone Co. recently elected the following directors at a meeting at St. Octave de Metis, Que.: Hon. President, Dr. J. A. Ross, M.P.; Honorary Vice-President, L. F. Pinault, M.P.; Directors, Rev. Mr. Chouinard, L. M. Desrosiers, J. Gendron, A. C. Landry, L. M. Langlais, Dr. J. C. Demers, & D. Caron.

In Michigan farmers are fast taking advantage of the benefits offered by the telephone, & it will be but a short time when telephones will be as common in the country as they are now in the cities. In Allegan County the farmers have an exchange of their own, & maintain it by annual assessment. In Oceana County every township has telephone connection with Hart, the county seat, & this system is essentially a farmers' exchange, being owned & maintained chiefly by the farmers & fruit growers. Gratiot County has another farmers' exchange, which, with Ithaca as the center, has connections with every township & many farmers.—Electrical Engineering.

Express Companies' Items.

The Dominion Express Co. has established wagon routes between Beamsville & St. Catharines, Ont., & between Picton and Northport.

The Western Express Co. has opened offices at Napoleon, Withita & Braddock, N. D., on the extension of the M. St. P. & S. S. M. line from Kulm to Braddock.

The Canadian Express Co. handled very large shipments of deer from Muskoka this season. In 2 weeks the Co. carried 1,754 deer, weighing 182,618 lbs.

Owing to the increase in the express business at Toronto it is likely the quarters occupied by the Canadian & Dominion Express Cos. will have to be enlarged.

The Dominion Express Co. has opened offices at Pincher, Alta. (formerly Pincher Creek), Doris, Fernie, Cranbrook, Kootenay Landing, Moyie & Wardner, B.C., on the Crows' Nest Ry.

The Northern Pacific Express Co. has opened the following offices on its Souris River branch in Manitoba: Departure, Tiger Hills, Minette, Ontap, Dunrea, Margaret, Minto, Fairfax, Elgin.

W. M. Gordon, for a number of years running messenger for the Dominion Express at Winnipeg, has been appointed Route Agent, with headquarters at Winnipeg, succeeding H. F. Maley, assigned to other duties.

It is said that Stanley Metcalfe, a well-known clerk in the accounting office of the Canadian Express Co., is missing. He was also Secretary-Treasurer of the Co.'s Employees' Benefit Association, &, as such, handled the funds. That there is a shortage in his accounts with the Association has been ascertained, it is alleged, but the books are in such a condition that it is hard to determine just how matters stand.

The Pacific Express Co. announces the opening of the following offices in Canada, which are served by the Wabash trains on the southern division of the G.T.R.: Aylmer, Belle River, Cayuga, Chatham, Delhi, Glencoe, Jarvis, Lawrence, Middlemiss, Newbury, Niagara Falls, Port Robinson, St. Thomas, Simcoe, Thamesville, Tilsonburg, Welland, Windsor.


General Manager Stout announces the appointment of S. A. Davis, as Superintendent of the Western Express Co., with headquarters at St. Paul, Minn., vice R. Stewart resigned. The Express Gazette says Mr. Davis received his first express experience under P. R. Keim, then Superintendent of the American Express at St. Joseph, Mo. This was 10 years ago, and his duties were those of stenographer and over-and-short clerk. He was later promoted to chief clerk, and has latterly been filling that position at St. Paul, Minn., under General Superintendent Naylor. He combines all the elements of a successful expressman.

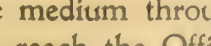
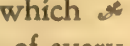

Ronald Stewart, who has been appointed Superintendent of the Great Northern Express Co., vice J. F. Lawless, resigned, entered the service in 1883 as driver for the American Express at St. Paul. A month later he was placed in charge of the "O. H." desk, & from that position promoted to Assistant Cashier, which he filled until 1885, when he was appointed Cashier at Minneapolis. Five years later he was given a similar desk at St. Paul. In 1891 he was appointed Agent of the National Express at Detroit, Mich. He returned again to St. Paul a year later as Superintendent's Chief Clerk, & upon the establishment of the Great Northern Express Co. became its St. Paul Agent, which position he filled until Jan., 1895, when he was placed in charge of the Western Express Co.'s lines as Superintendent. He resigns the latter office to assume his new duties. Express Gazette.

THE PURCHASING AGENTS' GUIDE

To the Manufacturers of & Dealers in Steam & Electric Railway, Steamship, Express, Telegraph & Telephone supplies, &c.

Accident Insurance Canadian Ry. Act. Ins. Co....Ottawa, Ont. Travellers' Insurance Co.....Montreal.	Foghorns Rice Lewis & Son.....Toronto.	Semaphore Arms Acton Burrows Co.....Toronto.
Air Brakes & Fittings Westinghouse Mfg. Co....Hamilton, Ont.	Forgings Rhodes, Curry & Co.....Amherst, N.S.	Shafting Rice Lewis & Son.....Toronto.
Aluminum Rice Lewis & Son.....Toronto.	Gates Page Wire Fence Co....Walkerville, Ont.	Shipbuilders' Supplies Rice Lewis & Son.....Toronto.
Anchors Rice Lewis & Son.....Toronto.	Grease Eureka Min. Wool & Asbestos Co. Toronto. W. C. Wilson & Co.....Toronto.	Ship Carpenters' Tools Rice Lewis & Son.....Toronto.
Anti-Friction Metal Canada Metal Co.....Toronto.	Half Tones Acton Burrows Co.....Toronto.	Ships Polson Iron Works.....Toronto.
Axles Rhodes, Curry & Co.....Amherst, N.S.	Hardware Rice Lewis & Son.....Toronto.	Shovels Rice Lewis & Son.....Toronto.
Babbit Canada Metal Co.....Toronto. Rice Lewis & Son.....Toronto.	Headlights Noah L. Piper & Sons.....Toronto.	Signal House Numbers Acton Burrows Co.....Toronto.
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Blocks Rice Lewis & Son.....Toronto.	Lamps Rice Lewis & Son.....Toronto. Noah L. Piper & Sons.....Toronto.	Spikes Rice Lewis & Son.....Toronto.
Boat Fittings & Hardware Rice Lewis & Son.....Toronto.	Lanterns Rice Lewis & Son.....Toronto.	Springs Rhodes, Curry & Co.....Amherst, N.S.
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Bunting Rice Lewis & Son.....Toronto.	Mohair Lister & Co.....Manningham, Eng.	Telegraph Office Signs Acton Burrows Co.....Toronto.
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Castings Rhodes, Curry & Co.....Amherst, N.S.	Oils Eureka Min. Wool & Asbestos Co. Toronto. Galena Oil Co.....Franklin, Pa. W. C. Wilson & Co.....Toronto.	Tie Plates F. E. Came.....Montreal.
Chains Rice Lewis & Son.....Toronto.	Office Signs Acton Burrows Co.....Toronto.	Toilet Paper Rice Lewis & Son.....Toronto.
Cuts Acton Burrows Co.....Toronto.	Packing Eureka Min. Wool & Asbestos Co. Toronto. W. C. Wilson & Co.....Toronto.	Tools Rice Lewis & Son.....Toronto.
Door Signs Acton Burrows Co.....Toronto.	Pipe Rice Lewis & Son.....Toronto.	Track Jacks Duff Manufacturing Co....Allegheny, Pa.
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Enamelled Iron Signs Acton Burrows Co.....Toronto. Rice Lewis & Son.....Toronto.	Portland Cement Rice Lewis & Son.....Toronto.	Valves Rice Lewis & Son.....Toronto.
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		Yachts Polson Iron Works.....Toronto.

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NEW SERIES, NO. 11.

TORONTO, CANADA, JANUARY, 1899.

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The I.C.R.'s General Superintendent.

James E. Price was born at Peticodiac, N.B., Oct. 18, 1854, & entered the railway service in July, 1867, working as a telegraph operator until 1873, from which date until 1876 he was train dispatcher at Moncton. In 1876 the late C. J. Brydges, then General Manager of the I.C.R., appointed him Assistant Superintendent from Moncton to Campbellton, 185 miles. At that time the line was under construction between Moncton & Ste. Flavie, under the supervision of Collingwood Schrieber, the present Deputy-Minister of Railways & Canals, who highly complimented Mr. Price for his energetic & faithful services in connection with the completion of the work. On the change of Government in 1879 a reorganization of the railway staff took place, Mr. Price being reduced to the position of train dispatcher at Campbellton. In 1881 another change in the staff was made, & Mr. Price was restored to his former position with the line from Campbellton to Ste. Flavie (105 miles) added. Sir Charles Tupper, then Minister of Railways, in reply to an address presented to him at Campbellton, said: "In Mr. Price, the District Superintendent, I have found a gentleman who has heartily sustained me in carrying out the policy of economy, although it bore severely against himself. He was assigned to a lower station & a reduction in his salary of one-third & went to his new duties without a murmur. I have had great pleasure in restoring him his former salary & giving him a higher position, as he is one of the most deserving & able officers on the road."

In 1892, Mr. Price was transferred to the Halifax & St. John district, the most important district of the I.C.R., as District Superintendent, & in Oct. last he was promoted to the General Superintendency of the whole line.

Service on a Railway Company.

In a recent suit, Beer vs. Guimond, C.P.R. Co. garnishee, a decision was given by Judge Forin, that service on the Co. at Nelson, B.C., is irregular. In a former case, Hewson vs. C.P.R. Co., judgment was rendered as follows: "That the plaintiffs were served on the Stationmaster at Donald, & by the judgment of the full Court the service was held bad."

The following is a copy of the Co's By-law, no. 70, covering such services: "By-law no. 51 shall not be in force on or after May 1, 1894, & is hereby repealed as to that date, on & after which day the head office of the Co., in Vancouver, B.C., is hereby appointed & fixed as the place where service of process may be made upon this Co. in respect to any cause of action arising within the said Province."

FINANCE, MEETINGS, &C.

White Pass & Yukon Railway.

The 1st ordinary general statutory meeting of this Co. was held in London, Eng., Dec. 5, Hon. S. Carr-Glyn, Chairman of the Co., presiding. After preliminary remarks by the Chairman, S. H. Graves, of Close Bros. & Co., London & Chicago, spoke at length. He said: "Having just arrived from the Pacific coast I am glad to comply with the suggestion that I should give you the latest news as to the prospects of our railway & of the Yukon country. It only takes a few words to tell you

money from us. I will not weary you with the details, but will simply say that all the laws of all the countries have been in every respect fully complied with, & that every attempt to stop or delay our work was successfully met & defeated, & that not one penny has been extorted from us on the other side of the Atlantic; nor has the work been delayed for one hour by all the numerous & ingenious schemes which were hatched to get money out of us, & which out west come under the generic title of "hold-up games." Thus our legal difficulties were in the end disposed of as satisfactorily in their way as the legislative ones.

Having secured the services of E. C. Hawkins, whom I had known for a number of years, & who was then chief engineer for a large enterprise in which my firm was associated with a number of leading men in New York, we reached Skagway on April 10 last. After a rapid preliminary reconnaissance, he reported that the line was entirely feasible, but that certain conditions were different from what he had been led to suppose in connection with the possession of the town site & of the wharf at Skagway, & that in consequence we should be obliged to materially modify our programme. The necessary arrangements have been made, Mr. Hawkins & his staff of engineers returned to Skagway about the middle of May, & proceeded to run alternative lines of survey in order to secure the best possible line to the summit of the pass. For this purpose no less than five different & complete lines to the summit were fully surveyed & worked out before the line was finally located. Of course, too much care cannot be taken in deciding exactly the best line before beginning to spend money on construction itself. All this unavoidably took up much valuable time, especially as the difficulties of surveying in that country are almost beyond description. The result was that it was well along in June before Mr. Hawkins & I were finally satisfied that we had exhausted all the possibilities, & had reached the best possible solution of all the problems involved in locating the line. Construction commenced in June, at first on a small scale, with only about 200 men, who were available at Skagway. These were supplemented as fast as possible by men obtained from the States & Canada, until in July we were working over 1,500 men, & had every prospect of increasing to 2,500 men as soon as the harvest on the Pacific coast was over. In August the news of the Atlin gold discoveries reached our camps, & a stampede ensued, which reduced our force in one day from about 1,700 to a little over 600. It remained at about the latter figure during Aug. & Sept., gradually increasing to about 1,000 in Oct., & in spite of all our efforts, since, we have been



JAMES E. PRICE.

about our legislative difficulties, now they have been disposed of; but if any of you have any knowledge of the difficulties of getting even a single bill through our British Parliament, you will appreciate that it is not an easy matter to attend to half-a-dozen bills in three different Legislatures, which are separated by distances greater than those that separate London, St. Petersburg, & Athens. The legal questions arising were of two kinds: Firstly, compliance with the various laws of the three different countries in which we were constructing our railway; & secondly, defence against organised attempts to prevent or delay our work, or to extort

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NEXT ANNUAL MEETING at Toronto, Sep. 20, 1899.

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Hamilton, Ont.; T. Long, Port Hope, Ont.; A. Calder,
Winnipeg.

NEXT ANNUAL MEETING at Winnipeg, Oct. 13, 1899.

unable to increase it materially above the
latter figure. The men who did remain were
all green hands & unskilled, & quite unable to
attempt the very difficult rock work then in
progress. The result was that instead of
reaching the summit of the Pass by the end
of Sept., as we should easily have done had
we been able to maintain the same rate of
progress as in July, we are only now about
reaching the summit, when we had hoped to
have long since reached the lakes. However

disappointing this may be for the moment, it
is a small price to pay for the discovery of
the Atlin gold fields within a few miles of our
line.

From salt water to the lakes the work done
is substantially all rock work, & the line has
had to be blasted out of the solid rock. The
difficulty & cost varied according to the ac-
cessibility of the work, & the amount of rock
to be blasted. Sometimes over 100,000 tons
of solid granite rock were dislodged by a
single battery blast, & this reached a maxi-
mum on Rocky Point & Tunnel Mountain. To
reach the latter from the camp, some 1,500 ft.
below, over 10 miles of trail had to be made,
& 4d. a pound had to be paid to get our dyna-
mite & powder carried up to the grade, from
which one could almost have dropped a stone
into the camp below. Of course, no horses
could be used on this work, & everything had
to be done by hand. The work on the U.S.
side of the summit was all practically complet-
ed early in Nov., with the exception of the
tunnel, some 300 ft. long, on Tunnel Moun-
tain, & a bridge beyond over a deep ravine
to which we could not convey the heavy bridge
material till the tunnel was finished. The
work on the tunnel, when I left, was being
pushed from both ends, but was delayed by
the necessity of removing all the debris by
hand. It was expected that the tunnel would
be finished by the end of Nov., & that within
a week of its completion trains would cross
the International boundary line at the summit.
Meanwhile work has been pushed ahead as
rapidly as our force of men would admit on
the Canadian side, and as fast as work is fin-
ished up on the U.S. side the men & camps
are being moved to the Canadian side. A
letter received to-day advises that about 1,000
men are now at work beyond the summit.
Several miles of comparatively easy work are
now ready for the track-layers on the Cana-
dian side; but there is some heavy rock work
just beyond the summit that must be done be-
fore any track can actually be laid. We hope
to be able to push work all through the winter;
but in any case there should be no difficulty
in reaching Lake Bennett long before naviga-
tion opens in the spring, & meantime it will
be easy to forward goods & passengers by sleigh
downhill over the snow from rail head to Lake
Bennett. The line we have built has nearly a
uniform gradient of under 4 ft. in 100 ft., &
has no curve exceeding 16 deg. These figures
excite universal surprise & admiration amongst
men familiar with American mountain railway
work. I will give you only one more illus-
tration of what I mean by saying that we have
preferred economy & safety of operation to
economy of construction. The line from Skag-
way to the summit is an uphill pull of 20 miles
long, with only a single track. If a train
that had started to climb from the bottom had
to be allowed to reach the top before another
train could start down, it is obvious that the
capacity of the line would be much reduced.
This could be obviated on a level line by sid-
ings; but sidings on an incline are a source of
great danger. By considerably increasing
the cost of construction, we have succeeded in
making several large level sidings, & thus
have in effect cut our hill up into a number of
smaller hills, separated by level places where
trains can pass. These are only instances of
what is apparent from the whole line, viz.,
that it was located & constructed to make a
profit for the company operating the line, in-
stead of for the contractors.

It is now certain that the capacity of the
line will be taxed to the utmost in order to
keep pace with the development of the Yukon
country, & that the rates of freight will be so
remunerative that the cheapest line in the
long run is the best possible line that money
can build. Our traffic manager (Mr. Gray) at
Seattle, in his report, states that he has seen
& had communication with some of the lar-
gest shipping agents on the Pacific Coast, &

that he has already arranged rates for a very
large amount of freight. He estimates that
for Jan., Feb., Mar. & April the railway will
have to carry over 12,000 tons at such rates
that the revenue to the summit only will
amount to over \$736,000, & the revenue will
be doubled as soon as the railway is open to
the lakes. I want also to explain that the
Klondike district is only a small corner in the
Yukon country, & Dawson city is only the
metropolis of the Klondike. Nor is it upon
the Klondike alone that the future of our rail-
way depends. Already gold discoveries have
been made in other parts of the country that
promise to eclipse the Klondike fields. This
is notably the case with the Atlin goldfields,
which already have been proved more exten-
sive & much more uniformly rich, though no
claims have yet been found so wonderfully
rich as the richest in the Klondike. The Atlin
goldfields are also more accessible, & the
gold is much more cheaply & easily produced.
There is no royalty payable on the Atlin gold,
& it is already apparent that this field is destined
to support a larger mining population than
the Klondike. It is also a good grass coun-
try, & will support during the summer months
a large number of cattle, & the summer, not
the winter, is the busy season at Atlin.
It is entirely dependent on our railway for
everything. Other districts in the Yukon
have been prospected and proved this season,
involving areas of thousands of miles in ex-
tent, & mention should be made of the won-
derful bench claims at Manook, where placer
gold has been found at heights up to 800 ft.
above the level of the river, thus proving that
the Yukon gold was deposited at a period of
the world's history when conditions were very
different from those at present, & that the
placer gold-bearing area is not confined to
narrow creek & river bottoms, but extends
throughout much greater areas. But it is a
mistake to suppose that the future of the
Yukon depends upon gold alone, however
widely scattered. It is now known to be re-
latively as rich in copper as in gold, & coal
has been discovered at several places, & good
indications of oil. It has become evident that
it is a country of extraordinary mineral rich-
ness extending throughout an area nearly as
large as Europe. It has also been proved
that the climate is healthy & pleasant during
the summer, & that with ordinary food &
clothing the winters are no more to be feared
than in Manitoba. Neither is the country a
barren desert; on the contrary, it is in many
places most fertile, & produces enormous
crops of grass, & has been proved well
adapted for all crops that can be grown any-
where in northern latitudes, especially oats &
potatoes. The White Pass & Yukon Ry. is
the key that is about to unlock the door to
this rich country, & the key is now upon the
point of being turned in the lock. To-day we
have the difficult part of our work done, our
railway organized for business, & the Govern-
ments of Canada, B.C. & the U.S. all most
friendly. Having the trunk line between salt
water & the river, we shall put in branch lines
as feeders as fast as they are warranted by
the condition of particular districts. Mean-
while the wonderful net-work of rivers & lakes
take the place of branch lines, & all act as
our natural feeders.

Vancouver's Phenomenal Growth is forc-
ibly illustrated by a handsome panoramic view
of the city, recently issued by the Vancouver
World, whose enterprising proprietor, J. C.
McLagan, is always to the fore in keeping
the actualities and possibilities of the city in
the public eye. The view, some 40 by 30 ins.,
conveys a much better idea of the city than
can be gathered from any map. The station,
workshops, etc., of the C.P.R. are shown in
very correct detail, as well as the various
wharves & other harbor accommodations.

Temiscouata Railway Matters.

Judge Curran, of the Quebec Court of Review, recently gave judgment in the case of A. R. Macdonald against E. D. Boswell, C. Riordan & J. J. Macdonald, reversing the judgment of the Superior Court unanimously. The case arose out of the construction of the Temiscouata Ry. The judgment of the Superior Court ordered defendants to hand over to plaintiff bonds, with interest coupons attached from April 8, 1890, & being a first lien on the railway for \$193,000, & in default to pay that sum to plaintiff, with interest & cost of suit. Plaintiff alleged in his declaration that he had entered into an agreement with defendants, for the building of 66 miles of railway from Fraserville to the boundary line of New Brunswick, with a capital stock of \$100,000, to be divided into 4 shares of 25% each, 1/4 of the whole to be held by plaintiff & the remainder by the 3 defendants. It was further agreed that plaintiff was not to be liable to calls, & that the capital should be supplied by defendants; the defendants were to build the road, & out of the bonds issued plaintiff's share should be as follows: 15% in addition to his interest in such bonds as one of the shareholders of the Co., the amounts of 15% were to be paid to plaintiff & in excess of the 25% as a shareholder in the said Co. Bonds were issued to the extent of \$1,600,000, & the road was built & finished in 1890. Plaintiff claimed he is entitled to receive \$240,000 of the Co.'s bonds, with a first charge for the payment of the same upon the railway. J. J. Macdonald died in March last, & appointed as his testamentary executors the three defendants, Dame Cecilia Macdonald, R. Ryan & G. P. Brophy, declaring that defendants had accepted to act as such, & that during the years that followed the formation of the Co. up to Jan. 1, 1890, defendants have paid to plaintiff on account of the \$240,000, & different accounts amounting together to \$400,000.

The chief plea of the defence was that plaintiff was the President & a director of the Temiscouata Ry. Co., & that these contracts were unlawful & corrupt agreements in violation of the Consolidated Railway Act, 1879, & of the laws in that behalf enacted; that the plaintiff, in consequence of his position, could not lawfully become a partner in the construction company for the building of the railway, nor could he validly stipulate for the payment & delivery to him of the bonds of the railway company. The Superior Court judgment was in favor of Mr. Macdonald, but the Judge of the Court of Review, in reversing this judgment, said the main question was whether agreements regarding the appropriation of part of the bond issue was legal or illegal. In the present instance, Parliament having declared the act done by the plaintiff to be a misdemeanor, it brought the act within the purview of the criminal law. That act is a criminal act in all the Provinces of the Dominion, & the pretensions of the plaintiff that it interferes with civil rights in the Province of Quebec cannot avail. It is impossible to say that the clauses referring to the 15% upon the bonds are independent of the rest of the contract. The payment of this 15% is an integral part of the document, a condition of the contract pure & simple, without which, presumably, plaintiff would not have contracted with defendants at all, but would have sought others willing to accede to his terms. No reason that he can give will make his action valid in having made such a stipulation, which is in direct contravention of the law. Finally, plaintiff put forward the following argument:—"Should the court be of opinion that plaintiff has a right to no more than \$60,000, being 15% upon the first issue of bonds, he has still a first claim of \$13,000, inasmuch as it has been proved that defendants paid to the promoters \$47,000, & no more." Here,

again, plaintiff met with the same fatal objection. Defendants contended that the 15% was to go to certain persons, who are described as promoters of the original charter of this company, & their assertions that the names of those persons were to be furnished, that they were furnished, & the amount of their claims (\$47,000) duly paid have been fully established.

On this point the Judge said:—"The balance is so much money that plaintiff, in contravention of the law, stipulated should be paid to himself. He has no right to this \$13,000 any more than to the full amount of the 15% on the entire emission of the bonds. We consider, therefore, that the judgment in favor of plaintiff should be reversed, & that is the unanimous judgment of this court."

THE PURSUED IN PURSUIT.

Shortly after the decision above mentioned had been given the Temiscouata Ry. Co. entered a suit against A. R. Macdonald, to compel him to render an account of the profits realized by him under contracts of May & Sept., 1886, for the construction of the railway, or, in default, to pay over to the Co. \$300,000. The action is for an accounting for all money, benefits & advantages derived by Mr. Macdonald under his agreement with the contractors. The Co. alleges that this agreement was illegal, corrupt & detrimental to the interests of the Co., & that, inasmuch as Macdonald received these benefits while acting in the fiduciary capacity of president & director of the railway Co., he is obliged to account for & deliver to the Co. any profits so derived by him. These profits & securities in cash, stock & bonds are estimated by plaintiffs of the value of \$300,000, & for this amount plaintiffs ask an alternative condemnation against defendant in case of his failure to account for & pay to the Co. the moneys, profits, benefits & advantages obtained by him under the agreements held to have been illegally entered into with the contractors for the building of the road.

CIRCULAR TO THE BONDHOLDERS.

Following is a copy of a circular recently issued to the bondholders: "The last interest coupon upon the main line bonds payable by the Quebec Government having now been cashed, & default on the bonds being therefore imminent, it will shortly be necessary for the committee to take steps to prepare to enforce the bondholders' security & rights. To this end it is essential that the main line bondholders should at once deposit their bonds with the committee, giving the latter full power to act in such a way as they may think fit, & to the same extent that each bondholder could himself. To facilitate the arrangements which the default on the main line bonds will necessitate, the committee has been advised that it is desirable to register itself as a limited company, under the name of the Temiscouata Railway Bondholders' Committee, Ltd. This has accordingly been done, & you are requested to send your bonds at once to the Trustees, Executors, & Securities Insurance Corporation, as agents for the committee, who will give a receipt for the bonds lodged, which will subsequently be exchangeable for the certificate of the Temiscouata Railway Bondholders' Committee, Ltd. In making this deposit you will incur no pecuniary liability, but without possession & control of the main line bonds it will be impossible for the committee to take action to safeguard the bondholders' interests in view of the default now imminent. In the case of bearer bonds that have been registered, it will be necessary to unregister the bonds before they are transferred to the committee or the latter issue their certificate. The committee will be prepared to effect this unregistration on behalf of any bondholder, merely charging him the nominal sum which has to be paid by the holder for this purpose. In due course after the deposit by any holder

of a registered bond, the document or documents required to unregister it will be sent to him for signature. As soon as sufficient bonds have been deposited, application will be made to the Stock Exchange for a quotation of the committee's certificates. The interest on the St. Francis Branch bonds, payable by the Quebec Government, having still some time to run, the committee do not yet require the deposit of those bonds."

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys:

	1898	1897	Decrease	Increase
July.....	\$1,800,884	\$1,992,628	\$191,744	
August.....	1,992,802	2,001,235	8,433	
Sept.....	2,261,148	2,411,308	150,160	
Oct.....	2,200,873	2,338,493	137,620	
Nov.....	2,199,790	2,192,739	7,051	\$27,133
Dec.....	2,176,940	2,186,843	9,903	
	\$12,742,426	\$13,118,863	\$376,437	\$27,333

The following figures are issued from the London, Eng., office:

GRAND TRUNK RAILWAY.**Revenue Statement for Nov., 1898:**

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£473,094	£470,574	2,520	
Working expenses....	241,773	243,558	1,785	2,085
Net profit.....	131,590	132,716	1,126	

Aggregate for 5 months to Nov. 30, 1898:

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£1,781,224	£1,877,948	96,724	
Working expenses....	1,134,081	1,170,741	36,660	32,050
Net profit.....	647,133	691,207	44,072	

CHICAGO & GRAND TRUNK RAILWAY.**Revenue Statement for Nov., 1898:**

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£400,102	£411,217	11,115	
Working expenses....	54,158	47,750	6,408	
Net profit.....	50,944	34,977	15,967	

Aggregate for 5 months to Nov. 30, 1898:

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£2,098,979	£2,277,948	178,969	
Working expenses....	250,811	245,859	4,952	
Net profit.....	48,168	32,089	16,079	

DETROIT, GRAND HAVEN & MILWAUKEE.**Revenue Statement for Nov., 1898:**

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£19,519	£18,285	1,234	
Working expenses....	13,497	13,539	42	1,791
Net profit.....	3,142	4,746	1,604	1,577

Aggregate for 5 months to Nov. 30, 1898:

	1898.	1897.	Increase.	Decrease.
Gross receipts....	£90,777	£98,427	7,650	
Working expenses....	64,876	67,883	3,007	3,907
Net profit.....	25,901	30,544	4,643	

RECEIPTS OF THE SYSTEM.

From July 1 to Dec. 31, the receipts were:

	1898.	1897.	Increase.	Decrease.
Grand Trunk.....	£2,137,478	£2,248,805	111,327	
Chicago & G.T.....	373,090	337,972	35,118	
D., G. H. & M.....	107,139	108,877	1,738	

Total.....£2,618,307 £2,695,654 £77,347

DETAILS OF GRAND TRUNK RECEIPTS.

	1898.	1897.	Increase.	Decrease.
Passengers, number.....	6,076,385	5,804,841	271,544	
amount.....	£ 4,400,000	£ 533,475		
Immigrants, number.....	1,000,000	1,000,000		
amount.....	£ 1,000,000	£ 1,000,000		
Mails, express, &c.....	£ 1,000,000	£ 1,000,000		
Freight, tons.....	1,000,000	1,000,000		
amount.....	£ 1,000,000	£ 1,000,000		
Miscellaneous receipts.....	£ 1,000,000	£ 1,000,000		
Total receipts.....	£1,781,224	£1,877,948	96,724	
Decrease.....				

Velvet Lisingo. In a recent case in England, in the Queen's Bench Division, Lister & Co., Ltd., of Manningham, manufacturers of the pure mohair velvet "Lisingo," so largely used for upholstery, railway cuts & steamship saloons, &c., obtained judgment against Dix Bros. for an infringement of their patent of 1889 for the manufacture of Lisingo velvet.

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases or decreases over 1897 from Jan. 1, 1898, are as under:

	Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan. 1, 1898	\$1,156,744.18	\$1,035,097.59	\$121,646.59	
Jan. 1, 1897	1,156,744.18	1,035,097.59	121,646.59	
Mar. 31, 1898	1,156,744.18	1,035,097.59	121,646.59	
Apr. 30, 1898	1,156,744.18	1,035,097.59	121,646.59	
May 31, 1898	1,156,744.18	1,035,097.59	121,646.59	
June 30, 1898	1,156,744.18	1,035,097.59	121,646.59	
July 31, 1898	1,156,744.18	1,035,097.59	121,646.59	
Aug. 31, 1898	1,156,744.18	1,035,097.59	121,646.59	
Sept. 30, 1898	1,156,744.18	1,035,097.59	121,646.59	
Oct. 31, 1898	1,156,744.18	1,035,097.59	121,646.59	
Nov. 30, 1898	1,156,744.18	1,035,097.59	121,646.59	

\$1,156,744.18 - \$1,035,097.59 = \$121,646.59 - Increase.

Approximate earnings for Dec., 1898, \$2,045,000, against \$2,320,000 in Dec., 1897, an increase of \$315,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—The approximate earnings for Dec. were \$158,745, as compared with \$128,408 for the corresponding period, an increase of \$30,337.

Net earnings for 10 months to the end of Oct., 1898, \$511,502 compared with \$471,292.

MINERAL RANGE, HANCOCK & CALUMET.—The approximate earnings for Dec. were \$31,034, as compared with \$30,045 for the corresponding period, an increase of \$989.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—The approximate earnings for Dec. were \$333,023, as compared with \$323,141 for the corresponding period, an increase of \$9,882.

Net earnings for 4 months to end of Oct., 1898, \$753,064, as against \$665,589.

Canadian Pacific Railway Land Sales.

	Acres.	Amount.
Jan. 1, 1898	22,044	\$72,924.00
Feb. 1, 1898	20,650	66,399.00
Mar. 1, 1898	33,421	109,010.00
Apr. 1, 1898	43,143	140,275.00
May 1, 1898	43,143	137,835.00
June 1, 1898	49,203	160,199.00
July 1, 1898	49,203	160,199.00
Aug. 1, 1898	49,203	160,199.00
Sept. 1, 1898	49,203	160,199.00
Oct. 1, 1898	49,203	160,199.00
Nov. 1, 1898	49,203	160,199.00
Dec. 1, 1898	49,203	160,199.00
Totals	318,527	\$1,123,696.00

The agents of the Canada Eastern recently presented Supt. Hoben with an address & a gold headed cane.

Canadian Government Railway System.

Following is a comparative statement of revenue & working expenses for the years ended June 30, 1897 & 1898:

INTERCOLONIAL RAILWAY.		
	1897.	1898.
REVENUE.		
Passenger traffic	979,005 57	\$1,053,864 64
Freight traffic	1,687,050 42	1,857,740 06
Mails and sundries	199,972 03	206,065 15
	\$2,866,028 02	\$3,117,669 85
WORKING EXPENSES.		
Locomotive power	995,247 29	\$1,031,630 81
Car expenses	708,513 01	733,366 18
Maintenance of way & works	624,454 43	861,727 62
Station expenses	384,082 77	400,164 67
General expenses	207,107 39	209,547 59
Car mileage	5,663 78	21,211 64
	\$2,925,968 67	\$3,257,648 51
Deficit	\$ 59,940 65	\$ 139,976 66

PRINCE EDWARD ISLAND RAILWAY.		
	1897.	1898.
REVENUE.		
Passenger traffic	62,695 07	\$ 63,734 61
Freight traffic	69,872 66	75,845 60
Mails and sundries	20,875 40	19,370 40
	\$153,443 13	\$158,950 61
WORKING EXPENSES.		
Locomotive power	55,991 60	\$ 56,520 66
Car expenses	41,967 07	38,827 84
Maintenance of way & works	84,965 58	79,273 33
Station expenses	28,858 47	29,076 53
General expenses	11,328 29	12,660 20
Renewals of permanent way	17,378 89	15,060 18
	\$240,489 90	\$231,418 74
Deficit	\$ 87,046 77	\$ 72,468 13

In the past 10 years the lowest deficit on the P.E.I.R. was \$63,732 in 1893, & the highest \$132,264 in 1892.

The total deficit in operating the Government System for the year ended June 30, 1898, was \$212,446.79.

Financial Notes, Meetings, &c.

The Alberta Ry. & Coal Co. has issued a writ in Toronto against Mackenzie & Mann for \$110,000 for alleged breach of contract. It is said this is in connection with the sale of narrow gauge rolling stock, rails, etc., for the Canadian Yukon Ry.

Calgary & Edmonton.—Net earnings for Nov., '98, were \$5,694.46, compared with \$15,517.13 for corresponding period. The Co. announces that the Dominion Government subsidy for the six months ended Dec. 31, 1898, together with the net earnings of the Co. to Oct. 31 last, permit of a distribu-

tion of 2% in respect of the interest due on Jan. 1 on the 1st mortgage bonds, & payment of such interest will be made on Jan. 2 by Morton, Chaplin & Co., London, Eng.

Canada Eastern.—At a meeting of shareholders at Fredericton, N.B., Jan. 7, it was unanimously resolved, under power conferred at last session of the Dominion Parliament, to sell the railway & branches, with all its property rights, &c., to the Alex. Gibson Ry. & Mfg. Co., which was incorporated by the N. B. Legislature last year.

Canadian Pacific.—Baring Brothers & Co., London, Eng., announce the payment on Jan. 2 of the coupons then due on the following issues:—Atlantic & Northwestern Ry. 5% sterling 1st mortgage bonds; C.P.R. 5% 1st mortgage bonds; Algoma branch 5% 1st mortgage bonds, & 3½% land grant bonds of 1888.

Central Ontario.—The Bank of Ottawa has issued a writ against this Co. claiming \$306,759. The plaintiff claims that this is the amount due from the defendant upon coupons to debenture bonds issued by the Co. When the Co. commenced business some years ago it issued debenture bonds which were purchased by the Bank of Ottawa. It is claimed the interest on the debentures has not been paid.

Central Vermont.—It is stated that the G.T.R. has accepted the terms of the Central Vermont Ry. bill as passed at the recent session of the Vermont Legislature. The new corporation, which has accepted this charter, is organized for the purpose of acquiring the title & to operate the property of the Central Vermont & its branch & leased lines, & the incorporators are to be:—E. C. Smith, D. D. Ranlett, C. M. Hays, C. Percy, J. G. McCullough, W. S. Webb, Ezra H. Baker, & S. E. Kilner, who organize as the Central Vermont Ry. Co. The charter provides that a majority of the directors of the reorganized road must be residents of Vermont, & the Clerk & Treasurer of the Co. must be residents of the U.S. The first meeting of the incorporators will be held in St. Alban's after the roads & leases of the Central Vermont system have been sold under the decree of the Circuit Court of the U.S. for the District of Vermont, when the incorporators will elect directors, a President, a Clerk & Treasurer, when the Co. will be fully organized.

Columbia & Western.—On returning to Rossland, B.C., lately from Montreal, D. J. Fitzgerald said he had gone east in the hope of securing payment from the C.P.R. for cer-

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tain fuel & stores, the property of the B.C. Smelting & Refining Co., which the C.P.R. specifically agreed to purchase separately, & which he alleged were not included in the transfer of the smelter & railway when F. A. Heinze sold out his B.C. interests to the C.P.R. last spring. He said the two companies had failed to adjust their differences, & that as the C.P.R. had refused to treat with him & fulfil its alleged covenant, Mr. Heinze was forced to sue R. B. Angus & Thos. G. Shaughnessy, as representatives of the railway, to secure payment of his claim.

At the recent annual meeting of the C. & W. Ry. Co., the following directors were elected: T. G. Shaughnessy, R. B. Angus, W. S. Taylor, T. Tait, I. G. Ogden, Montreal; R. Marpole, G. McL. Brown, Vancouver; H. E. Beasley, F. W. Peters, Nelson. Mr. Shaughnessy was subsequently elected Vice-President, & H. Campbell Oswald, Secretary.

Dominion Atlantic.—Net earnings for 11 months, to end of Nov., 1898, \$505,033, compared with \$471,292.

Thirty-two years ago the Province of Nova Scotia incorporated the Windsor & Annapolis R. Co., & amongst other concessions granted it the right to a drawback of all customs duties paid upon materials & stores required for the construction & operation of the road. The Dominion Atlantic Ry. Co. succeeded to the property & rights of the W. & A. Co., & in the Federal Act of 1896, authorizing the transfer, provision was made for the extinguishment of the exemption from the payment of duty by commuting it at a lump sum. On Oct. 7 last an agreement was signed, by which the D.A. R. Co. gave up the privilege in consideration of the payment of \$100,000, which was handed over on Oct. 19. A proclamation has been issued repealing all Provincial & Federal legislation granting the right to the drawback. This settlement does not prejudice the right of the Co. to claim a refund of all duties paid up to Oct. 19.

Grand Trunk.—The Co. has filed with the New York State Court of Claims a claim against the State for \$31,529. The claim is based on the accommodation of the State in filling up a slip which formed a part of the Erie Canal in Buffalo, & called Palmer Slip, & in filling up what was known as Evan's Ship Canal, also in Buffalo. The waterways were filled up with material excavated from Erie Canal, & the Co. sues for the loss of their use. It asks \$15,000 damages for each, & \$1,529 for injuries to the wall of a freight house situated at the corner of River street & Peacock Slip.

Great Northern (U.S.)—Gross earnings for Dec. \$2,232,708, increase \$351,524. For the 6 months, \$14,486,664, increase \$1,498,573.

Irontdale, Bancroft & Ottawa.—An action was recently begun in Toronto by this Co., against the Bank of British North America, The Trusts Corporation of Ontario, & J. H. Plummer, A. D. Benjamin, H. S. Mara & Z. A. Lash, for a declaration that the bonds of the Co. have not been validly issued & are not binding upon the Co., & that the pledge of them to some of the defendants is invalid & that the defendants are not entitled to dispose of them. On Jan. 4 the Co. was ordered to put up \$5,000 as security for any loss that might be sustained by the loss of sales & an injunction was granted restraining the defendants from disposing of the bonds. On Jan. 24 plaintiff's counsel moved to continue the injunction until the trial, but after a long argument it was dissolved by the Chancellor. Bonds to the extent of \$450,000 have been issued & were pledged in Sep. 1897 under the agreement attacked in the action. The total amount of the indebtedness for which they are pledged is between \$200,000 & \$250,000. While the writ claimed a declaration that the bonds were not validly issued, plaintiff's counsel has not so far made any effort to prove the invalidity, but has attacked the manner in

which they were pledged. It is alleged the pledge was authorized at a meeting at which there were present 4 persons who purported to act as directors, & another person who purported to be a director was represented by proxy, proxies being under the special act allowed at directors' meetings. It is said that 1 of the 4 persons present was not a shareholder & therefore not qualified to be a director & therefore that as the act requires the attendance of at least 4 of the directors at any directors' meeting anything done at that meeting is not binding upon the Co.

Kingston & Pembroke.—It is said the 20,000 shares of 1st preference stock, aggregating \$1,000,000, full particulars of which were given in our last issue, pg. 255, have all been subscribed for.

Receiver J. Bawden, Kingston, Ont., is advertising for particulars of claims against the Co. After Jan. 31, he will distribute the Co.'s assets among the parties entitled thereto.

London & Port Stanley.—The following were elected in London, Ont., Jan 12: President, J. D. Wilson; Vice-President, R. A. Carruthers; Other directors, F. J. Rumball, P. McPhillips, W. H. Winnett, S. O'Mara, H. D'aneay, S. Stevely, H. M. Douglass, A. Greenlee. Secretary, C. A. Kingston; Treasurer, J. Pope; Engineer, A. O. Graydon. The line is leased to the Lake Erie & Detroit River Ry. Co.

Minneapolis, St. Paul & Sault Ste. Marie.—Coupons due Jan. 1 on the consolidated mortgage bonds endorsed by the C.P.R. Co. will be paid by the London office of the latter Company, Jan. 2.

Nakusp & Slocan.—Notice was recently given that the Bank of British Columbia, would pay in London, Eng., on and after Jan. 2, the interest then due on the 4% bonds of this Co.

Qu'Appelle, Long Lake & Saskatchewan.—Net earnings for Nov. '98 were \$3,475.75, compared with \$2,473.45 for corresponding period.

Northern Pacific.—The directors have declared a dividend of 1% on the common stock, payable Feb. 3. The dividend is declared from the earnings of the first 6 months of the current fiscal year.

Quebec Central.—Traffic receipts for Dec., \$30,826.75, compared with \$27,992.46. Aggregate traffic receipts for 1898, \$450,299.98, compared with \$457,643.84. Passenger traffic increased \$9,169.47. Freight decreased \$16,572.12. Mails & sundries increased \$58.79. Earnings per mile per month, \$176.17, a decrease of \$2.87.

Quebec & Lake St. John.—Gross earnings for 10 months to end of Oct., 1898 \$239,463, compared with \$203,630. Glyn, Mills, Currie & Co., London, Eng., recently announced they would pay the coupons due Jan. 1 on this Co.'s 1st mortgage 5% bonds.

Quebec Taxation.—The Court or Appeals has given judgment in favor of the city of Quebec vs. the C.P.R., & vs. the G.T.R. The former had sued the city for \$50,000 & the latter had sued for \$7,000 for taxes which they claimed the city had illegally collected. In the Superior Court the city lost both cases. But in appeals both were given in its favor. A cross appeal of the C.P.R. was dismissed.

Spokane Falls & Northern.—At the annual meeting in Spokane, Wash., Dec. 9, J. J. Hill was elected President, C. Shields, Vice-President & F. W. Bobbett, Secretary-Treasurer.

Wellington, Grey & Bruce.—The numbers are published of 21 bonds for £2,100 sterling which have been drawn for repayment at par on Jan. 2. The estimated earnings of the railway for the ½ year ended Dec., applicable to meet interest on bonds, will admit of the payment of £2 4s. 1d. per £100 bond, & this payment will be applied in respect of coupon no. 37, due Jan. 1, 1889, & will be made on Jan. 2.

RAILWAY APPOINTMENTS, &c.

Canadian Pacific.—The General Superintendency of the Western Division, with headquarters at Winnipeg, which has been vacant since the promotion of W. Whyte to the managership of the lines west of Fort William, about a year ago, will shortly be filled by the appointment of Jas. Osborne, at present Assistant to the Vice-president at Montreal. Mr. Osborne will leave for Winnipeg, Feb. 1, to remain 3 or 4 weeks on the Western Division & will assume his new duties shortly afterwards. He entered the railway service in 1874, the following being his record:—Oct. '74 to July, '83, in Mechanical Department, G.T.R.; July, '83, to July, '86, in Mechanical Department, C.P.R.; July, '86, to Sept., '87, Chief Clerk, Vice-President's office, C.P.R.; Sept., '87, to Oct., '90, Car Accountant, C.P.R.; Oct., '90, to June, '92, Superintendent Car Service, C.P.R.; June, '92, to April, '96, Superintendent Car & Fuel Service, C.P.R.; April, '96, to date, Assistant to Vice-President, C.P.R. In April, '95, he was elected President of the International Association of Car Accountants.

R. Corbett, who was stationed at Wrangell, Alaska, in the C.P.R. ticket office, last season, has been appointed to the Co's Vancouver ticket office.

H. Carter, recently C.P.R. Yukon agent, has returned to his old position on the Soo line.

J. Cardell, Locomotive Foreman & Trainmaster at Canmore, Alta., has been appointed Master Mechanic of the Crow's Nest Pass branch.

J. Coughlin, track foreman, has been Acting Roadmaster at Schrieber, Ont., since the death of T. Newman.

Grand Trunk.—The heavy steamship traffic requiring the constant attention of the Train Master at Portland, Me., & on the lines east of Richmond, Que., C. S. Cunningham has been relieved of the portion of the 2nd district, west of Richmond, & the jurisdiction of R. P. Dalton has been extended to Richmond.

Chas. Clarke, heretofore New York State Freight Agent, has been appointed Division Freight Agent in charge of freight traffic in connection with the following lines, with headquarters at Detroit, Mich.: Detroit, Grand Haven & Milwaukee Ry. (including the across lake traffic via Grand Haven); Toledo, Saginaw & Muskegon Ry.; Michigan Air Line Ry.; Chicago, Detroit & Canada Grand Trunk Jct. Ry. Agents at stations on the above lines will report to and receive instructions from Mr. Clarke. Agents at stations on the Chicago & Grand Trunk Ry.; Cincinnati, Saginaw & Mackinaw R.R. & Grand Trunk Junction Ry. will report as heretofore. Short & over reports at stations west of the Detroit & St. Clair Rivers are to be sent to E. Arnold, Lost Freight Agent, Battle Creek, Mich.

W. J. Hunter, heretofore General Travelling Freight Agent, has been appointed New York State Agent, with headquarters at 285 Main Street, Buffalo, vice C. Clarke, assigned to other duties, as above stated.

A. R. McIntyre having resigned, on account of ill health, the position of Assistant Superintendent of the Western Division has been abolished. A. H. Lander has been appointed Master of Transportation for the Western Division. He will have charge of the distribution of all passenger & freight equipment on the division & will make requisitions for equipment from connecting lines. G. T. equipment must not be delivered empty to connecting lines without his authority. Office at Port Huron, Mich. Local agents will send daily car reports to their trainmaster, & place orders with him for all cars required at their stations.

The office of Assistant Trainmaster, 1st District, is abolished. A. H. Lander having been assigned other duties, J. Munday has been appointed Chief Train Despatcher, Montreal Terminals, 4th & 5th Districts, & 2nd

District west of Richmond. Office: Bonaventure Station, Montreal.

R. Patterson, locomotive Master Mechanic at Battle Creek, Mich., has been appointed Master Mechanic at Stratford, Ont., succeeding J. D. Barnett, resigned. J. E. Muhlfeld, Master Mechanic of the Wabash at St. Thomas, Ont., succeeds Mr. Patterson at Battle Creek.

A. W. Davis has been appointed Locomotive Foreman of the G. T. R. & Wabash shops at St. Thomas, Ont., to succeed J. Armitage, transferred to Palmerston.

Minneapolis, St. Paul & Sault Ste. Marie.—F. D. Underwood, General Manager of the C. P. R.'s subsidiary line, has been appointed General Manager of the Baltimore & Ohio, which comprises 3,511 miles of line. It is said his salary is \$25,000 a year. There is no doubt he was selected by J. J. Hill, of the Great Northern, who has had ample opportunity of judging of his capability. Mr. Underwood was born in 1850, in Milwaukee, & at the age of 18 took a position as clerk on the Chicago, Milwaukee & St. Paul. He became successively baggageman, foreman of elevators, conductor & division superintendent on that line. In 1888 he was appointed General Manager of the Minneapolis & Pacific Ry., & later of the Soo line. His headquarters will be in Baltimore.

In accepting Mr. Underwood's resignation the M., St. P. & S. S. M. directors passed the following resolution: "This Co. parts with Mr. Underwood with great reluctance. His service with the Co. began in its infancy, & he leaves it with 1,260 miles of well constructed & thoroughly equipped railway, in successful operation, & with all promises for results on the business interests of the twin cities & the northwest practically fulfilled, & chiefly through the energy, ability & wisdom of his management. His generous nature, kind heart & keen sense of justice have so endeared him to everyone connected with the Co.'s service that, from the President & governing board to the humblest employe, his going

will be felt as a personal loss. On behalf of all who serve the Co., in whatever capacity, we heartily congratulate Mr. Underwood on the well-merited recognition of his abilities in his new field of operation. We feel sure that the same measure of success will reward his earnest devotion to duty in the future, as in the past."

Edmund Pennington, General Superintendent of the M. St. P. & S. Ste. M., has been promoted to the General Managership to succeed Mr. Underwood. Mr. Pennington was born at La Salle, Ill., in 1848. He entered the service of the Chicago, Milwaukee & St. Paul Ry. in 1869, serving consecutively as warehouseman, brakeman, conductor, roadmaster, Superintendent of Construction, General Roadmaster & Assistant Superintendent. In 1888 he resigned to accept the General Superintendency of the Soo line. It is said the position or General Superintendent will be abolished.

Ottawa & New York.—Arthur Rushton has been appointed Commercial Agent of this Co., also of the New York & Ottawa Ry. Office 432 Board of Trade Building, Montreal.

Personal Mention.

The late F. S. Rathbun, of Deseronto, Ont., left an estate valued at \$89,000.

Lord Mountstephen has been entertaining the Duke & Duchess of York at Brocket Hall, Hants, Eng.

Mrs. James, wife of the C. P. R. Superintendent at Winnipeg, is recovering from a serious & prolonged illness.

R. G. Tatlow, of Vancouver, who represents the Cariboo Omineca Chartered Co. in Canada, is visiting England.

W. W. Cory has been appointed Chief Clerk & Accountant of the Manitoba Railway Commissioner's Department.

F. C. Kenny, formerly G. T. R. Trainmaster at Port Huron, Mich., is now with the Wisconsin Central at Stevens Point, Wis.

"We'll have a faster service than has been" is evidently the determination of Sir William Van Horne.—Toronto Mail.

A. Branin has been appointed Assistant Superintendent of the Bellingham Bay & British Columbia, with headquarters at New Whatcom, Wash.

Purchasing Agent Wilson, of the White Pass & Yukon, had his leg broken recently at Skaguay, by his horse, which he was riding along the dock, falling.

General Manager Hays, of the G. T. R., has been presented with an illuminated address by the Brotherhood of Locomotive Firemen, in acknowledgment of courtesies received.

C. O. Figgins has been appointed General Agent of the White Pass & Yukon at Skaguay, Alaska, succeeding H. M. McCartney, General Freight & Passenger Agent, who resigned.

Hiram Walker, of Walkerville, Ont., the millionaire distiller, who died in Detroit, Mich., Jan. 12, was formerly largely interested in the Lake Erie & Detroit River Ry., now controlled by his sons.

Lord Strathcona has ordered a fine organ for St. Paul's Church, Montreal. Lady Strathcona & her daughter, Hon Mrs. Howard, have given \$100,000 to the Medical Faculty of McGill University, Montreal.

M. C. Coyle, Trainmaster of the Michigan Central at Jackson, Mich., has been appointed Superintendent of the Saginaw & Mackinaw divisions, with headquarters at Bay City, Mich., to succeed W. J. Martin, resigned.

F. F. Whitley, formerly round house foreman of the Illinois Central at Clinton, Ill., has been appointed master mechanic of the Wabash at St. Thomas, Ont., to succeed J. E.

MANITOBA

Population..... 200,000.
Number of Farmers.. 27,000.

Look Up Its Advantages Before Going Elsewhere.

CROP OF 1895.		CROP OF 1896.	
A Favorable Season.		An Unfavorable Season.	
Average yield per acre.		Average yield per acre.	
WHEAT.....	27.86 bushels	WHEAT.....	14.33 bushels
OATS.....	16.73 "	OATS.....	28.25 "
BARLEY.....	36.69 "	BARLEY.....	24.80 "
FLAX.....	11.66 "	FLAX.....	12.30 "

Over 10,000,000 acres in Manitoba that have never been cultivated.* Price of land from \$2.50 to \$6.00 per acre. On easy terms.

Settlers coming to Manitoba should always

DROP OFF AT WINNIPEG

for a few days, and secure reliable information about settlements, free homesteads and lands for sale, from the heads of departments located in Winnipeg. For latest information and maps, all free, address

THOMAS GREENWAY,

Minister of Agriculture and Immigration

Or WINNIPEG, MANITOBA.

W. D. SCOTT,

Manitoba Immigration Agent.

30 York St., Toronto, Ontario.



QUALITY FIRST PRICE AFTERWARD.

The Page Fencing is composed of a high grade of steel wire made especially for the Page Co. and no one else. This wire is 60 to 100 per cent. stronger than that used in other fences. It is coiled, which makes it still more effective because of its elasticity. The common wire fence has no "life." It cannot recoil and "pull itself together" after the attack of an animal, or from the effects of a snowdrift freezing to it and settling. Page Fencing that was properly erected years ago is in perfect condition to-day. Others that have been in use only half as long present a sorry spectacle.

THE PAGE WIRE FENCE CO., LTD., Walkerville, Ont.

Muhlfield, who has gone to the G. T. R., at Battle Creek, Mich.

T. M. Jubb, General Superintendent's Assistant, Ontario & Quebec Division, C.P.R., died at Toronto, Jan. 18, of pleurisy, after a short illness. He was 39 years of age & had been in the service about 15 years. The office has been abolished.

Sir Charles & Lady Rivers Wilson leave London, Eng., at the end of March on an extended tour through California. The charming house in Pont street, which Sir Charles purchased three years ago from Mrs. Langtry, will be let during their absence.

P. F. Hodgson, heretofore G.T.R. Signal Engineer, sailed from Canada Jan. 8, to take the managership of Saxby & Farmer's railway signal & safety appliance works, Kilburn, London, Eng. As foreshadowed in our last issue, he has been succeeded at Toronto by W. H. Patton.

Traffic Manager Reeve, of the G.T.R., delighted many of his friends with a handsome "Compliments of the Season" card. In the centre are the British & U.S. flags, flanked on one side by a handsome passenger train, & on the other by an ocean steamer, Mr. Reeves' signature being appended in fac-simile.

Miss Mostyn, sister of Lady Rivers Wilson, was married recently in St. Peter's, Eaton Square, London, Eng., to John Home, younger son of Sir George Home Spiers, son of the late Sir George Home Spiers, ninth baronet, & brother of the present baronet, of Blackadder, Berwick. Sir Rivers Wilson was present.

C. R. Hosmer, Manager C.P.R. Telegraphs, & Mrs. Hosmer, who returned to Paris last month owing to the serious illness of their daughter, Olive, who they had left there at school, are now in the south of France, where she is improving very satisfactorily. They will probably return to Canada in February.

Leonard H. Young, ticket clerk of the Great Northern at the general office, has been appointed Travelling Passenger Agent, with headquarters at Seattle, Wash., to succeed Mr. Yerkes, who becomes General Agent at Seattle in place of H. C. McMicken, formerly of Winnipeg, who has gone into the service of an Alaska transportation company.

J. O'Leary, who has been railway constructing in the Kootenay district of B.C. for several years, was recently killed on the Robson-Midway, on which he had a sub-contract. While superintending the lowering of a large stone into place, one of the guy ropes of the derrick broke, & the mast of the derrick swung down, pinning him to the ground, injuring him so that he died 20 minutes later. He was a native of Maine.

Major Girouard, who is in command of the railway construction battalion in Egypt, is a son of Judge Girouard, of the Supreme Court of Canada. The Major was educated at the Royal Military College, Kingston. He served two years on the survey & construction staff of the C.P.R., then was given a lieutenancy in the Royal Engineers, & made traffic manager of the Royal Arsenal Railways, Woolwich. In 1896 he joined the force under Lord Kitchener.

Calvin S. Brice, President of the Lake Erie & Western, Cleveland, Akron & Columbus & Cincinnati Northern Rys., 1st Vice-President of the Duluth South Shore & Atlantic, & President of the Sault Ste. Marie Bridge Co., died in New York Dec. 15, of pneumonia. He was born at Denmark, Ohio, in 1845, & began his railway career in 1870 as general attorney of the Lake Erie & Louisville, which was subsequently sold & reorganized as the Lake Erie & Western. He was receiver of the road during the receivership, & after the reorganization was from 1877 to 1886 General Counsel of the Lake Erie & Western, being



THE UNION STATION, TORONTO.

chosen President in 1887. Mr. Brice served a term of six years as U.S. senator from Ohio.

General Manager Hays, of the G.T.R., & Mrs. Hays will leave at the end of this month on a visit to Europe. On reaching Liverpool they will proceed to London direct, but their stay there will only be short, for it is their intention to make a cruise through the Mediterranean, & a tour through southern Europe, after which they will return to London & make a longer stay there. Mr. Hays will have consultations with the President & Vice-President of the G.T.R., & expects to be present at the annual meeting of the Co., which will take place towards the end of March, when he will have an encouraging statement to present with regard to the progress of the Co. He will be absent from Montreal about two months.

Death of General Manager Campbell.

W. R. Campbell, General Manager of the Dominion Atlantic Ry., died in London, Eng., Jan. 8, after a brief illness. He was in the prime of life. When he visited Nova Scotia last summer he was in the best of health, a perfect picture of robust manhood. When Peter Innes resigned the management of the road he was succeeded by Mr. King, who acted as resident manager for a short time & was succeeded by Mr. Campbell. The latter has resided in London, but visited Nova Scotia at stated intervals. His connection with the D.A.R. has been notably co-incidental with the remarkable development of the road. Mr. Campbell's faith in Nova Scotia was boundless, & his enterprise & energy, backed up by that faith, have found expression in the rapid modernization of the railway in all its departments, & he did a good work not only for his railway but for the Province. One of the characteristics of the man was his interest in the employees of the Co. In the jubilee year he took advantage of the general rejoicing to emphasize the good will which existed between the management & the employees by entertaining them at an elaborate dinner at Kentville. The 150 that sat down to dinner that night will remember the occasion well, & the hearty good will that existed then between Mr. Campbell & the staff, & how it has always remained.—Halifax Chronicle.

The Toronto Union Station.

The illustration on this page shows the north & east sides of this building, & the extensions towards the lake, with a portion of the north train shed. Most of the views heretofore published have shown the north & west sides. We do not publish this illustration with any idea that it may serve as a model, for the general consensus of opinion is that the Toronto Union is one of the most inconvenient stations in America, expensive to run & unsatisfactory in very many other respects.

Time Service on the Grand Trunk.

C. H. McLeod, Superintendent of Time Service, has issued the following circular: On & after Feb. 1, the present method of sending time over the wires of the System will be discontinued & the time will be sent directly from McGill College Observatory, Montreal, or from the Standard Clock in the Co.'s office, Union Station, Toronto, as follows, in Eastern Standard time:

At 10 hr. 58 min. 0 sec. a.m. dashes (make or break) begin & are sent at each even second up to & including 10 hr. 58 min. 50 sec.

10 hr. 58 min. 50 sec. to 10 hr. 59 min. 0 sec., no signals.

At 10 hr. 59 min. 0 sec. dots (make or break) begin & are sent at every second up to & including 10 hr. 59 min. 50 sec.

10 hr. 59 min. 50 sec. to 11 hr. 0 min. 0 sec., no signals.

At 11 hr. 0 min. 0 sec. one dash (make or break) & circuit closed.

These signals are to be repeated automatically by means of special repeating sounders which have been placed at the necessary points. Operators at these points will see that the repeating instruments are kept in good order & adjustment, & that they are thrown into circuit not later than 10 hr. 57 min. 50 sec. a.m. each day & out of circuit promptly on the receipt of last signal. Any imperfection in adjustment to be corrected immediately the signals begin.

When circuit has closed at 11 o'clock, each station will acknowledge the receipt of time by "O.K." to the chief dispatcher of the district, who will enter operator's initial in the

proper space on Form no. 519, & return the completed form to this office every Saturday evening, as per instructions thereon. All operators in charge of ordinary clocks must set them to correct time immediately on the receipt of the signals; & dispatchers in charge of standard clocks must at once fill in a fresh copy of form 519 & post the same on or near the clock.

The Trade of the Orient.

D. E. Brown, General Agent for China & Japan, for the C.P.R., who left there in April last, going to England by way of the Suez Canal, & has recently spent some time in Canada, said in a recent interview:—

"Speaking roughly, I estimate that in the last five years trade between the eastern countries & the U.S. & Canada has more than quadrupled in volume. With China the foreign exports are principally silk, tea, matting, rice & curios. In return for this they import raw cotton, flour & other products from Canada & the U.S. With the advent of a more progressive policy, the foreign trade of China will increase enormously, and within a very few years."

In answer to a question as to how the action of the Nippon Yusen Kaisha, in inaugurating a service to Seattle had affected the C.P.R., he said:—"It certainly has not affected it injuriously. The volume of trade has been so large that we have been obliged to put on two extra cargo boats to handle it. The Japanese company started the service with the expectation of receiving a subsidy from their government, but in this they were disappointed. Another company, which started a service between Yokohama & San Francisco, were similarly disappointed."

Wire Fencing for Railways.

The increasing use of wire fencing for railways is shown by the rapid growth of the Page Wire Fence Co.'s business at Walkerville, Ont. During the past season this Co. has supplied large quantities to the Grand Trunk, Canadian Pacific, Michigan Central, Canada Atlantic, Erie & Huron, Intercolonial & Atlantic & Lake Superior railways, ship-

ping in car lots of 7 and 8 miles each. The Co. also supplied the fencing for the Pembroke Southern Ry., and finished up its contract for supplying the fence for the East Richelieu Valley Ry. Among other contracts were 8 miles of fence for the Niagara Cataract & Power Co., for its canal near Thorold, Ont., several miles of fencing for the Hull Electric Co. on its railway from Hull to Aylmer, several hundred rods for the Dominion Experimental Farm at Ottawa, & some for the Canadian Soo Canal. Besides the hundreds of miles shipped to local farmer agents in Ontario & Quebec, several carloads were shipped to Manitoba & also several to the Maritime Provinces.

The Canadian Roadmasters' Association.

W. Shanks, President of this Association, writes us from Carleton Place, Ont., as follows: "I noticed in your Nov. issue a letter signed 'Superintendent,' commenting on remarks made by me at the association's meeting in Ottawa, in Sept. last. Had the writer of the letter signed his name, I would have been pleased to reply to it, as considerable might be said in answer to his comments, but as I have always made it a point to take no notice of letters written by parties who withhold their signatures, I shall treat this in the same manner."

"I am very sorry this Superintendent did not use better judgment when selecting roadmasters under his supervision, & secure some that were somewhat more intelligent, as I notice he had a great deal of difficulty to instil into their minds any new methods in connection with the maintenance of roads. My experience has been that the ordinary roadmaster is only too anxious to adopt any new methods that will in any way be an improvement or reduce the expenses of maintenance of road."

Complete Sets of this Paper.

The publishers have on hand a few sets (12 in all only) of THE RAILWAY & SHIPPING WORLD from the first issue in Mar. up to Dec., 1898. These will be supplied at \$1 a set, postage prepaid, to Canada or the U.S., or at \$1.25 (5 shillings) a set to other countries.

Grand Trunk Telegraphers & Agents.

On Jan. 28 the arbitrators, B. B. Osler, Q.C., for the G.T.R. Co., F. P. Sargent, for the G.T.R. telegraphers & agents, & Sir W. R. Meredith, Chief Justice of Ontario, who was selected as the 3rd arbitrator by the other 2, handed out the following:—

"The arbitrators to whom have been submitted the matters in dispute between the G.T.R. Co. & its employees who are agents & telegraphers, having heard the parties & considered all special cases presented & the lists of salaries paid, do, having regard to conditions existing at the present time & the special features of the G.T.R. system, unanimously award & find as follows:—

"That rules 20, 21, 22 & 26, as altered, changed & amended, & as hereto annexed, shall be & become rules of the G.T.R. Co., & that the changed rates of salary & allowance for overtime & all other provisions of the said rules shall come into force & effect as of Jan. 1, 1899.

"By consent of parties the further rules hereto annexed initialed by the chairman are to become rules of the G.T.R. Co.

"The arbitrators decide that the matter of clause 10 of the agreement of reference is a proper matter for them to pass upon, but they have by the agreement & settlement of the parties been relieved from making an award with reference thereto.

"The arbitrators have considered the list of salaries paid at stations & have settled the same as per schedule hereto annexed.

"RULE 20.—At offices where only 1 telegrapher is employed, 12 consecutive hours, including meal hour, will constitute a day's work. At offices where only 2 telegraphers are employed, 12 consecutive hours, including meal hour, will constitute a day's work. At offices where more than 2 telegraphers are employed, 10 consecutive hours, including meal hour, will constitute a day's work. If telegraphers are required to remain on duty to exceed the above named hours, they will receive overtime under rule 21, except as hereinafter provided by rule 22.

"RULE 21.—Overtime will be computed pro rata on stated salary, but in no case less than 15c. an hour. In computing overtime less than 30 minutes will not be counted. Thirty minutes & less than 60 minutes will be

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Large sum of money to lend on mortgage at current rates of interest. Apply to

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Annual Capacity 1,000.

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SINGLE EXPANSION AND COMPOUND LOCOMOTIVES.

Broad and Narrow Gauge Locomotives; Mine and Furnace Locomotives; Compressed Air Locomotives; Steam Cars and Tramway Locomotives; Plantation Locomotives; Oil Burning Locomotives.

Adapted to every variety of service, and built accurately to gauges and templates after standard designs or to railroad companies' drawings. Like parts of different engines of same class perfectly interchangeable.

Electric Locomotives and Electric Car Trucks with Approved Motors.

Burnham, Williams & Co., Philadelphia, Pa., U.S.A.

considered an hour. Emergency calls & up to one hour's service connected therewith, shall be paid at 35c. a call.

"RULE 22. This rule with its sub-sections applies to branch lines only:

"(1) Where 1 telegrapher only is employed, & the time of the regular scheduled passenger, mixed or way-freight trains is so arranged as to require the telegrapher in order to meet them to be on duty beyond 12 consecutive hours, he will receive the following sums per month, to be added to his salary: If required to meet such train after 3 and within 4 hours, \$4.50. If required to meet such train after 2 & within 3 hours, \$3.50. If required to meet such train after 1 & within 2 hours, \$2.50. If required to meet such train within 1 hour, \$1.50. Fractions of an hour to be computed as in rule 21.

"(2) An employe whose salary, including receipts from all sources during the preceding

Telegraphers 38 35
Relieving agents who are on the permanent staff & are telegraphers 30 30

"For the purposes of this rule, the following shall be deemed the main lines:—Portland to Sarnia, Suspension Bridge to Windsor, Komoka to Sarnia, Hamilton to Toronto, Fort Erie to Glencoe, Toronto to Gravenhurst.

"QUESTIONS OF OVERTIME. Telegraphers required to remain on duty outside of their regular hours will be given an official order as authority & excused in the same manner. Overtime will not be allowed unless overtime tickets are mailed to the proper official within 48 hours from time service is performed. If overtime is not allowed telegraphers will be notified within 10 days from the time such service is performed, setting forth the reasons why."

Grand Trunk Improvements, &c.

The illustration on this page shows the handsome structure which the G.T.R. will erect in Montreal. It will occupy the entire square bounded by McGill, St. Paul, William and Wainwright streets, covering an area exceeding 30,000 sq. ft. Its principal frontage—200 ft.—will be on McGill street, & will be very imposing in appearance. The splendid adaptability of McGill street for attractive buildings designed for financial & commercial purposes is well illustrated in the new G.T. offices. The width of the street will enable the structure to be seen to great advantage, & the florid nature of the sculpture work & the outside ornamentation will not be lost, as is the case with many of Montreal's stately structures.

The building will be one of the finest architectural productions in the Dominion, a re-

Ref'd to G.T.R. Genl. Mgr. Sept.



GRAND TRUNK RAILWAY COMPANY'S GENERAL OFFICE BUILDING IN MONTREAL.

year, exceeds \$50 a month, will not be entitled to the additional allowance provided for by this rule.

"(3) An employe will not be required, except for the purpose of an emergency call, to be on duty so as not to leave him 8 consecutive hours off duty in the 24.

"(4) The extra pay provided for by this rule is to compensate operators for the inconvenience of their 12 hours' duty not being consecutive, & is not otherwise to interfere with the allowance for overtime under rules 20 & 21.

"RULE 20. The minimum monthly salary will be as follows:—

	Man.	Boys.
Agent & telegrapher with dwelling, fuel & light	\$7.50	
Agent & telegrapher without dwelling, fuel & light	43	40

Railroad Trainmen. At the recent convention the following were elected officers:—J. Logan, Ottawa, President; J. Hogan, Ottawa, 1st Vice-President; J. W. Trickey, Sudbury, 2nd Vice-President; H. F. McKinney, Hintonburg, Recording Secretary; J. Hogan, Ottawa, Treasurer; W. Powell, Moncton, Chaplain; A. Hawkins, Fletcher, Guide; C. Noyes, Peterboro', Sentinel.

The Dominion Coal Co. is sending one of its most experienced engine drivers to South Africa to practically demonstrate that Cape Breton coal is excellent fuel for steam purposes. An experimental shipment was made there early last autumn. There is said to be a large market for steam coal in Cape Colony.

W. Stitt, Chief Clerk, Passenger Department, C.P.R., Winnipeg, who has been in poor health recently, is visiting California, accompanied by Mrs. Stitt.

marked sense of richness & beauty as well as dignified simplicity. The style of architecture is Neo-Grec, that is, a modern adaptation of Greek & Roman architecture—not a servile copy, but from the spring, from which marvellously simple & logical inspirations of the art of the Greeks is obtained. Architecture is required to modify its forms in accordance with the conditions of light, of temperature, of needs & purposes. The plans are calculated to give good light in a maximum of apartments combined with striking adaptations to the complex needs & purposes, as well as an effective appearance. There is an easily accessible basement, & 5 storeys above, with strongly accentuated corner treatment—one symbolic of the G.T.'s alliance with one-half of the globe, another, of strength, & a third of swiftness. Strength is represented by mythological griffins, & swiftness by the winged dragon.

The basement will be utilized for express storage & mail purposes. On the ground floor the Auditor's, Treasurer's & Paymaster's departments will be situated. The 1st floor will accommodate the General Purchasing Agent, Divisional Freight Agent, & Freight claims Agent. The executive departments will be situated on the 2nd floor. These will include the private & general offices of the General Manager, General Assistant, General Traffic Manager, General Passenger Agent & the Company's Solicitor.

The offices of the General Superintendent & the Chief Engineer & the car service, telegraph & telephone departments will be located on the 3rd floor. The upper or 4th floor will contain a large assembly room, where deputations may be received, & the superannuated, medical & stationery departments, as well as the offices of the Express Auditor & his staff. Waiting rooms & lavatories will be fitted up on each floor. There are 2 towers to the building, one of which will be surmounted by a dome & flag pole. The other will be flat & will be used for the purpose of showing visitors & railway officials the Victoria Bridge & the Point St. Charles property of the company. From this vantage point an excellent view of the city may also be obtained.

The material for the exterior walls has not yet been selected, but it is probable that a mixture of sandstone & granite will be decided upon. The interior furnishings will be of oak & marble.

The corridors will be wainscotted with marble, & above that the panels will be fitted in with ornamental plaster work. The wainscoting in the different offices will be of oak, richly panelled & carved. The offices will open out on gallery corridors, & the whole building will be well lighted & ventilated. The structure will be heated by steam & lighted by electricity. Its cost will amount to \$500,000. It is expected that it will be ready for occupancy in Jan., 1900.

It is the intention to bring all the structures between Montreal & Portland, Me., up to the requirements of the heaviest modern rolling stock & loads, but at present only those between Montreal & Island Pond are under renewal. The number of bridges on this latter section is 49, & their aggregate length is 4,674 ft. The most important one that—across the Richelieu River, a navigable stream—was finished early last year; its length is 1,107 ft. A large proportion of the bridges are small, & for these rivetted plate-girders are used. The large streams are crossed by pin-connected trusses, the spans varying in length

from, say, 100 to 156 ft. It is also intended to renew some bridges on the Southern Division between Windsor & Fort Erie, Ont.

Large sheds and warehouses are being erected at Collingwood docks to replace those burned last fall.

The Co. will replace Goderich station with a red brick structure this year. It will be similar to the Berlin station.

It is rumored that the Lakefield branch, which runs from Peterboro' to Lakefield, 9 miles, will be extended northeast about 35 miles to connect with a proposed extension of the Pembroke Southern at St. Olo, so as to materially shorten the distance between Toronto & Pembroke. It is rumored the Co. will build from Kingston, Ont., via Smith's Falls & Richmond to Ottawa. A rumor was recently sent out from Windsor, Ont., to the effect that the G.T.R. was about to construct a branch from Belle River through Essex to Kingsville, that on the strength of the rumor several pieces of property had recently changed hands in Essex, & that the Manager of the Cameron estate, which has large holdings in that neighborhood, admitted that he had consented to give the land for the station at Essex. The rumor was probably started to boom real estate, as we are authorized by the G.T.R. management to state that there is no truth in it.

Interlocking and derailing apparatus has been put in at the G.T.R. & C.P.R. crossings at St. Johns & St. Constant, Que., & the appliances have been inspected and approved for the Dept. of Railways.

THE VICTORIA JUBILEE BRIDGE.

The work of double tracking the new bridge was completed Dec. 13, & both tracks were at once put into use. Work on the driveways for wagons, &c., and the footways, is being gone on with. It is expected the official opening will take place May 24, & that Sir C. Rivers-Wilson will be present. A report that the Prince of Wales would open the bridge was industriously circulated, but there is not believed to have been any foundation for it, & it has been officially denied. The Prince opened the Victoria Bridge in 1860, & the gold rivet he drove into the centre of the span is now in the G.T.R. general offices. It is said it will be deposited in the Parliamentary Library at Ottawa.

Chief Engineer Hobson, who has been in charge of the reconstruction of the bridge, has received great praise for the eminent skill displayed in the manner in which the work was carried out under his direction.

The fact that during the progress of the work, including the removal of the great tube, there was no delay of the business of the Grand Trunk, & that the trains passed over the bridge as usual, the aggregate detention during the whole time not exceeding 24 hours, has been selected for special admiration, which has been expressed in the British engineering journals & elsewhere. Sir C. Rivers-Wilson has recently, in England, drawn attention to this splendid piece of work, at the same time indicating that English engineering was behind so far as similar work & problems were concerned.

The scrap iron representing the tubes of the old bridge made 477 carloads, & was sold to a Hamilton, Ont., firm.

At a recent meeting of the Canadian Society of Civil Engineers, a series of lantern views was given, illustrating the work of constructing the Jubilee Bridge. W. McNabb, Assistant Engineer of the G.T.R., gave short descriptive explanations of each view. The 1st showed the old bridge & opened the flood gates of memory for some of those present. Mr. McNabb praised the wisdom and foresight of the engineer who constructed it, & remarked that he had little dreamed that in 38 years from the day of its opening the railway traffic demands would have necessitated a double tracked structure. Weight of rolling stock, as well as traffic, had increased since then. The traffic of weights averaging 1 ton to the foot was thought in the old days to be the limit, & that only 3 locomotives could haul such weight. Things were changed to-day in hauling systems. When it was remembered that 80 to 100 trains passed over the bridge every 24 hours, & that the block system was used exclusively, the necessity of a double track was self-evident.

Views were then presented of the works on the new bridge. The lantern worked well, & the audience were practically transported to the actual works. The huge elevated cranes & tremendous iron beams, with the gangs of men busily working, passed vividly before the eyes, & Mr. McNabb made every scene interesting by excellent explanations. The unique work of closing the final span, was graphically described.

In proposing a vote of thanks, E. Keating spoke of the old bridge as among the seven wonders of the world, & some one in the audience suggested that the new bridge was the eighth. He was surprised that in a work of such magnitude no more than two fatalities had occurred, and every detail reflected the greatest credit upon the engineers.

Edward L. Drewry

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Most Extensive and Complete Brewery
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These Jacks are made with Malleable Iron Frames, Steel Pawls, Machinery Steel Bearings and Pivots, forged Steel Rack. The wearing parts are removable and readily renewable at slight expense. The rectangular base gives great lifting strength and fits into close quarters better than other shaped stands. Adaptable to either high or low set loads.

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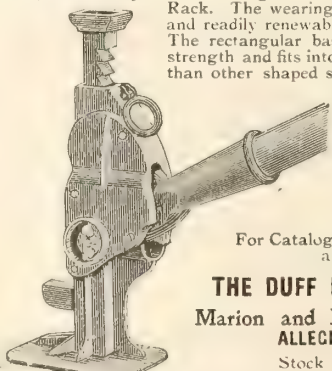
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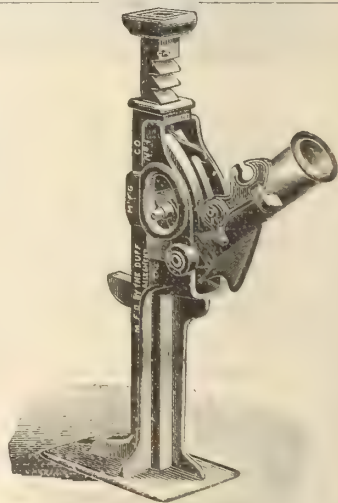
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C. Baillarge, city engineer of Quebec, said that he thought the new bridge was magnificent & wonderful. There was nothing like it on the face of the globe. He mentioned the bridge on the Firth of Forth with two spans of 1,400 ft., & the wonderful Brooklyn bridge, but these were not to be compared in the matter of strength with this bridge. He was present at the inspection when a train passed over, & there was not so much as a tremor visible in the bridge.

Mr. McNabb remarked that Mr. Blackwell, father of the chairman, K. W. Blackwell, & then managing director of the G.T.R., was the first man who crossed the tubular Victoria bridge, & J. Duckworth, foreman of the bridge, had held that position since its inception. Those who visited the bridge in the afternoon saw Mr. Duckworth, who held the golden rivet which the Prince of Wales drove home in declaring the old bridge open.

Surveys, Construction & Betterment.

Atlantic & Lake Superior.—The extension from New Carlisle to Paspebiac, 3 miles, mentioned in our Nov. issue, pg. 237, has been completed. It is said to be probable that the line will be further extended east to Gaspe, 70 miles, this year, & that the portion of the western end between St. Francois du Lac & Levis, Que., will also be built. A wharf 1,600 ft. long, with an elbow 200 ft. wide at the end is being built at Paspebiac. It will accommodate vessels of the largest tonnage, & will have at low water a depth of 36 ft. (Nov. '98, pg. 237.)

Brandon & Southwestern.—Construction was not started on this line last season, the matter turning out as we predicted, though a survey was made. D. H. Purden, President of the Co., has given notice of application to the Dominion Parliament for power to extend the proposed line from some point in townships 1 & 2, westerly to the boundary of Manitoba & to change the head office from Winnipeg to Brandon. (Dec. '98, pg. 261.)

Canada Atlantic.—There is no later news about the proposed Union Station in Ottawa than we published last month (pg. 261) except a rumor that a scheme is on foot there for the formation of a company which proposes to buy up the rights of the Canada Atlantic, Parry Sound, Canadian Pacific & Ottawa & New York Rys. to the central facilities, & then operate the terminal, charging each railway according to the number of trains handled daily. It is proposed to erect a modern Union Station.

An iron bridge has been erected at Eastman's Springs, over a creek which for some years past has washed away the tracks during the spring floods. The bed of the stream here has been dredged out, & it is expected this will allow the volume of water to pass without damaging the road.

It is proposed for the C. A. Co. & the city of Ottawa to jointly build a bridge over the C. A. tracks at Maria St. & the Rideau Canal, Ottawa, at a cost of about \$40,000.

Cassier Central.—We have been unable to ascertain anything further as to the intentions of this Co. in regard to construction. The Consulting Engineer, E. D. Self, wrote us Dec. 23: "In regard to the work of the Co. I will say that plans are being formulated for its continuance." (Dec. '98, pg. 262.)

Cariboo.—As we have previously mentioned, the terms of the charter require that construction be commenced by May next. The Secretary recently wrote us from England that the starting point will be either Ashcroft or Kamloops, B.C., & the northern terminus will likely be Barkerville. He added that nothing had been decided as to inviting tenders. The point of departure, the gauge & in fact the whole scheme was then being con-

sidered & discussed & steps were being taken to put the matter in train, from a financial point of view. (Nov. '98, pg. 237.)

Detroit River Bridge.—A recent press telegram from Washington, D.C., said A. C. Raymond, Attorney for the C.P.R., had stated there that the Canadian Pacific, Grand Trunk, Michigan Central & Wabash lines had practically agreed on the construction of a bridge across the Detroit River, but that the question of location had to be determined, though it was thought the bridge would be built below 18th St. We are officially informed that as yet only the G.T.R., the M.C.R. & the Wabash are interested in the project, & not the C.P.R.

Attorney H. Russel, of the M.C.R., says the bill introduced at Washington by Senator McMillan & Congressman Corliss for a bridge across the Detroit River, is entirely new & has nothing to do with those that went before it. It is in the interest of the Detroit River Bridge Co., organized by M.C. people, but which is open as a corporation to all other Detroit roads that run ferries on the river or that may do so in the future. Otherwise it is the same as the G.T. & Wabash bills, except as to location. It provides for a location anywhere from the northeasterly city limits to a point not more than 2½ miles southwest from the southwesterly city limits. This Co. has filed articles of incorporation with the Secretary of State at Lansing, Mich., capital \$2,000,000, with a small amount paid in. The railways having agreed on the matter, there will be no division of forces in presenting the matter to Congress. The bill provides for crossing the river on 3 spans, with 2 piers in the navigable channel. The width of the river within the city limits varies from 1,950 to 2,400 ft. The estimated cost of the bridge is between \$4,000,000 & \$6,000,000.

East Richelieu Valley.—The line from Iberville to Noyan Jct. has been built under this name. The portion from Iberville to Henryville, 11.78 miles, was built in 1897, & from Henryville to Noyan Jct. about 10½ miles, in 1898. At Noyan Jct. connection is made with the Canada Atlantic. The line has been opened for traffic & is being operated by the United Counties Ry.

Great Northern of Canada.—The following press dispatch was sent out from Quebec Dec. 24:—"The G.N. Ry. has succeeded in completing arrangements to assure the construction at once of the remainder of its line in order to give Quebec district connection with the Canada Atlantic Ry. Understanding the importance of pushing the works to a finish without further delay, it appears that, as the result of an appeal to its stockholders, \$200,000 have been subscribed, while a U.S. syndicate, chiefly composed of Boston capitalists, has taken an interest in the undertaking to the extent of \$500,000. On the strength of this financial backing, a contract has been entered into with Mr. Macdonald for the construction of the last 88 miles of the line, & it is understood that on his return from England shortly preparations to go on with the work this winter will be immediately begun." We are officially informed that arrangements for construction have not yet been completed, but that prospects for continuing the work this year are promising.

The 88 miles referred to is no doubt the section between Shawenegan & Montcalm, near Joliette, 53 miles, on which some work has been done, & the link of 35 miles from St. Jerome to Grenville, on the Ottawa River, where a bridge for which a very favorable location has been surveyed, will have to be built to connect with the C.A. The G.N. is controlled by & operated in connection with the Quebec & Lake St. John Ry., & the through route from Quebec to Hawkesbury would be as follows:—From Quebec northwesterly for 58 miles by the Q. & L. St. J.

Ry. to Riviere a Pierre Jct. From the latter point westward to St. Tite, 33 miles, by the Lower Laurentian Ry., also operated by the Q. & L. St. J. From St. Tite to Shawenegan, 22 miles, by the G.N. line, already built. Then comes the 53 mile section from Shawenegan to Montcalm, referred to above as having had some work done on it. From Montcalm to St. Jerome for 28 miles the G.N. is already in operation. From Jerome to Grenville there is 35 miles to be built, as explained above. Further information about this line will be found on page 19 of this issue. (See Jne., '98, pgs. 86 & 98.)

Great Northern (U.S.A.)—When at New Westminster, B.C., recently President J. J. Hill said the G.N. would cross the Fraser River & get into Vancouver some day, but when he could not state, adding: "Not another mile of railroad building in the West until the country is developed & actually needs the construction, & until such extension will be a business investment."

The B.C. Weekly says: "The brusque equivocations & general reticence of President Hill, on the occasion of his recent visit to Nelson & other Kootenay points, have not deceived the Kootenay public. They are well aware he did not visit their country for nothing, but instead with big schemes in view. These probably include the taking up of Mr. Corbin's projects for securing further railroad access from the South into the Kootenay & Okanagan country."

It is said the G.N. has a survey party running a line from Jennings, Montana, north, following the meanderings of the Kootenay River, & that a second party is in the Stillwater valley trying to get a line on the north fork. The objective point of both parties is said to be Fort Steele, B.C.

A Rossland, B.C., paper says the G.N. is surveying a line from Trail, B.C., on the Columbia River west to Sayward, so as to tap the Salmon River & Ymir districts, & to carry any ores from there that may be consigned to the Trail smelter, thus competing directly with the C.P.R. It is said the G.N. will put a steamer on the Columbia river between Northport, Waneta, Sayward, Trail & Waterloo, the object of which will be to carry ores from any point upon the river to either of the two smelters. The impression in B.C. is that the G.N. is going to make a tremendous effort to secure a good share of the Kootenay traffic.

It is said surveys are being made for a cut off from Milan on the G.N.'s main line, 24 miles east of Spokane, to Loon Lake, on the Spokane & Northern, 39 miles north of Spokane, which would reduce the through distance from the east to Rossland, Nelson & other B.C. points about 40 miles.

Press reports say the advisability of working the section between Leavenworth & Skykomish, 66 miles, by electricity, is being considered. The Cascade tunnel, which will be completed in about 2 years, & will be 2½ miles long, is in this section. There is plenty of water power, & the grades are not severe.

Great Northwest Central.—A petition is being circulated along the projected route of this line, asking for Dominion Government pressure to be brought to bear on the Co., to compel it to extend the line, & 3,000 signatures are promised. It is contended among the settlers that if the fact that the 50 miles in Receiver Forest's hands are more than meeting working expenses, coupled with the close settlement contiguous to the line for the next 100 miles are not sufficient incentive for the Co. to construct more than 20 miles this year, the Co. should lose its charter.

Intercolonial. The improvements to the terminal facilities at St. John, N.B., include the erection of a pier & warehouse at Long Wharf, & a grain elevator a little north of the present passenger station, with a conveyor

The contract for the pier, Montreal, the figures being in the neighborhood of \$1,000,000. They have subcontracted the work to G. S. Mayes. This includes wharf-building of a length of 1,200 ft., 60 ft. deep, & 50 ft. on the bottom. About 12,000 tons of red pine, about 400 pieces of spruce spars, a quantity of southern pine timber & a large quantity of service flooring & stringers. Most of this timber has been contracted for on the upper waters of the St. John River. The material to be dredged is estimated at about 300,000 cubic yards. Connolly Bros. will use all the piers they have had on a large contract at Boston recently. For the building of the elevator \$57,000 was voted by the Dominion Parliament last session. The pier will have steamship berths on both sides.

Geo. Appleby, of Darling's Island, King's County, has been awarded a contract to remove the St. John Bridge & Ry. Extension railway track to such a point as may be deemed advisable. He will put down a temporary track for the trains, & then take up the present rails. The permanent track will be placed afterwards. The present trestle will be removed to the north of the Gibbon coal sheds.

To accommodate the heavy engines now being run, a number of bridges between Truro & Moncton are being replaced by steel structures.

Kootenay Ry. & Navigation Co.—The contract for some 50 miles of this line from Bonner's Ferry, Idaho, to Kootenay Lake, B.C., was let to Foley Bros., Larsen & Halverson,

& not to Foley Bros. & Guthrie, as stated in our last issue. Sub-contractor Murphy is at work on a 4-mile section from Bonner's Ferry north, & the Nelson Miner says work is well under way at both ends of the line north of International Boundary. (Dec. '98, pg. 262.)

A Revelstoke, B.C., paper states a contract has been let for the first 35 miles of the Lard-Duncan branch to the Trout Lake district of B.C., & that it is to be completed by Sep. 1. (Dec. '98, pg. 262.)

Lake Erie & Detroit River. We are officially informed that there is no change in the situation in connection with the proposed extension from Ridgeway to St. Thomas, Ont. From another source we learn it is probable an effort will be made to get Dominion aid next session. (Nov. '98, pg. 238.)

Lake Manitoba Ry. & Canal Co.—Practically all the grading done last season was laid with rails, the new work extending from Sifton Jct., about 2 miles north of Sifton, to Cowan, 51.8 miles from Sifton Jct. The line will be located to the Great Saskatchewan River during this winter, & it is the intention to build to there this year. It is likely the river will be crossed near the Pas Mission, just east of Pine Lake. It is expected another 100 miles or so will be built in 1900, & that 1901 will see it completed to Fort Churchill, Hudson's Bay. The engineers now in the field say the farther north they go, the better does the appearance of the country become, & the region through which the railway will go early next summer is said to be unequalled for beauty & extent of arable lands by any other part of the Northwest.

The present terminus is about 3 miles be-

yond Duck river, from which point the road turns westward around a corner of the Riding Mountains. Turning again northward after passing the Swan River valley the road goes between Lake Winnipegosis & Red Deer Lake. From the Pas Mission, the road will run north-easterly to the head waters of the Churchill, which it will follow to its mouth. The promoters evidently do not share the views of those who do not think Hudson's Bay & Straits navigable. The distance from the end of the present line to the Saskatchewan is 100 miles, from the Saskatchewan to Hudson's Bay 450 miles.

Besides the proposed Gilbert Plains branch from Dauphin, another branch is likely to be built from Swan River to Prince Albert, running the entire distance through a splendid farming & ranching country, the climate of which is even superior to that of the southern portions of Manitoba. There was no frost in the Swan River valley last fall until two weeks after it had touched Central Manitoba.

It is probable that the few people at Sifton will move to Sifton Jct., where there will be a townsite.

The Co. has put up a 3 stall roundhouse at Dauphin & a 1-stall one at Winnipegosis. At Portage la Prairie it has joint occupancy of the M. & N.W. terminals. A repair shop will be established at Dauphin. (Dec. '98, pg. 262.)

Manitoba & Northwestern.—During the past year the roundhouse at Portage la Prairie was enlarged by the addition of 2 stalls. The stations at Macdonald & Franklin were rebuilt & enlarged, a 2-stall brick addition was built to the Minnedosa engine house, the water tank at Russell was replaced & exten-

C.P.R. Lands

TERMS OF PAYMENT.

For the greater convenience of purchasers, the Company have adopted the following terms of payment:

The aggregate amount of principal and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

While the second instalment becomes due in two years from date of purchase, interest on the outstanding purchase money is payable in one year except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions.

160 acres at \$5.00 per acre, 1st instalment \$131.80, and nine equal instalments of \$80.
160 acres at \$6.00 per acre, 1st instalment \$131.80, and nine equal instalments of \$90.
160 acres at \$7.00 per acre, 1st instalment \$131.80, and nine equal instalments of \$100.
160 acres at \$8.00 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$9.00 per acre, 1st instalment \$131.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to 10 per cent. on the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

L. A. HAMILTON, Land Commissioner, WINNIPEG

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For Railway, Street Car, Steamship, Express, Telegraph, Telephone and Advertising purposes.

Railway Station Names, Street Car Route Signs, Express, Telegraph and Telephone Office Signs, Semaphore Arms, Switch Targets and Advertising signs of every description of size and color made to order.

Railway, Steamship and Ferry Signs

For doors, etc., 23 x 3½ inches, blue letters and border on white ground, carried in stock with following lettering.

Waiting Room	Ladies' Toilet	Private Office	Dining Room
General Waiting Room	Men's Toilet	Freight Office	Lunch Room
Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

The following are carried in stock, size 10 x 2½:—

Men Women Exit Fire Escape

Railway numbers for bridges, mile posts, signal houses, etc.: single figures on plates 8½ in. high.

These signs last practically for ever, they never fade or tarnish, they are ever bright and attractive, they are absolutely impervious to heat or cold, they are the only signs that will withstand the effects of weather in all climates.

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BRANCH OFFICES—107 Lombard Street, Winnipeg: S. A. Erskine, Resident Agent; 28 Broad Street, Victoria, B.C., D. H. Macdowall, Resident Agent.

sive additions & improvements made to the stockyards at Yorkton & Russell.

Manitoba & Southeastern.—The Manitoba Government Engineer recently inspected the 46 miles of this line from St. Boniface Jct. to La Broquerie, which were built last season. The Co. will probably carry this winter over 1,000 cars of cordwood & about 150 cars of wheat, the latter coming principally from the Menonite settlements south of the line, & the French settlements of St. Anne's & La Broquerie. The wood will come largely from the vicinity of La Broquerie. G. Strevel & other contractors have camps of men getting out ties for this year's construction.

As foreshadowed in our last issue, Premier Greenway has notified the Co. that the line is to pass round the southwest corner of Lake of the Woods, running for some distance through Minnesota & entering Canadian territory again near the mouth of Rainy River, to which point the line is to be completed this year. The surveys have been completed to that point.

As a result of the construction of this line, the Western Lumber Co., one of the largest milling concerns at Rat Portage, has decided to build a large mill in Winnipeg, & has bought a site near Louise Bridge. The logs will be shipped over the M. & S.E. direct from the boom at Rainy River to Winnipeg.

When at Winnipeg recently, the Minister of the Interior was waited on by a delegation regarding the St. Andrew's Rapids. Some one in the delegation referred to the M. & S.E.R. as a branch of the C.P.R. Mr. Sifton assured the delegation that such a statement was entirely unwarranted, & that when the road was completed to Lake Superior, as was designed by the construction of the Ontario & Rainy River link, the Northwest would have an independent outlet to the lake. The Government would take care that measures would be taken, as had been done with the Crow's Nest Pass Ry., to secure running powers from the Co., so that, if the G.T.R. wanted to get into Manitoba, the Government would grant it running powers over the new line, & it could put on its trains at Port Arthur & run them through to Winnipeg, there making connection with lake navigation. If this was not done, the Liberal Association was at liberty to call for his resignation from the Government, & they would get it.

Michigan Central.—In our last issue, pg. 263, we mentioned a rumor that this Co. would ask the Dominion Government to deepen Kingsville harbor, with a view to run boats from Sandusky to that town, the M.C.R. promising to extend its railway from Essex to Kingsville, 15 miles. We have been officially informed that the rumor has no foundation whatever, & that the M.C.R. has never had any intention of extending the Canada Southern to Kingsville or developing the harbor at that point. There are evidently some real estate boomers at work in this connection, as a similar unauthorized statement has been going the rounds of the daily press in regard to the G.T.R.

Midland of Nova Scotia.—As foreshadowed in our last issue, disagreement as to the route of this line from the crossing of the Shubenacadie River to Truro, has been settled. The town of Truro voted a bonus of \$30,000 & the adjoining municipality voted \$6,000 on condition that the road be built via Clifton. On the other hand, the people of Windsor, New Glasgow, & the Stewiacke district wanted it to go via Brookfield & the Stewiacke Valley. The Provincial Engineer informs us the Clifton route has been decided on. Grading between Windsor & the Shubenacadie was nearly completed last fall. It is said some preparatory work will be done on the Truro end during the winter by the sub-contractors O'Brien & Sutherland. The piling at the crossing of the St. Croix is nearly completed & will be finished &

the concrete work gone on with in the spring. A temporary wooden trestle will be put up for construction trains. It is expected the whole line from Windsor to Truro, 57½ miles, will be completed this year. (Dec. '98, pg. 263.)

Northern Pacific.—The opening of the Souris River branch in Manitoba, was celebrated Dec. 23 by the Co. giving a free excursion to Winnipeg for settlers along the branch. About 1,600 availed themselves of the privilege, & were conveyed to & fro in 2 special trains. It is said they spent about \$25,000 in Winnipeg in purchases, &c., a good proof of their prosperous condition. Trains are now running regularly between Belmont & Elgin, about 40 miles. A few miles more have been completed & it is expected the line will be extended to a connection with the C.P.R. Souris section this season. (Dec. '98, pg. 263.)

There have been a good many rumors about further extensions of the system in Manitoba this year, but nothing official has been announced. One very persistent rumor is that the Co. will build from Portage la Prairie westerly, keeping between the main line of the C.P.R. & the M. & N.W.R.

The C.P.R., at the request of the Manitoba Government, has agreed to a switch being put in near Methven to connect the Brandon branch of the N.P. with the C.P.R. south-western branch.

Ontario & Rainy River.—The grading on F. E. Fauquier's contract for the 1st 20 miles of this line from Stanley west, is expected to be finished early next spring. No track has been laid yet, & the Kaministiquia bridge has not yet been decided on. The line is located from Stanley for 30 miles up the Kaministiquia & Mattawin Rivers, crossing the Kaministiquia 5 miles above Stanley & following up the south side of the Kaministiquia & Mattawin. A trial line is being run up the Shebandowan River, & north of Lake Shebandowan, & a survey party is working from near the head waters of the Atikokan River towards the Shebandowan. Two other survey parties, which started back to back near Mine Centre, are working east towards the head waters of the Atikokan & west to the Rainy River district, & a third party is working from the present terminus of the Manitoba & South-Eastern Ry., easterly towards the Rainy River district. It is said the Co. will endeavor to get the Dominion Government aid increased to \$6,400 a mile next session.

Ottawa & New York.—In 1897 track was laid from from the Canada Atlantic Jct. (Hawthorne) to the G.T. Jct. near Cornwall, 50 6-10 miles, of which 12 were ballasted. The year 1898 ended with a mileage in Canada of 56 85-100 from the C.P.R. Jct. on its Montreal & Ottawa short line, to the International Boundary near Cornwall, all of which is complete in grading track & ballast, also all fences, telegraph line, sign boards, &c. The bridge over the north channel of the St. Lawrence river & the Cornwall canal has been completed. The New York & Ottawa Ry. in New York State, from the International Boundary to Moira, 15 15-100 miles, is all complete & under operation, except the wrecked portion of the bridge over the south channel of the St. Lawrence. The Collins Bay Rafting Co. succeeding in taking out part of one span from the bed of the river & moved the centre span down stream about 1,000 ft., where it swung round lengthwise with the stream, so that there is no danger of a flood being caused. (Dec. '98, pg. 263.)

Pembroke Southern.—The 21 miles of this line from Pembroke, Ont., on the C.P.R., to Golden Lake, on the O.A. & P.S. was opened for traffic Jan. 2. It is said the line will be extended about 50 miles through the counties of Renfrew & Hastings, crossing the Irondale, Bancroft & Ottawa, about 10 miles east of Bancroft & running to St. Ola, on

the Central Ontario Ry., 12 miles from that Co.'s terminus at Coe Hill, thus completing a direct line to Trenton on Lake Ontario. The P.S. Co. is said to expect that the G.T.R. will extend its Peterboro'-Lakefield branch to connect with it at St. Ola, thus considerably shortening the distance between Toronto & Pembroke. We are informed nothing is known of this by G.T. officers in Montreal. (Dec. '98, pg. 263.)

Prince Edward Island.—The 1,000 tons of 50 lbs. steel rails, for which tenders were invited some time since to be delivered at Charlottetown in June next, are to relay a section of 3 miles on the branch between Mount Stewart & Georgetown, & a section between Mount Stewart & Morell, both of which are now laid with 40 lbs. iron.

The Charlottetown Board of Trade at its recent annual meeting appointed a committee to memorialize the Government to replace the station there by a more modern structure.

Quebec Bridge.—The time for receiving tenders has been extended to Mar. 1 next. (Oct. '98, pg. 206.)

Restigouche & Western.—Ten miles of this line from Campbellton, N.B., to Glencoe, have been finished & have been inspected by the Dominion & N.B. government inspectors, but will not be operated this winter. The engineer, C. L. B. Miles, will continue surveys during the winter, & hopes to locate some 50 miles by May 1. Construction will be started again early next spring, & it is expected to build 40 to 50 miles this year, when the whole of it will be operated by contractors Malcolm & Ross. The line as projected will be about 120 miles long & after crossing the Edmundston section of the C.P.R. at St. Leonards, will connect with the Bangor & Aroostook. The present equipment is for construction purposes only & consists of an engine & 10 platform cars. (Nov. '98, pg. 238.)

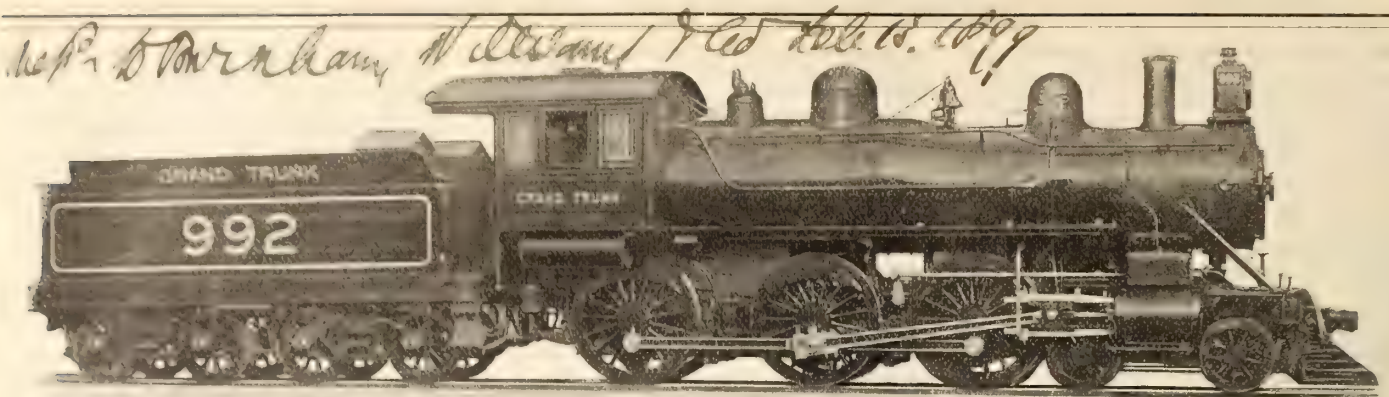
There are some magnificent water powers in the country tributary to the new line. Grand Falls has 80,000 horse power, & is owned by Sir Wm. Van Horne, U.S. Secretary Alger, U.S. Senator Proctor & others. Aroostook Falls, about 25,000 h. p., is owned by Miller & Hunt, of St. John, N.B., & Halifax. The Tobique Narrows, about 17,000 h. p., when fully developed, has a tremendous amount of spruce near by. C. L. B. Miles, C.E., & others are applying for incorporation by the N. B. Legislature, as the Tobique Narrows Pulp & Mfg. Co.

Rutland Canadian.—The extension from Burlington, Vt., north to Rouse's Point, N.Y., mentioned in our last issue, is to be gone on with at once. J. W. Burke, C.E., Rutland, Vt., has called for tenders to be in by Jan. 31, for the grading, masonry & tracklaying on about 50 miles, including main line & sidings. The work includes 450,000 cubic yards of rubble stone embankment in Lake Champlain, 10,000 c. y. of solid rock excavation, 2,000 c. y. of bridge masonry & light quantities of earth excavation, embankment & masonry for about 50 miles. The Co. will furnish construction trains at a fixed price; also ties, rails, splices, ballast pits & spur track to quarry & will erect bridge superstructures. Work must begin within a week after the signing of the contract, & must be completed by Sep. 1 next. (Dec. '98, pg. 263.)

Spokane Falls & Northern.—The U.S. Senate has passed a bill authorizing the Kettle Valley Ry. Co. to build a branch of the S. F. & N. through the Colville Indian reservation to the International Boundary.

Toronto, Hamilton & Buffalo.—Hamilton City Council has agreed to give the Co. a rebate of \$1,000 a year on its taxes on condition that it build a spur line to the factories, &c., in the N. e. part of the city.

Thunder Bay, Nipigon & St. Joseph.—A charter has been applied for for this proposed



BALDWIN TEN-WHEEL TYPE LOCOMOTIVE FOR GRAND TRUNK RAILWAY.

line which is projected to run from Port Arthur, via Dog Lake, down the valley of Burke River to Black Sturgeon Lake & on to Lake Nepigon, going up the west side, crossing the height of land & going down through the spruce forests & lignite beds to Lake St. Joseph, near where the Albany River leaves the lake. The line can be extended from Port Arthur to Fort William by using the electric railway between those points for freight purposes. One of the projectors of the line writes us: "The line will pass through one of the best tracts of country in Canada. West & south of Lake Nepigon there are 3,000,000 acres of farming lands, a large proportion of which is equal to the Rainy River delta. Iron ore found on the route goes 67.20 metallic iron, & marble assays 55 lime & 45 magnesia & there are miles of both. Pine, tamarack & spruce measure from 2 to 4 ft. on the stump. The granite equals the Aberdeen for polish & is more easily worked. Among other resources, than those already mentioned, are ash, elm, kaolin asbestos, plumbago, salt, mineral paint, roofing mica, red sandstone, mineral springs & fish. Corn & tomatoes always ripen on the west shore of Lake Nepigon. The Ry. Co. intends to secure settlers from Quebec as specially suited to a wooded country. The Co. will endeavor to get the Ontario Government to form Lake Nepigon & its tributary waters into a Provincial fish reserve. It is expected that in a few years the islands in Lake Nepigon, which number nearly 500, will be largely taken up by tourists & fishing clubs. The freight

traffic will consist of cordwood, ties, timber, pulp wood, lime, limestone, building stone, marble, iron ore, iron shale for roads, walks & red-pressed brick, salt, granite & farm products."

Z. Malhiot, C.E., of Three Rivers, Que., has recently made a barometrical survey of two routes from Port Arthur to Lake Nepigon, covering some 300 miles, all told, on snow shoes in 3 weeks. The application for incorporation is being made to the Ontario Legislature & both Dominion & Provincial Governments will be asked for aid.

White Pass & Yukon.—Very full particulars in regard to the construction of this line will be found in the report of the annual meeting of the Co. on pg. 1 of this issue. The Co. is buying very large quantities of supplies in Vancouver. Its purchasing agent recently bought several hundred tons of provisions, etc., there, & it is expected these orders will be largely increased.

Major Walsh, ex-administrator of the Yukon, is reported to have said in Ottawa that the Co.'s charter on the Canadian side, which was granted under the name of the British Yukon Mining, Trading & Transportation Co., should be cancelled on the ground that the construction of the line would build up an ocean port city on U.S. territory. On the other hand, the Vancouver Board of Trade has passed a unanimous resolution expressing gratification with the energy displayed by British capitalists in connection with the work, & urging the Dominion & B.C. Governments to aid the construction of a branch to Atlin

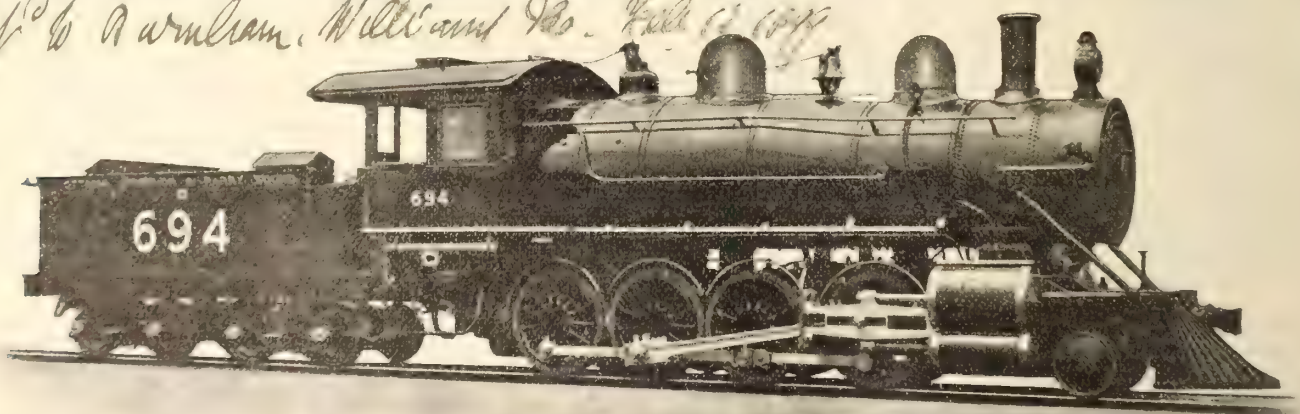
by way of Log Cabin, so as to put B.C. merchants in a position to secure the trade of the north.

Speaking of the new line, the Victoria Colonist says:—"It makes very little difference what other routes shall be provided for reaching the Yukon, that by way of the White Pass will always be a great favorite. It is likely to be a great scenic route. Hitherto the tide of pleasure travel has turned back after visiting such points as could be reached by steamer. Hereafter it will be regarded as the correct thing to ascend the Pass by rail & probably take a run down the Yukon waters, visiting the Atlin district at least."

Baldwin Locomotives for Canada.

The illustrations on this page show locomotives recently built at the Baldwin Locomotive Works, Philadelphia, for Canadian lines. Following are the general dimensions of the 10-wheel type ones for the G.T.R.:

CYLINDERS.—Diameter.....	20 in.
" Stroke.....	26 in.
" Valve.....	Balanced.
BOILER.—Diameter.....	62 in.
" Thickness of sheets.....	21-32 in. and 3/4 in.
" Working Pressure.....	200 lbs.
" Fuel.....	Bituminous Coal.
FIRE-BOX.—Material.....	Steel.
" Length.....	120 in.
" Width.....	40 1-8 in.
" Depth, front.....	76 1/2 in.
" Depth, back.....	65 in.
" Thickness of sheets, sides.....	5-16 in.
" Thickness of sheets, back.....	3/8 in.
" Thickness of sheets, crown.....	3/8 in.
" Thickness of sheets, tube.....	1/2 in.



BALDWIN COMPOUND CONSOLIDATION LOCOMOTIVE FOR OTTAWA, ARNPRIOR AND PARRY SOUND RAILWAY.

TUBES.—Number.....	291
" Diameter.....	2 in.
" Length.....	15 ft.
HEATING SURFACE.—Fire-box.....	189.0 sq. ft.
" Tubes.....	2272.0 sq. ft.
" Total.....	2461.0 sq. ft.
" Grate area.....	33.43 sq. ft.
DRIVING WHEELS.—Diameter, outside.....	72 in.
" Diameter of centre.....	66 in.
" Journals.....	9½ x 12 in.
ENGINE TRUCK WHEELS.—Diameter.....	37 in.
" Journals.....	6½ x 10½ in.
WHEEL BASE.—Driving.....	15 ft. 8 in.
" Total engine.....	26 ft. 11 in.
" Total engine and tender.....	53 ft. 9 in.
WEIGHT.—On drivers.....	about 125,000 lbs.
" On truck.....	about 41,000 "
" Total engine.....	about 166,000 "
" Total engine and tender.....	about 268,000 "
TENDER.—Tender wheels, diameter.....	43 in.
" Journals.....	5 x 11 in.
" Tank capacity.....	4,500 gals.
" Weight empty.....	about 54,600 lbs.
SERVICE.—Passenger.....	

OTTAWA, ARNPRIOR & PARRY SOUND.—The general dimensions of the compound consolidation locomotives for this line are as follows:

CYLINDERS.—Diameter, high pressure.....	15½ in.
" Diameter, low pressure.....	26 in.
" Stroke.....	30 in.
" Valve.....	Balanced piston.
BOILER.—Diameter.....	68 in.
" Thickness of sheets.....	11-16 & ¾ in.
" Working pressure.....	180 lbs.
" Fuel.....	Soft coal.
FIRE-BOX.—Material.....	Steel.
" Length.....	120½ in.
" Width.....	42 in.
" Depth, front.....	72½ in.
" Depth, back.....	69½ in.
" Thickness of sheets, sides.....	¾ in.
" Thickness of sheets, back.....	¾ in.
" Thickness of sheets, crown.....	¾ in.
" Thickness of sheets, tube.....	½ in.
TUBES.—Number.....	321
" Diameter.....	2 in.
" Length.....	13 ft. 6 in.
HEATING SURFACE.—Fire-box.....	242 sq. ft.
" Tubes.....	2,253 "
" Total.....	2,455 "
" Grate area.....	35 "
DRIVING WHEELS.—Diameter, outside.....	56 in.
" Diameter of centre.....	50 in.
" Journals.....	8½ x 11 in.
ENGINE TRUCK WHEELS.—Diameter.....	30 in.
" Journals.....	6 x 10 in.
WHEEL BASE.—Driving.....	15 ft. 1 in.
" Total engine.....	23 ft. 9 in.
" Total engine and tender.....	51 ft. 9 in.
WEIGHT.—In working order, on drivers.....	165,000 lbs.
" on truck.....	19,500 "
" total engine.....	184,500 "
" total engine and tender.....	288,000 "
TENDER.—Tender wheels, diameter.....	33 in.
" Journals.....	5 x 9 in.
" Tank capacity.....	4,500 gals.
" Weight empty.....	40,500 lbs.
SERVICE.—Freight.....	

Guaranteed to haul a load of 1,150 to 1,200 tons (of 2,000 lbs.), cars and lading, on a grade of 1 per cent., combined with curves of 4½ degrees, track & cars being in good condition.

C.P.R. Western & Pacific Divisions.

General Superintendent Marpole, of the Pacific Division, has issued the following circular, with the approval of Manager Whyte, of the Western Lines:

"On Feb. 1 that section of the Western Division from Donald to Laggan will be operated as part of the Pacific Division, & together with the Selkirk section will form one operating section extending from Revelstoke to Laggan, & will be known & designated thereafter as the Mountain Section. The Selkirk section will lose its identity, & Donald be abolished as a divisional point by this arrangement.

"Supplementary Time Bill no. 1, affecting current Time Bill 13, so far as relates to that section of the Pacific Division between Donald & Revelstoke, will be issued before Feb. 1. This supplement will include the addition to the Pacific Division from Donald to Laggan, & all employees concerned are directed to immediately familiarize themselves with its contents, particularly noting that the Pacific Standard Time will apply on & after Feb. 1, throughout to Laggan.

"The jurisdiction of E. J. Duchesnay, as Superintendent, is extended to cover all the Mountain Section; the Despatching Office will continue to be at Revelstoke, with T. Downie as Chief Train Despatcher.

"T. Kilpatrick, as Bridge Inspector, will have jurisdiction over all the Superintendent's Division.

"The limits of the roadmaster's sections will be continued as at present, viz.: Revelstoke to Donald, with W. Newman in charge, with headquarters at Revelstoke, & from Donald to Laggan with H. C. Killeen as Roadmaster, with headquarters at Field."

In reference to the foregoing it may be added that Laggan station & yard will remain a portion of the Western Division. Field will become an important divisional point, & engines & crews will run through from Field to Revelstoke. The heavy consolidation engines working on the Kicking Horse grade will have their headquarters at Field, & will be used entirely to move the traffic between Field & Laggan, under the supervision of the Pacific Division officials. The dispatching on this portion of the line will be done from Revelstoke. Heretofore it has been done during slack seasons from Medicine Hat, & when traffic was particularly heavy by dispatchers stationed at Field. Another result of this change is the abolition of Gleichen & Canmore as divisional points on the Western Division, & the substitution of Calgary. Engines will run from Medicine Hat to Calgary, 180 miles, & from Calgary to Laggan, 116 miles. The new shops at Calgary are covered in, & the installing of machinery is commenced. The turntable is in place, & the running shed will go into immediate use. The shop will not be in operation till the end of Feb. A running shed with 6 stalls has been established at Laggan, for the Western Division engines, which turn around at that point. The building is solid stone, as is also the new 12-stall roundhouse at Field. Large additions have been made to the tracks at Field, Laggan & Calgary, for the accommodation of through business.

Miscellaneous Railway News.

Canadian Northern Railway.—Notice is given of application to the Dominion Parliament by this Co. for an act confirming the amalgamation of the Winnipeg Great Northern Ry. Co. & the Lake Manitoba Ry. & Canal Co., extending the time for the completion of the Co.'s lines, declaring the bonding powers, & authorizing the building of a line from Lake Winnipegosis to Edmonton.

Manitoba Lines.—Speaking at Boissevain recently, Premier Greenway said:—"Railroad competition is the best thing for this country. The wheat rate has been reduced 10c. per 100 lbs. since I first aided the Northern Pacific. I promised the people north of here a railroad years ago, & I have kept my promise as I have kept all my promises. The rate to Fort William a short time ago was 28c. It is now no more than 17½c. per 100 lbs. The cost of the Northern Pacific branch to the North of this was \$107,500; money well spent. I will not apologise for the Dauphin deal, as it does not cost the country one cent. Since I have been in power I have aided no less than 700 miles of railway, & the whole will not cost the people more than \$4,000,000, & now the cry is for the Hudson's Bay Ry., & you shall have it, & what is more, it is not going to cost the government anything."

Newfoundland, Northern & Western.—Last month the Governor of Newfoundland received a dispatch from Colonial Secretary Chamberlain, refusing to grant the petitions praying for the disallowance of R. G. Reid's contract, on the ground that he could not interfere with the legislative acts of a self-governing colony.

Particulars of the extension of the steamship service in connection with this line will be found on pg. 21 of this issue.

Petroleum has been discovered at Port-aupout, on the west side of Newfoundland, on land included in the grant to Mr. Reid. The

oil is said to be abundant & of good quality. Mr. Reid is said to be meeting with gratifying success in working his coal beds at Grand Lake, & has many other projects under way. The most extensive of these is pulp & paper manufacturing. He intends to begin next spring the erection of a giant pulp mill, the plant of which will ultimately cost \$2,000,000. Most of the output will be put into paper on the spot.

BEGINNING THE YEAR

With pure, rich, healthy blood, which may be had by taking Hood's Sarsaparilla, you will not need to fear attacks of pneumonia, bronchitis, fevers, colds or the grip. A few bottles of this great tonic and blood purifier, taken now, will be your best protection against spring humors, boils, eruptions, that tired feeling and serious illness, to which a weak and debilitated system is especially liable in early spring. Hood's Sarsaparilla eradicates from the blood all scrofula taints, tones and strengthens the stomach, cures dyspepsia, rheumatism, catarrh and every ailment caused or promoted by impure or depleted blood.

British Columbia Electric Railway Co.

The earnings and expenses for Nov., 1898, were:

GROSS EARNINGS.	1896-7.	1897-8.	INCREASE
Railway Vancouver.....	\$4,028	\$5,378	\$1,350
Victoria.....	5,505	7,168	1,663
Westminster.....	4,611	5,853	1,242
Lighting—Vancouver.....	8,578	12,238	3,660
Victoria.....	4,493	6,846	2,353
Total gross earnings.....	\$27,245	\$37,503	\$10,258
Working expenses.....	\$18,320	\$22,391	\$4,071
Net profits.....	\$8,925	\$15,112	\$6,187

Aggregate Gross Earnings from April 1 to Nov. 30.....\$185,741 \$266,187 \$80,446

Aggregate Net Profit from April 1 to Nov. 30.....\$57,622 \$108,834 \$51,212
The aggregate gross earnings and net profit for 1896-97 are from April 15 only.

We are officially informed that the whole of the issue of 12,000 non-cumulative 5% preference shares of £10 each have been allotted (Dec. '98, pg. 271).

Vancouver City Council has authorized the Co. to build a double track on Davie st, from Granville st. to English Bay, & has given an 11 years' lease.

The Co. has decided to establish a parcel service between Vancouver and New Westminster.

Montreal Street Railway.

The gross earnings are as follows:—

	1898.	1897.	Increase.
Oct.....	\$133,419.69	\$116,093.09	\$17,326.60
Nov.....	125,125.10	110,688.68	14,436.42
Dec.....	127,678.00	113,029.33	14,648.67

The Toronto Railway Company's Annual.

The report submitted at the 7th annual meeting Jan. 18 was as follows: The past year's business shows a net profit of \$404,738.80. From the profits of this year 4 quarterly dividends of 1% each have been declared, amounting to \$240,000, leaving, after deducting pavement charges, \$100,738.80 to be carried forward. The gross earnings for the year were \$1,210,618.24, an increase over the preceding year of \$133,005.71. It is gratifying to note that the monthly earnings have shown a steady increase throughout the year. It is also a matter of congratulation that the receipts from the operation of the Sunday car service have shown a steady & marked increase, the average receipts as compared with the period during which the service was in operation in 1897, showing an increase of \$367.24 per Sunday. The operating expenses for the year have been decreased from 48.8% of the earnings in 1897 to 47.4% in 1898.

The power plant, tracks, overhead structure & rolling stock of the Co. have received special attention & have been maintained in a high state of efficiency. The rolling stock

INSURE IN

The Canadian Railway Accident Insurance Co.

OTTAWA, ONT. A PURELY CANADIAN CO.

Authorized Capital - - \$500,000.
Subscribed Capital - - \$175,000.

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HON. F. H. BRONSON, Treasurer.
JOHN EMO, General Manager.
JOHN P. DICKSON, Secretary.

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an answer is wanted, and wanted quick:
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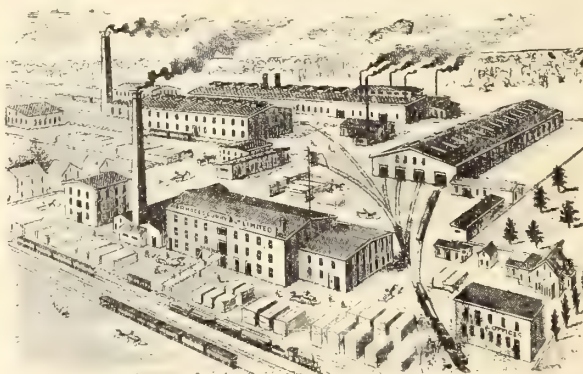
STATISTICAL STATEMENT 1892-1898.

Comparative Statement.	1898	1897	1896	1895	1894	1893	1892
Gross earnings	\$1,210,618.24	\$1,077,612.53	\$997,273.20	\$992,800.88	\$958,370.74	\$900,232.59	\$820,098.49
Operating expen's	578,857.26	525,801.25	507,760.31	489,914.76	517,707.53	537,597.15	590,333.26
Net earnings	631,760.98	551,811.28	489,512.97	502,886.04	440,663.21	362,635.44	229,765.23
Passengers carr'd	28,710,388	25,271,314	23,537,911	23,353,228	22,609,338	21,215,010	19,122,022
Transfers	9,287,239	8,169,022	7,354,895	7,257,572	7,438,171	8,477,147	5,592,708
Percentage of operating expen's to earnings	47.4	48.8	50.9	49.3	54.0	59.07	71.9

has been increased by the addition of 30 closed & 20 open motor cars, all of which were constructed at the Co.'s workshops, & in anticipation of increased business next summer, 40 additional open cars are being constructed. The Co.'s equipment has also been increased by the purchase of 70 electric motors & 30 improved steel trucks. The steadily increasing business necessitated the erection of additional feed wires in the Centre, Eastern & Western sections of the city. A car shed (capable of storing 60 cars) has been erected in the rear of the King Street car buildings, & a smaller shed for storage purposes was also erected on the Scollard Street lot. Considerable attention has been devoted to Munro Park, where a large pavilion was erected & the grounds much improved, & as a result, as shown by the increased earnings, the public appear to have appreciated the advantages of this park. The new general offices, which are very convenient & satisfactory, have been completed & are now occupied by the various officers of the Co.

FINANCIAL STATEMENT YEAR ENDED DEC. 31, 1898.

ASSETS.	
Road & equipment, real estate & buildings, including pavements & suburban lines.	\$ 9,852,415.17
Stores in hand.	26,525.80
Accounts receivable.	20,480.64
Cash in bank.	\$105,823.48
Cash in hand.	12,254.31
	118,077.79
LIABILITIES.	
Capital.	\$6,000,000.00
Bond—Tor. Ry. Co., 4 1/2% Stg.	\$1,571,933.33
Tor. Ry. Co., 4 1/2% Cur.	938,000.00
Tor. Ry. Co., 6% Debentures.	600,000.00
Tor. & Mim. Elec. Ry. & Lt. Co.	100,000.00
Tor. & Scar. Ry., L. & P. Co.	40,000.00
	\$3,249,933.33
Less Bonds not sold, & in hand for future requirements of the Co.	249,980.00
	2,999,953.33
Accrued interest on bonds.	54,396.60
Accounts & wages payable.	69,687.98



Rhodes, Curry & Co., Ltd.,

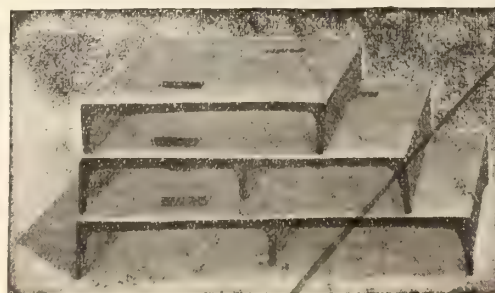
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Unredeemed tickets	11,148.61
At credit of Injuries & Damage Ins. Fund.	8,058.04
Dividend to payable Jan. 2, 1899.	60,000.00
Balance Profit & Loss	
As at Dec. 31, 1897.....	\$717,016.04
Less directors' fees, 1897....	3,500.00
	\$713,516.04
As at Dec. 31, 1898.....	100,738.80
	814,254.84
	\$10,017,499.40

INCOME ACCOUNT.

Dividends nos. 7, 8, 9 & 10	\$240,000.00
Pavement charges	64,000.00
Balance	100,738.80
Income, over & above all expenses & fixed charges, to Dec. 31, 1898.....	\$ 404,738.80

The old board of directors was re-elected & organized as follows: President, W. MacKenzie; Vice-President, J. Ross; other directors, Hon. G. A. Cox, W. D. Matthews, C. E. L. Porteous, F. L. Wanklyn & J. Gunn.

The directors have accepted the resignation of Laidlaw, Kappelle & Bicknell, the Co.'s solicitors. J. Bicknell is acting solicitor pending an appointment.

There is no doubt the T.R. Co. & its affiliated companies will provide a trolley market freight service for Toronto, & that a system of radial electric railways will be in operation west, north & east within a very few years.

The result of the decision of the board of county judges in the assessment of the Co. for poles, rails & wires has been to reduce the assessment in wards 2 to 6 inclusive from \$511,520, as returned by the assessor, to \$66,060. The assessment for ward 1, which has been appealed to the Superior Court, if sustained will remain at \$84,860, but if the decision of the board of judges in the other wards is upheld it will be reduced to \$12,123. As a partial offset to these reductions the assessment on the Co.'s machinery & plant in the power house was increased by \$119,000. The Co. has 86.87 miles of rails, wires, &c., in the city, of which 13.47 are in ward 1.

In the Police Court case against the Co. for refusing to put rear vestibules on its motor cars the magistrate imposed a nominal fine of \$5 & costs & granted a reserve case, on the understanding that the matter would be proceeded with before the higher courts as soon as possible. Mr. Bicknell, for the Co., will appeal against the conviction before a County Judge, & if the conviction is sustained there he will take his reserve case to the Court of Appeal.

The notorious E. A. Macdonald has given notice of application to the Ontario Legislature for an act to amend and interpret the Co.'s act of incorporation in a number of ways.

Ottawa Electric Railway Company.

Following is the 5th Annual Report, for the year ended Dec. 31, 1898, submitted at a meeting of shareholders, Jan. 30.—The statement for the year shows a net profit of \$72,643.15. From the year's profits 4 quarterly dividends of 2% each have been declared, amounting to \$65,184.00, leaving after deducting all expenses, including mileage payment & interest on bonds, \$7,459.15 to be carried forward to the credit of profit & loss. The amount to credit of Profit & Loss Account is now \$74,984.44. The gross earnings for the year were \$231,802.06, an increase over the preceding year of \$8,000.39. The receipts showed a steady increase each month throughout the year. There was an increase in snow clearing expenses of \$8,000, the total snow expenses for the year having been \$12,867.16. The winter was an exceptionally severe one. The operating expenses for the year were 56% of the earnings.

The tracks, rolling stock, power plant & overhead structure have all been maintained in an efficient manner, & expenses in connection with their maintenance have been paid

out of the year's receipts. Special care has been given to the repair, painting & cleaning of the cars, & it is pleasing to note that their condition is subject to favorable comment by the Co.'s patrons. It has been the aim of the Co. to afford a high-class service, enexcelled by any other; & the favorable remarks made by the press & public of this & other cities, indicate that the Co.'s efforts have been appreciated. Particular attention has also, as in former years, been given to the appearance & conduct of the conductors & motormen. During the year 6 open & 6 closed cars have been added to the rolling stock. A loop has been put in at the C.P.R. station, & connections have been completed at the Chaudiere & Hull for handling freight cars. The outlook for large development in both passenger & freight traffic is very promising. On Jan. 2, 1899, a plebiscite was taken by the city on the question of Sunday cars, which resulted in a large majority in their favor, & the Co. is now taking steps to carry out the decision of the people. Legislation to this end will be applied for.

STATISTICAL STATEMENT, 1892 TO 1898.									
	11 Mos. to May 31, '92.	12 Mos. to May 31, '93.	12 Mos. to May 31, '94.	12 Mos. to May 31, '95.	7 Mos. to Dec. 31, '95.	12 Mos. to Dec. 31, '96.	12 Mos. to Dec. 31, '97.	12 Mos. to Dec. 31, '98.	
Gross receipts	\$71,698.99	\$110,071.67	\$120,484.02	\$193,991.36	\$128,173.98	\$212,103.85	\$223,801.67	\$231,802.06	
Total expenses.....	45,199.80	70,221.25	83,324.61	122,335.67	173,983.48	144,360.24	151,462.04	159,158.91	
Net profit	26,499.19	39,850.42	40,159.38	71,655.69	54,190.50	67,743.61	72,339.63	72,643.15	
Passengers carried	1,520,405	2,394,504	2,797,281	4,119,084	4,284,373	4,583,235	4,762,082	5,133,938	
Percentage of Operating expenses.....									54
To receipts									56
ASSETS.									
Road-bed & equipment, water-power property & plant, real estate & buildings.....									\$1,188,341.98
Accounts receivable									2,840.26
Cash in office & bank									9,671.20
Discount unearned									4,095.00
									\$1,150,888.44
LIABILITIES.									
Capital Stock									\$814,800.00
Bonds									250,000.00
Dividend no. 18, payable Jan. 2, 1899									16,296.00
Balance of Profit & Loss Account carried forward.....									74,984.44
									\$1,150,888.44

† 7 months only. The Co.'s year was changed to correspond with the calendar year.

* Increase owing to extra cost of snow clearing.

PROFIT & LOSS ACCOUNT.

Balance at Credit Dec. 31, 1897	\$67,525.29
Net profit year ended Dec. 31, 1898.....	72,643.15
	\$ 140,168.44
Dividends 15, 16, 17 & 18.....	\$165,184.00
Balance at credit	74,584.44
	\$140,168.44

The Co. is prohibited from running its cars on Sundays by the Ontario statute, passed in 1897, which forbids the running of Sunday cars except it be to keep the track clear of snow & ice or for other acts of necessity or charity. The specific exceptions contained in this act in favor of companies that operated on Sundays prior to April 1, 1897, or that possessed the rights of Sunday operation, do not apply to the Ottawa Co. The Co. has given notice of application to the Dominion Parliament for authority to run cars on Sunday and for the repeal of the last 3 lines of sec. 6 of chap. 53 of the statutes of Canada, 1892. This chapter is the Co.'s act of incorporation which was obtained from the Dominion Parliament instead of the Ontario Legislature because the railway is interprovincial, the terminus of one of its lines being in Hull, on the Quebec side of the river. While Federal incorporation was obtained, and while the railway, though a purely local concern, was declared to be a work for the general advantage of Canada, care was taken to so frame the bill that the Co. would not be relieved of obedience to the laws of the Provinces in which it operated. The act provides that "the operation of so much of the Co.'s line as may be within Ontario by any new or additional powers conferred by this Act shall be subject to the statutes of Ontario in force from time to time in relation to street railways, & the operation of so much of the line as may be within Quebec by any new or additional powers conferred by this act shall be subject to the statutes of Quebec in force from time to time in relation to street railways." The Co. will ask to have these restrictions removed, & it is expected to succeed in doing so.

The Co. also gives notice of application to Parliament to authorize it or to confirm its power to extend its line to Bell's Corners & elsewhere in the Township of Nepean & in the Township of Gloucester.

SHIPPING MATTERS.

Sir Wm. Van Horne on the Atlantic Service.

Sir Wm. VanHorne was entertained at the Garrison Club, Quebec, Jan. 14, by about 75 of the leading public & business men of the city, & made a most important speech in reference to the Atlantic steamship service. He prefaced his remarks by reading two extracts from reports by the C.P.R. Co.'s Foreign Freight Agent, J. Corbett. The first was as follows:—

"It is to be regretted that the steamship companies at the port of Montreal are so short-sighted in failing to take advantage of controlling such enormous quantities of good paying traffic via the St. Lawrence route during the summer, & from a Canadian port during the winter. I have done all I could to get the steamship companies to reduce their rates to those current from Baltimore & Philadelphia, but their excuse is that the Baltimore & Philadelphia lines have not the same advantage as the lines running from this port for obtaining high-class traffic, which is so abundant here, & are, therefore, dependent on such traffic as you are in a position to give them for the loading of their steamers. I trust when you are abroad this winter you will be able to negotiate a satisfactory service for the handling of this traffic from this port, & certainly the officials of this Co. will do all they can to co-operate with you in every pos-

same manner, & further your interests in this direction.

The second extract was as follows: "In 1898, being a remedy for the disabilities under which the Canadian railway companies exist in the exportation of their traffic during the summer season, it seems to me we must have a controlling interest in the ocean transportation, either by traffic arrangement or otherwise, via Montreal, & if the facilities of this port will not permit of new steamers & lines, then we must look to Quebec, which affords certain strong inducements, viz.: The close interchange of all classes of traffic between rail & ocean carriers, saving in cartage, the continuous interchange of traffic at all seasons, & a lengthened season of navigation."

Sir William also read a letter from F. H. C. 2006, President of the Sault Ste Marie Pulp & Paper Co. as follows: "I enclose a copy of a letter received from Foreign Freight Agent Corbett, from which you will learn that on account of the impossibility of obtaining freight room for our pulp from Montreal we are obliged to fill our foreign orders by shipment from Baltimore, Philadelphia & New York. The output of our mill no. 1 is 1,000 tons daily. Mill no. 2, which will be ready to start up on Jan. 1, has an equal capacity. I need not point out to you the fact that this business, equal to 15 to 20 cars daily, is of too great magnitude to leave transportation subject to the chances of the present inadequate facilities offered by the Canadian trans-Atlantic lines. Canadian railways, in the proportion of their mileage to their traffic, are giving their patrons better facilities & lower rates than any other railways in the world. With such internal facilities & such magnificent & varied resources as the rest of the world are just discovering to exist here, the one essential thing lacking to promote progress in Canada in all lines of development is better means of international communication by sea from Canadian ports. Modern freight carriers of large capacity & economical operation should be provided in order that the ship owner may be able profitably to carry freight at the rates of United States ports. I beg of you to consider if anything can be done, either by exciting the livelier interest of the Government or otherwise to improve these conditions. Let us not delay. In the special industry in which I am engaged, several millions of dollars can be brought into Canada & several thousand operatives permanently employed if the product can be exported all the year round at the ocean rates prevailing at U. S. ports. At present the rate is $\frac{1}{4}$ to $\frac{1}{2}$ higher than that paid to reach the same market by the U. S. competitors who have without let or hindrance obtained their pulp wood from Canadian forests."

"What," asked Sir William, "was Canada doing about the grain trade. Last year Manitoba produced 30,000,000 bushels, but nearly all of this was going by U. S. ports. In 1897, for 1 bushel of Manitoba grain that went from Canadian ports, 5 went via Buffalo.

A great deal was being said about the deepening of canals & improving the interior arrangements for transportation. What Canada needed most of all, however, was better ocean facilities from its own ports. The means of exporting by our ports were altogether inadequate. We have increased the hopper without enlarging the spout."

He proceeded to point out that the ocean charges from Canadian ports are enormously high. He quoted figures, comparing the difference in the steamship charges from Boston in support of this. These figures, roughly speaking, showed in butter & cheese a difference of 50%. It was impossible to compete successfully for trade on this basis. Besides the added cost of transportation was a tax upon the producers of the country. "If the people of Canada knew what they are paying for ocean transportation they would rise up in rebellion," declared Sir William, most emphatically.

"The inadequate character of our ocean facilities is, continued the speaker, driving trade away from the country. Not long ago the C.P.R. was horrified to discover that it had 25,000 tons of freight between St. John & Minneapolis, without a vessel in sight to carry it abroad. The antiquated carriers were overdue several days & some," added Sir William, "had drifted ashore. What could be done in such a case? It became necessary to make immediate arrangements to ship the freight at U. S. ports at an immense loss. On that occasion some of the freight was being carried from Minneapolis to St. John & when the shippers found it could not be expeditiously handled they lost faith in the Canadian route. It is necessary for us to rehabilitate ourselves if we are to get a share of this trade & hold our own." The most profitable freight carriers to-day are enormous vessels. Not long ago, Sir William saw the Coptic, a White Star freight vessel, at New York, loading from barges, 10 deep all around. It seemed as if the produce of a continent were going into the great black hole. As a matter of curiosity he enquired the extent of the cargo. He found that it represented 16,500 tons. In the round trip, the vessel's profit was \$75,000, & in 14 months its cost was written off. That is the way Canada must do business to keep up with the times.

Sir William said: "There is nothing I desire more to see Canada have than the very best Atlantic passenger service that capital & science can give it. What Canada requires is a fast ocean passenger ferry service. The day has gone by for mixing trains, & it has also gone by for mixing the ocean passenger & freight services. Don't let anybody humbug you with 19 $\frac{1}{2}$ & 19 $\frac{3}{4}$ knot vessels. We must have the very best & the very fastest."

"From what ports?" asked one of the audience.

"From Quebec in summer & Halifax in winter. I have long realized that, while heavy freight will go on to Montreal in summer just as it will go on to St. John in winter,

because it is an advantage to get in further inland, that at the same time Quebec would be the summer port for passengers, and Halifax the winter port, because they will take the shortest route." Sir William said that it was necessary if the trade of Canada was to be preserved that all these ports should pull together. He well knew that in the past when Halifax was mentioned there were people in St. John ready to throw icebergs in the way, & that when St. John was spoken of there were those in Halifax to conjure up fogs. It was the same, he feared, with regard to Montreal & Quebec. But he believed that the interests of all were identical. Local feeling must be forgotten & a united effort made to restore & develop the trade of Canada.

"While it was perfectly true that the C.P.R. with its far-reaching connections, was probably the best fitted to provide the fast Atlantic service, it had no objections to offer to any other organization that was capable of doing so taking hold of it. Sir William said he had written to the Allans & the Dominion line encouraging them to go on with the project & offering to co-operate with them. But it seemed to him that they were never interested in the matter except when somebody, with a serious intention to provide the service, turned up at Ottawa. Then they became interested for a time. The mention of the C.P.R. in connection with any matter always led some people to oppose it on the ground that the C.P.R. has already got too much. He did not see on what ground they based that assumption. Every obligation, either moral or legal, of the C.P.R. to the country or to anybody in the world had been fulfilled to the letter. In fact it has always done better than it had agreed to do.

"I have sometimes been accused of building castles in the air," said Sir William. "Let me try now & build you some air ships. I would provide Canada with a better ocean service than exists anywhere else in the world. They would be," he added, "as much ahead of the present U. S. Atlantic lines as the vessels we have on the Pacific are better than the lines the U. S. have upon the Pacific. They would be the fastest, the most sumptuous, the most comfortable vessels afloat. The result of this policy in the Pacific, is that although there are 18 U. S. vessels there, the 3 C.P.R. vessels do more business than all the rest combined. This," he added, "would give Canada the most magnificent advertisement possible. For such a service the country could afford to pay a million dollars."

Proceeding to give further details of his plan, Sir William said: "The C.P.R. would put on a train from Euston Station, London, to Liverpool, that would astonish the world. At that station he would sell a ticket from London to Hong Kong or to Australia by the C.P.R. The passengers would be absolutely guaranteed connections right through. At Liverpool the C.P.R. would take them & bring them to Quebec. The Pacific vessel would wait until it made connections with the

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express across the continent. The C.P.R. would double its service on the Pacific so that every week there would be a vessel either from China or from Australia. It is impossible to increase the service now, owing to the difficulty of booking passengers from the west through to Europe by U.S. ports. When this is provided Canada will be the highway of the world. Follow the line of through travel & you follow the line of great progress."

Sir William, continuing, said that any fast Atlantic project would have opposition from two sources. The G.T.R. is now largely interested in Portland, Me., & would regard with hostility an all-Canadian route. Its influence would certainly be felt against the proposition. He did not consider, however, that the true interests of that company were against a Canadian route. The present management, which he did not wish to criticise, was doing its best to lift the property out of a hole. He had nothing to say regarding its policy. He called attention, however, to a statement by Mr. Hays, in an interview with a Montreal reporter, published on Thanksgiving Day, in which he said that one of the things Canada had to be thankful for was that the company's new elevator at Portland was taxed to its fullest capacity (laughter). Another influence that would be against the project would be the existing companies.

"It was said by some that a line would not pay. 'If that is true,' replied Sir William, 'I would have it anyway, because it would be the best possible advertisement of the country. But it is not the case.' He pointed out that our five million Canadians equal in their travel abroad fifteen millions of people in the U.S. Besides this, Canada had the Western States to draw upon, & their trade would grow every year. Moreover, we would have through business. Each week the Pacific steamers of the C.P.R. would bring in from 50 to 80 passengers bound for Europe, & this would be the nucleus of the fast Atlantic passenger trade." In conclusion, Sir William said that perhaps he had been a little indiscreet, & had gone further than he intended to, & said the C.P.R. would be glad if any organization would take hold of the service in a business-like & efficient way, & would willingly co-operate to make it a credit to Canada.

Hon. R. R. Dobell, who followed Sir William, said he had lived in Quebec long enough to have shown that he was true to its best interests. In regard to the fast Atlantic project, he asked his friends to have patience with him & with the Government, & they would in the end give every satisfaction. Before Petersen, Tate & Company took the contract for the service, he had submitted the project to Sir Wm. Van Horne, & that gentleman had expressed his approval.

Sir William—Quite right.

Mr. Dobell was glad to hear this endorsement. Nobody regretted more than himself the failure of Petersen, Tate & Co. But it was due in part to the fact that Mr. Petersen had shown himself to be a weak man. When the failure was realized he (Mr. Dobell) had said to his colleagues: "It is no use crying over spilt milk. Let us get to work right off & endeavor to secure a still better service." He for one still had perfect confidence in the type of vessels he had favored. They had been approved by the British experts. While he did not consider it practicable for a fast passenger service to carry heavy freight, he held to the view that there should be accommodation for cold storage & express freight. He had just returned from England, where he had been endeavoring to secure such a service. He believed he was in a position now to absolutely declare that such a service would very soon be obtained, but further than that he could not go. Canada must not only have the very best vessels afloat as regards accommodation, but they must be unsinkable

ships. They must be so constructed as to absolutely guarantee that no such accident as occurred to the *Bourgogne* would happen to them. He believed the hulls should be constructed in 14 water-tight compartments. Mr. Dobell could not say whether the service should stop at Quebec in summer or not. The contractors, he thought, would have the opportunity of choosing Montreal or Quebec.

As to the natural advantages of this port he had no doubt. The time, he believed, was rapidly coming when there would be winter navigation at Quebec. To that end the Government was proceeding to put permanent light-houses in the Traverse in place of the movable lightships. In conclusion, Mr. Dobell said he was glad that the C.P.R. was ready to co-operate with any company that gave the fast service, for which he was now entering upon a new campaign.

Shipping Revival at Quebec.

It is stated in Quebec that arrangements have been completed for the establishment of a new line of ocean freight steamers which will make Quebec their terminus. The line will be inaugurated in 1900, & will be operated in conjunction with the Great Northern Ry., which is projected to connect with the Canada Atlantic. Steamers of immense capacity have been chartered to run between Duluth & Parry Sound. The belief is that the U.S. traffic in grain which lately congested the port of Buffalo will contribute enough to make an important addition to the trade of Quebec, & in part so revive the languishing business of the port as to make it once more an important Canadian outlet. The project is the outcome of the new activity which has developed in the old historic show town. Great changes are taking place daily, which go to show that Quebec is preparing to take its place in the struggle for commerce which is going on between the ports on this side as well as on the other side of the Atlantic.

Two factors have contributed to stimulate the ambition & arouse the hopes of Quebec. The more important of these is the enlargement of the ocean carriers. Twenty-five years ago, when the bulk of ocean freight was moved in sailing vessels, Quebec was a busy, thriving port. But the general application of steam carried the trade by its doors, & took it to Montreal. The tendency to-day to larger ships, which are unable to safely ascend the river so far as Montreal, threatens to transfer the trade of the St. Lawrence to U.S. ports unless vigorous efforts are made to secure a well-equipped deep-water terminus on the St. Lawrence. It is to meet that need that Quebec is to-day bestirring herself. The other factor in the situation—the deepening of the Canadian canals, which is to be completed next year to 14 ft.—promises to bring from the lakes to the seaboard a larger trade, in which Quebec expects to have a share. For these reasons a revival of the maritime importance of the place is confidently expected, & Quebec counts upon the trade which it has lost being returned with interest.

It is rather remarkable that the oldest part of the Dominion should have awaited so late in the day to be open for settlement. Yet at the back of Quebec, stretching north & west, there is a country that is new to the settler. This district, which until a few years ago was thought to be useless for agricultural purposes, now has some of the best farms in the province. Last year it attracted 1,300 new settlers. It has been opened up by the Quebec & Lake St. John Ry. It contains 6,500 square miles of agricultural land, or 4,000,000 acres. In this immense area are already scattered 40,000 persons, whose numbers are being largely augmented by immigration each season. On the railway which traverses the dis-

trict seven million dollars have been spent. Last year it carried 153,000 passengers, & 199,000 tons of freight, & this year there was an increase of about 20%. No company has a more complete system of looking after immigrants than the Q. & L. St. J. It sends literature & lecturers throughout the continent, & immigrants are carried by it free to their destination. In the past the overflow of population of older Quebec has gone in the direction of the U. S. To-day it is being diverted to the Lake St. John district, & the population is being swelled by the repatriation of exiled Canadians. There is, in fact, growing up in this hitherto neglected country a new province.

The pulp & paper industry have had a great deal to do with the opening of this New East. The clearing of a farm is no longer a loss of time & labor to the settler, but a source of remuneration. In fact, under present conditions the settler makes as much from his first harvest of wood as from any the soil may subsequently yield at his invitation. He has, moreover, a market at his doors for his product. At Chicoutimi there is a mill now shipping three cars of pulp a day. All along the line are mills turning out lumber & railway ties, which give employment in the woods & elsewhere to 6,000 men. There is to-day not one idle man in the Lake St. John district, & it is difficult to get the labor required there. North-east of Quebec, in the country opened up by the Great Northern railway, hamlets, villages, & towns are springing up rapidly around the industries that are being established. Every man in St. Raymond is busy cutting & hauling square timber for the Quebec harbor works, for which 200,000 sq. ft. have been ordered. That place is also turning out a similar quantity for the dam for the Jacques Cartier Electric Power Co. At Grandmère \$2,000,000 has been expended by Canadian & U.S. capitalists in the erection of great paper & pulp mills, employing 1,100 hands, which are shipping largely to the London market. A town of 2,500 has sprung up around the industry. A few miles further west, at Shewanigan, a Boston company is preparing to spend \$4,000,000 in paper & pulp mills. Some 70 to 80 miles of railway have yet to be completed, which, it is rumored, will be done next summer, & Quebec will have direct rail connection with the big paper & pulp establishment projected at Hawkesbury. It is predicted that when the new steamship service is in operation it will command a large traffic from these industries, as well as from the rapidly-growing Lake St. John district.

Quebec will always be handicapped as an ocean port until it has railway communication with the South shore. The fact that the port can be kept open much later in the season than Montreal would before now have made it the outlet for grain were it not for the fact that when the season ends, the grain in store would be tied up in Quebec for the winter. If it could be carried into St. John & Halifax this drawback would be obviated. Hence all parties in Quebec are united as to the necessity for the bridge. The undertaking will cost \$3,000,000. The Federal Government is pledged next session to put through a vote of \$1,000,000 for the bridge. The city is expected to give \$500,000, the province \$500,000, & the balance is to be raised by private subscription. When the bridge is completed Quebec expects to draw the trade of the large and growing district to the south of it, which at presents finds its outlet in U.S. ports. There are many practical men in Quebec who maintain that the port could be kept open all winter. It is altogether likely that an experiment will be made next year to test the practicability of the scheme. The St. Lawrence below the Isle of Orleans, about 30 miles from Quebec, is undoubtedly open the whole year, except a week or so in the spring, when the river is

discharging its ice into the gulf. Between the Isle of Orleans & Quebec is the doubtful locality, where there is during the winter a good deal of loose ice from the river above Quebec. It is believed, however, that this is not sufficient to render navigation impracticable, & that it would be a simple matter to keep the route open. At all events, the season of navigation could be extended very materially without encountering any ice in the river. The near prospect of these improvements, the early completion of a new trunk line to the west, with a special line of steamers, the opening of the district behind Quebec, with the development of the paper & pulp business, as well as agriculture, to sustain it, are causing this historic city of Quebec to strike a new gait, which promises to bring it well to the front in the march of progress.

The Routes to the Yukon.

In lecturing in Toronto recently, F. C. Wade, Crown Prosecutor for Yukon Territory, after referring to the hardships endured by those who had packed their outfits over the passes, said:—"But like the old Cariboo road, with its history of trials & hardships which we now gaze upon with wonder from the windows of a C. P. R. palace car, these trails with their rough & hair-breadth escapes, will soon be a memory only. An overhead trolley has been built across the Chilcoot Pass, from Sheep camp to Crater lake. A medical friend of mine last fall took a passage in one of the buckets. Seated in this novel conveyance, smoking a cigar, he was the very picture of comfort. The passenger who next season glides pleasantly up the Skaguay trail by the White Pass Ry. will fail to recognize the change which enterprise has made in the face of nature."

Bennett, which is 35 miles over the White Pass from Skaguay at tide water, Mr. Wade described as a great shipbuilding yard last spring, when at one time there were on the shore of the lake, 3,000 boats ready for launching; boats made of whip-sawed & mill-sawed spruce, to be propelled by heavy spruce oars & what sails could be had. In these the gold hunters navigated Lakes Bennett, Nores, Tagish marsh, & Labarge for a hundred miles; then 400 miles of river travel to Dawson. Now steam boats have superseded all this. Mr. Wade says last spring the experiment was tried of running a small steamer from Bennett to Dawson, over the lakes, through Miles canyon, down the White Horse rapids, & among the rocks of Thirty-mile river. It was an entire success. The horse tramway past the canyon, & around the White Horse was completed. Half a dozen steamers were at once put on the route, & through navigation, with a change of boats at White Horse, was speedily established. In the fall a large river steamer was placed on the lower end of the route, from White Horse to Dawson. Many of the steamers that came up from St. Michael to Dawson last summer will be placed on the upper river. The navigation of the Upper Yukon, from the passes to Dawson, is an established fact, & is destined to supersede in a large measure transportation on the lower river from St. Michael, & transportation by small craft as well. The removal of a large number of sunken rocks from Thirty-mile

river, the construction of a safe channel through White Horse rapids, & some minor improvements at Five Finger rapids, would bring navigation on the Upper Yukon to a state of perfection.

"This navigation established, the traveller need no longer contemplate weeks of the varied labor of tugging at a big spruce oar with blistered hands, continuous 'baling out' & a broken back, the daily launching of a spruce monster, & the nightly beaching of the same, with the everlasting loading & unloading of several tons of cargo. The gales rattling down on Bennett through the Chilcoot funnel, the hurricanes from Windy Arm on Tagish, & the huge swells of Labarge will be divested of their terrors. The White Horse, which already boasts 30 or 40 victims, & the Thirty-mile river need be feared no more. A few hours of railway travel over the White Pass & a three days' run by steamer over the bosom of a beautiful chain of lakes, among scenery Alpine in its grandeur, & down a swift running sinuous river, past mountains, through mountain chains, under lofty banks & sand hills, past thickly-wooded terraced flats, past headlands, cliffs, & escarpments of fantastic majesty & beauty, will bring the traveller to his destination, without hardship, without effort even. In the same journey months were formerly often occupied, and thousands were forced to return home without crossing the passes."

Danger to Great Lakes Levels.

J. McMullen, M.P. for North Wellington, recently spoke of the danger to the Canadian lake levels from the construction of the Chicago drainage canal, which will soon be completed, & pointed out that in any scheme for the deepening of the Georgian Bay harbors the influence of this work on lake levels must be considered. When the St. Clair flats were deepened a number of years ago, the increased flow of water reduced the lake levels in the upper waters by almost 3 ft. In the case of the drainage canal which would turn a large part of the outflow from Lake Michigan into the Mississippi, instead of the St. Lawrence system, the danger was very real. It would probably lower the water level on the Georgian Bay a foot or more.

From a report of the U.S. engineers it appears that the drainage canal was constructed under a State charter, & that the U.S. will have no jurisdiction until the canal becomes navigable water. The outflow by the canal will be very great. It was originally projected with a width of 250 ft. & a depth of 20 ft. The width as actually constructed is, in places where rock was met, 125 ft. The flow will be 10,000 cubic ft. per second. The Niagara flow is 260,000 cubic ft. per second. The taking away of this amount of water now reaching the ocean by the St. Lawrence will materially diminish the flow over Niagara & lower the lake levels, especially the level of Lake Huron. It is Mr. McMullen's belief that the Dominion Government should at the earliest moment serve notice upon the U.S. Government that a material lowering of lake levels following upon the opening of the drainage canal would be regarded as a cause for a claim for damages on the part of the Dominion.

Atlantic Transportation Co.'s Failure.

No marine failure of recent years has been so stupendous as that of the Atlantic Transportation Co., which went into receivers' hands recently. This Co. made contracts to transport coal from Newport News to New England ports at a very low figure. Lately it met with severe losses in the wrecking of several boats. The Co. was incorporated under New Jersey laws in 1897, with a capital stock of \$3,000,000 to transport merchandise & coal. It purchased a fleet of 27 vessels, consisting of 1 steamship, 3 tugs & 23 barges, & leased or chartered a fleet of 40 other vessels, which were on the inland lakes. All but 10 of these vessels were taken by way of the St. Lawrence River to Newport News. Owing to the lateness of the season, 10 of the vessels were left on the St. Lawrence River above the rapids. The Co. expended \$150,000 in securing the charters & transferring the vessels to the coast. The business of the Co. has of late consisted almost exclusively of transporting coal delivered to the Co. at Newport News by the Chesapeake & Ohio Ry. The liabilities are in the neighborhood of \$1,000,000. The assets consist of 24 purchased vessels, valued at \$900,000, and worth at forced sale \$613,500, interest in chartered vessels & office furniture, \$2,000. All the purchased vessels are encumbered.—Nautical Gazette.

Owners of lake vessels under charter to the A. T. Co. seem to feel no particular uneasiness over the announcement that receivers have been appointed. It has been the practice to make payments of charter rentals monthly in advance, & the owners have received the checks for Jan. The fact that these were signed by the Chesapeake & Ohio Coal Co., the principal company with which the A. T. Co. has contracted for the transportation of coal, indicates close relations between these two concerns & close relations also with the C. & O. Ry. Co. Officials of the Cleveland bank through which all checks are paid incline to the opinion that the application for receivers was made simply to facilitate certain difficulties in the administration of the property. W. A. Hawgood, a Cleveland vessel owner, has gone to New York to investigate. There is little doubt that if the lake vessels are not retained by the A. T. Co. other profitable occupation will be found for them, at least for the steamers & the better class of barges, as it is generally understood that vessels of this kind are wanted on the coast. The task of bringing all the barges back to the lakes would, of course, be a difficult & expensive one.—Marine Review.

A Kingston, Ont., wrecking company is said to have a claim of \$4,000 in connection with taking some of the steamers down the St. Lawrence. The 10 laid up at Coteau will be attached for the claim.

It is said the North German Lloyd Steamship Co. has arranged to run a Pacific line, with Seattle, Wash., as the American terminus.

The Laurauda has been sold at auction at Seattle, Wash., to S. G. Simpson for \$25,100, which was \$100 higher than the bid of Tacoma parties, represented by Hugh Wallace. This is the last of the ocean fleet of the Boston & Alaska S.S. Co.

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Klondike M., T. & Transport Co.

Sir Chas. Tupper presided at the first annual general meeting in London, Eng., recently. In moving the adoption of the report, he expressed regret at the unfortunate circumstances which had led to their trading & transport operations being less successful than they had hoped. This was owing to the unusually open weather preventing the formation of ice on the Stikkeen River. It was only after much inquiry that the directors decided upon adopting the Teslin Lake route to the Klondike, & had the weather been anything like what it was in the previous seventeen winters, there was every reason to suppose that things would have gone on as they had anticipated. He might say that the Canadian Government adopted the same route for transport purposes as the directors of this Co. The board availed themselves of the earliest opportunity of making an arrangement for redressing the position of the Co., and they associated themselves with Mr. Rattenbury & other gentlemen in an enterprise for organizing a line of steamers between Bennett Lake & Dawson City. That undertaking had proved successful. They learned by cable from Victoria that the net profits amounted to \$92,000, of which \$30,000 would be re-invested in posts. It was found to be important to establish communications during the winter by means of posts, & it was believed that that would prove a lucrative business. The net profit of \$92,000, made by a company in which they possessed a very large interest, was equal to about 30% on the whole of the issued capital of that company.

Toronto Harbor Improvements.

The Commissioners are taking steps to secure such improvements to the harbor as are necessary to meet the requirements of the increased traffic consequent on the deepening of the St. Lawrence canals to 14 ft. of water, which is expected to be completed next year. K. Tully, Engineer to the Commission, & C. H. Rust, City Engineer of Toronto, have agreed on the following improvements as being necessary & that they should be commenced without delay:—

The southern portion of the piers of the eastern channel to be extended to 18 ft. of water below the datum gauge at the Queen's wharf, and the channel between the piers to be dredged to that depth, so that a vessel drawing 14 ft. of water can enter the harbor at all times.

The river Don to be diverted by the Commissioners' cut, across McNamee's cut into the deep water, or pond in Ashbridge's bay, & a dam constructed across the river Don west of the Commissioners' cut, to prevent any further deposit from the river Don injuring the harbor.

A trunk sewer to be constructed from Bathurst st., along the line of Front st., east of the river Don, into which all the main sewers of the city should discharge their contents, to be finally emptied into the deep water of the lake, or pumped on land to be treated by intermittent downward filtration, chemical precipitation, or the ferozone & polarite process.

A deputation from the City & the Commissioners will wait on the Dominion Minister of Public Works at an early date in reference to the matter.

Montreal will have a much better service with Germany next season. For some time the Hamburg-American Line has felt that it should put on more vessels, but it could not get them. A number of its new vessels will be in shape by the beginning of the season, & it will give a 10-days' service instead of two weeks. All the vessels will be the same size as the huge cargo carriers that it has had on the line in the past.

Port Stanley—Conneaut Ferry.

President F. H. Walker, of the Lake Erie & Detroit River Ry., issued the following circular Jan. 7: Commencing on Jan. 10, this Co. will take over by lease the property of the U.S. & Ontario Steam Navigation Co., & will thereafter operate the car ferry Shenango No. 1. The jurisdiction of the following officers of this Co. will be extended to include the above leased property:—E. C. Walker, Managing Director; J. H. Walker, Treasurer; W. Woollatt, Gen. Supt. & Traffic Manager; A. Leslie, Gen. Auditor & Accountant; S. Austin, Mechanical Supt. And until further advised, O. J. Hammon, Gen. Freight Agent; E. D. Comstock, Gen. Pass. Agent, will continue to act on behalf of the Car Ferry in their respective capacities, with offices in Carnegie Building, Pittsburg, Pa.

The Shenango No. 1, which was illustrated in our issue of Oct., '98, pg. 221, runs between Port Stanley, Ont., & Conneaut, Ohio.

The Maritime Provinces.

The str. Northumberland went off the Point du Chene-Summerside run in Dec. for the winter, after a capital season's business.

Nothing more has been heard of the English company which was said to be contemplating establishing steel shipbuilding works in N.S.

The str. St. Croix, of the International line, now makes but one trip a week between St. John, N.B., & Boston, the usual midwinter service.

The Dominion Government has had an examination made of Richibucto harbor, with a view to deepening the entrance to 19 or 20 ft. on the bar.

C. R. Burgess, Wolfville, N.S., & others, have been incorporated under the Dominion Companies Act as The Kambira Co., Ltd., capital \$28,800.

Tide tables for Halifax, Quebec & St. John, N.B., for 1899, have been issued in pamphlet form by the Tidal Survey Branch of the Department of Marine.

C. R. Burgess, Wolfville, N.S., & others, have been incorporated under the Dominion Companies Act as The Barquentine Skoda Co., Ltd., capital \$16,000.

S. C. & W. H. McCurdy, of Parrsboro, intend building a steamer at Spencer's Island, N.S., this winter. She will be 110 ft. over all, 23 ft. beam & 7½ ft. deep.

H. Elderkin & Co., Port Greville, N.S., are building a 300-ton schooner. Orders for schooners have also been placed with J. Smith & M. Young, of Lunenburg, N.S.

Digby Basin, N.S., saw more large square-rigged & three-masted vessels in 1898 than for some years past. Most of them loaded at Annapolis, but Digby got a good share. There appears to be a bright outlook in the South American lumber trade.

N. McNichol, naval architect, Glasgow, is acting as Inspector of the Department of Marine for the steamer which is being built at Dundee for the P.E.I. winter service. The last report received at the Department intimated that the frames would be all up by Dec. 30 last. No name has yet been selected for the steamer.

The Halifax Graving Dock Co. has let a contract to rebuild its no. 3 maritime railway. When this is done, together with completion of rebuilding of the large railway now nearing completion, the whole plant will consist of no. 1 railway of about 3,000 gross tons capacity, no. 2 of 1,000 tons, & nos. 3 & 4, each with 2 cradles for small vessels.

Some of North Sydney's enterprising citizens are endeavoring to form a company to fit out a fleet of fishing vessels next year.

The Herald says:—"The fishing grounds are at our very back door, & surely if Lunenburg & Gloucester vessels find it profitable to prosecute our fishery, Cape Breton, with her easy access & good shipping facilities, should & would certainly find it more so."

The I.C.R. ferry str. Mulgrave, which runs across the Strait of Canso, between Mulgrave & Point Tupper, has been fitted with an electric light plant, which includes a powerful search light, two incandescent arc lights & about 40 incandescent lights. When the steamer reaches the wharves at Mulgrave & Point Tupper respectively during the night connection is made by which the stations & freight sheds are lit by incandescent arc lights, the power for which is supplied from the steamer.

No seizures were made by the Canadian fisheries protection cruisers on the Atlantic coast last season. This leniency of the authorities, it transpires, was not owing to the absence of infractions, but was prompted by quite another motive. It was considered inadvisable, pending the deliberations of the International Commission, to prosecute a too rigorous enforcement of our rights, & the cruisers contented themselves with a patrol calculated to obviate the commission of any large abuses.

The Dominion Atlantic Ry.'s str. Prince Edward has taken the Prince Rupert's place on the St. John, N.B.-Digby run. The new str. Prince George, which has now been on the Yarmouth-Boston run for over a month, is doing well, & has reduced the time considerably, leaving Yarmouth at dark & reaching Boston by morning. Her sister boat, the Prince Arthur, also built at Hull, Eng., had her trial trip Dec. 21. On a run of 300 miles she developed the remarkable speed of 20½ knots, which is somewhat faster than the Prince George did.

Capt. W. H. Smith, R.N., Wreck Commissioner, has filed his decision in his investigation into the loss of the steamer Express of the Yarmouth Steamship Co., off Bon Portage Island, Shelburne, last Sept. The accident is found to have been caused by the neglect of the Master Capt. T. Harding to take soundings to ascertain the depth of water as the steamer approached the island in a dense fog. His certificate is suspended for 3 months. The certificate of mate U. H. Lyons is suspended for 1 month for not calling the attention of the Master to the danger the vessel was in by this neglect to use the lead. Capt. Harding is at present in command of the steamer City of St. John. The Commissioner recommends that during the time his master's certificate is suspended Capt. Harding be granted a mate's coasting certificate.

R. G. Reid, owner of the Newfoundland & Western Ry., has let a contract for the building in Glasgow of 7 steel-hull steel screw steamers. They will be built with a view to the future development of the services & not to the existing conditions. They are all to be finished exactly like the Bruce, both in their structure & main fittings. They will be specially fortified to resist ice; they will have the very latest devices in machinery, & their equipment will include electric search-lights. One will have a carrying capacity of 4,000 tons gross, & is intended for the Labrador service. She will be pretty nearly the same size as the Bruce, have accommodation for 50 first class & 100 second class passengers, & will make fortnightly round trips between St. John's, Nfld., & the Labrador coast. The 6 others will be of 2,000 tons gross, be intended for the coasting trade, and will run between St. John's, Nfld., Placentia, the west coast of the Gulf of St. Lawrence, & the south coast, from Placentia to Port aux Basques, the western terminus of the railway.

system. Some of these boats will run weekly & others bi-weekly.

The Manhattan Steamship Co. has begun a new service between New York City & St. John, N.B. Steamers will run at first every 10 days & afterwards the service will be increased to a weekly one. This Co. also expects to establish a regular line between New York & Yarmouth & Halifax. Speaking of the new service the Maritime Merchant says: "Quite a number of attempts have been made in the last 10 years to establish a line of steamers between New York & St. John. From one cause or another, the various lines attempting it gave up the business after a short trial. Once more the effort is being made, with steamers that call at some Maine ports en route. The Co. is a strong one, & confident that a permanent line can be established. In securing freight from New York to St. John, the steamers have to compete with schooners which go there with lumber & are sometimes very glad to get a return freight at low rates." The Co. has entered into a contract with the town of Digby, N.S., to build & equip an hotel there to accommodate at least 100 guests & to be ready for occupation by July 15 next. The town exempts the hotel & furnishings from taxation for 5 years, & gives free water for the same period.

Ontario & the Great Lakes.

The Government cruiser Petrel is wintering at Goderich.

An excursion steamer 110 ft. long is being built at Kingston for Lake Champlain.

C. W. McCoole, of Pembroke, Ont., is likely to have a passenger steamer built.

It is said Capt. Noonan, of Kingston, Ont., will have a steamer built at Westport, Ont.

H. Julian, tug owner, Port Dalhousie, was injured by being thrown from a vehicle recently.

Capt. Denisha is having a tug 60x14 ft., with a 40 h.p. engine, built at Kingston, for towing in connection with Dominion Government improvements.

J. G. Evans, a medical missionary, has had a steam launch built at Kingston, Ont., for use on the River Jordan, the Sea of Galilee & the Dead Sea. It is 30 ft. long.

Manager Foy has issued a very attractive calendar for the Niagara Navigation Co., containing excellent views of the steamers Chippewa, Corona & Chicora.

Lieut.-Col. Tisdale's project to connect Lakes St. Clair & Erie by a canal will again be before Parliament, notice of an application for legislation having been given.

Capt. Trowell of the steamer Ocean has issued a writ against the Wentworth Navigation Co. for \$5,000 damages. He was injured in an accident to the steamship.

Shipbuilding companies of the Great Lakes have under contract for next season 12 steel vessels, 8 of which are modern freight carriers, 2 passenger boats, 1 oil tank barge, & 1 large tug.

Kivas Tully, C.E., states that the indications of another winter season of low water is a very serious matter, as it will affect the canals. The depth is still 7 degrees below the zero line.

The Calvin Co., forwarders, etc., Garden Island, give notice of application to the Dominion Parliament for an amendment to their Act of Incorporation, so as to give them the exclusive right to the name of the Calvin Co.

The Collins Inlet Lumber Co., Toronto, is having a steel tug built there. Dimensions, keel 80 ft., beam 16 ft., depth 7 ft. Engines comp., dimensions of cylinders & stroke, 11, 20x14. One Scotch boiler. Approximate value, \$10,000.

Capt. Reynolds, Peterboro', Ont., is having a steel passenger steamer built at Toronto. Dimensions, keel 85 ft., beam 16 ft., depth 5½ ft. Engines comp., dimensions of cylinder & stroke, 9, 18x12. Fitzgerald boiler 54 in.x8 ft. Approximate value, \$8,000.

The General Passenger & Freight Departments of the Northern Steamship Co. will be consolidated Mar. 1, when I. M. Bortle, Gen-

eral Passenger Agent, will retire, S. Murray, now General Freight Agent, taking charge of both departments, with headquarters at Buffalo.

The Ottawa River Navigation Co. is having a screw passenger steamer built in Toronto. Dimensions, keel 100 ft., beam 21 ft., depth 7 ft. Engines comp., dimensions of cylinders & stroke, 10, 20x16. The boilers, 5½x8 ft., are being built at the Polson Engine Works. Approximate value, \$11,000.

The ferry Niagara was caught in an ice-floe between Buffalo & Fort Erie, Jan. 22. She was swept down under the International Bridge with 19 passengers on board & was in danger of going over the Falls, but managed to get into clear water below the bridge. All her upper works were torn off by contact with the bridge timbers.

Winnipeg Town Topics points out that the Great Lakes do not drain any portion of the prairie wheat belt, & that far from being the great drainage canal of North America, as they are popularly held to be in Ontario & Quebec, they only carry off the waters of 10% of the continent, while the Red River of the North & the Saskatchewan, with their tributaries, drain nearly 50%.

The U.S. Hydrographic office states that the water in the St. Lawrence continues to rise, & the prospects for better navigation this year improve. The U.S. Light House Board has decided to change the color of the lights at the St. Lawrence light station. That at Crossover Island, Sunken Rock & Rock Island will be changed from brown to white. That at Charlotte Harbor will be 1 fixed red range light in place of 3 lights, red, white & red.

The Royal Canadian Yacht Club, Toronto, has sent a letter to the other yachting organizations in the Dominion, in which it states that in order that the coming contest for the Canadian cup shall be truly international, & that Canada shall be well represented, the R.C.Y.C. proposes to offer in prize money not less than \$1,000 to the winners of the trial races. These races will be held some time in

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Aug. & will number 5, & the yacht winning 3 out of the 5 will be selected as the cup defender to sail against all comers on Lake Michigan.

The boats laid up in Hamilton Bay this winter are the schooners L. D. Bullock & W. J. Suffer, at the Simcoe Street slip; schooner Singapore, Capt. Malcolmson, at Zealand's wharf; Government dredges Ontario & Nipissing, at McIlwraith's wharf; T. R. Merritt, steamer Lake Michigan & the Sir Leonard Tilley, at Mackay's wharf. The 3 boats of the Hamilton Steamboat Co. are at the James St. slip, & the schooner Ella Murton is at Murton's wharf. The propeller Myles is tied up in Duluth harbor, having broken a shoe while going up Lake Superior. The Arabian is at Kingston.

The establishment of Georgian Bay grain ports should give a great impulse to Canadian inland marine. Canadian bottoms should monopolize the trade from Fort William to the Georgian Bay, just as U.S. bottoms now monopolize the trade between Chicago & Duluth & Buffalo. No Canadian vessel can carry between those points. The position would be somewhat reversed if a Georgian Bay port were made the eastern end of the upper lake system. Canadian boats could then carry from Duluth & Chicago, besides having the exclusive right between Fort William & Georgian Bay.—Toronto Globe.

Marine insurance companies have decided to raise their rates on ocean & lake traffic. The heavy losses sustained last year have induced them to take this step. New systems have been adopted by which the steamers & vessels will hereafter be graded & classified, & the rates will depend on what line the merchandise is shipped by. The rates will vary from 20c. on 1st-class ocean steamers to 25c. on 3rd-rate vessels. The purpose of this is to induce shippers to select the best water routes, & thus reduce losses to a minimum. The exact amount of the increase on the old ocean grain rates has not been decided.

The Calvin Co.'s steamer India was launched at Garden Island, Jan. 4. She is 212 ft. long, 37 ft. beam, 15 ft. hold, & built of the best white oak. She is fitted with triple expansion engines with cylinders 18, 30, 48, & a uniform stroke of 30 ins. The engines were built by the Co. at Garden Island. Her propeller wheel is 10 ft., 7 ins. diameter, with a pitch of 12 ft. Her 2 boilers are of steel of the Scotch type, 11 ft. 5 ins. diameter & 12 ft. long, carrying 160 lbs. steam. She is also fitted with several auxiliary engines, for reversing the main engine, for steering, raising anchors, etc. She will probably be used in the carrying of timber.

In our Nov. issue, pg. 249, we gave particulars of the steamer which is being built at Picton by the Lake Ontario Navigation Co. & into which the engines of the Empress of India will be put. There is a good deal of speculation as to where the new boat will run. While it is understood that she will run out of Toronto, it seems to be taken for granted that she will not go on the Port Dalhousie route. The general impression is that she will run between Toronto & Prescott, in connection with the R. & O. N. Co., as a sister boat to the Toronto, until the latter can be duplicated. Other reports say she will run in connection with the American line.

W. Shanly, C.E., has been appointed sole arbitrator to determine the amount of compensation to which Ryan & Haney are entitled for extras on their Soo Canal contract. Work upon section 12 of the Soulanges Canal has been suspended for some time. This is the section under contract to Hogan & McDonald, being mostly rock-work. There is said to be no reason why it should not be proceeded with continuously throughout the winter. The

Minister of Railways & Canals has notified the contractors to the effect that unless work be resumed at once & carried on to the satisfaction of the department, the contract will be cancelled & the work re-let.

At the annual meeting of the Great Northern Transit Co., at Collingwood, Jan. 17, the following officers were elected:—J. J. Long, President; C. Cameron, Vice-President & General Manager; T. Long, Secretary-Treasurer. The annual report showed the Co. to be in a good condition, & it was decided to make special efforts during the coming season to make the service in every way satisfactory & complete. It was decided to build a modern steamer for the Sault Ste. Marie route to replace the Pacific, which was recently destroyed by fire, & to purchase a steamer for the North Shore route, to replace the Northern Belle, also destroyed during the past season.

The Marine Record, Cleveland, Ohio, says: "In writing or speaking of the shipbuilding industry of the lakes we are always alert to the fact that Canada has a large frontage on all of those waterways, except Lake Michigan. In making up statistics of lake shipbuilding, it is, therefore, hardly equitable, not to say generous, to swell the list of U.S. work by including the vessels under construction at Canadian shipyards, a feature which the Record always makes clear when dealing with the subject. It is frequently by such careless, or rather slovenly work, that wrong impressions are created & otherwise carefully gathered statistics made misleading, not unfrequently to the embarrassment of those who may cursorily glance them over."

A general description of the gunboat which is to replace the U.S.S. Michigan on the great lakes, & for which provision was made in the last naval appropriation bill, has been given out. She will be known as gunboat no. 16, & will be a practical duplicate of the Marietta. She will, of course, be constructed at one of the ship yards on the great lakes. She will be 174 ft. on the load water line, 34 ft. beam, 12 ft. mean draught, 1,000 tons displacement, 14 knots speed, 1,200 horse power & 200 tons coal bunker capacity. She will have twin screws, driven by 2 sets of triple expansion engines, making 200 revolutions a minute. Steam will be supplied by water tube boilers at a pressure of 200 lbs. The armament will consist of six 4-inch rapid-fire rifles, four 6-pounders, two 1-pounders & one Colt.—Marine Review.

The storms during the season of 1898 were unusually severe on lake vessels, the losses having been materially greater than during any other season. The losses from various causes have been estimated at from \$2,500,000 to \$3,000,000. In a list of 569 vessels, the causes assigned were as follows: Ashore, 123; aground, in protected channels, 126; fire, 40; collisions, 90; ice, 16; storm-beaten, 96; foundered, 8; miscellaneous, 116. Lake Michigan has been the scene of the greatest number of serious losses, with Lake Superior second. Lake Huron was remarkably free from disasters, & Lake Erie did not contribute its usual quota. Lake Ontario produced a larger number of serious losses than Lake Erie, notwithstanding the limited traffic on the former. The number of boats which have passed out of existence is 58, with an aggregate tonnage of 29,194.

The report of the freight & passenger traffic to & from Lake Superior for the season of 1898 has been issued. The U.S. canal was opened to commerce from Apr. 21 to Dec. 10, 1897 (234 days); in 1898 it was open from Apr. 18 to Dec. 14 (241 days). The Canadian canal was open to commerce from Apr. 21 to Dec. 14, 1897 (238 days); in 1898 it was open from Apr. 11 to Dec. 9 (243 days). Commerce passed through canals 248 days during 1897;

commerce passed through canals 248 days during 1898. The report for 1898 shows a large increase in traffic, as compared with 1897. The number of vessels passing through the Canadian & U.S. canals increased 3%, & the number of lockages increased 11%. The registered tonnage shows an increase of 6%, while the freight tonnage was 12% greater than in 1897. An increase of 8% in the number of passengers is noted.

The Suez Canal carries much of the commerce of a hemisphere, much, indeed, of the exchangeable products of the world. The Sault Ste. Marie canals carry so much of the business of the Northwest as does not go by rail. The Suez Canal is open the year round; the "Soo" canals about 8 months. The latter closed for the year 1898, Dec. 14, having been open 241 days, as against 365 for the Suez. The volume of commerce via the "Soo" was 21,234,664 tons; that of the Suez for the year about 9,000,000 tons. In carrying the business by the "Soo" route, 17,761 vessels were employed, an increase of 3%, to be improved on next year, according to the shipbuilding programme under contract at this time. The value of the commerce moved through the "Soo" the past season is placed at \$220,000,000. This business paid to shipowners about \$15,000,000. The value of the vessels engaged is placed at \$46,000,000.—Marine Record.

There has been expended on Canada's canal system from the Great Lakes to the Atlantic seaboard a total of \$60,000,000. On the Farran's Point Canal, to avoid the Farran's Point rapid, the enlargement consists in the building of entrance piers, a lift lock 800 ft. long by 40 ft. wide, & the straightening & enlarging of the prism. The Rapide Plat Canal has been enlarged at a cost of \$1,600,000. On the Iroquois section of the Galops Canal there have been provided new crib entrance piers, a new lock 800 ft. long by 45 ft. wide, the cutting of a new prism, & deepening & cutting at the west end, all of which will cost in the neighborhood of \$790,000. On the Cardinal section of the Galops Canal a new cut has been made through the Village of Cardinal. The deepening of the Lachine Canal between St. Gabriel & Lachine to a depth of 16 ft. is practically completed. In Lake St. Louis a channel has been cut 300 ft. wide & 27 ft. deep for a distance of 4 miles.

Province of Quebec.

The Quebec Chronicle contends that the St. Lawrence is navigable to that city all the year round.

L. Coste, Chief Engineer of Dominion Public Works, is visiting European ports, to gather ideas for the improvement of Montreal harbor.

It is proposed to organize a company at St. John's, to build a steamer of a speed of 15 miles an hour & a capacity for 450 passengers, as an excursion boat on the Richelieu river.

G. N. Ducharme, banker, St. Cunegonde, Montreal, & others, are applying for incorporation under the Dominion Companies Act as the Lake Labelle Navigation Co.; capital \$10,000; head office Montreal.

Capt. A. Bowie, the well-known Ottawa River captain, died Dec. 30, of pneumonia. He was a shareholder in the Ottawa River Navigation Co., & had been 40 years on the river as captain, having been placed in charge of the old Phoenix when he was but 22 years old.

Ships have been entered by The Turret Steamship Co., Newcastle-on-Tyne, against W. G. Jenks, Port Huron; M. Madden, Saginaw; W. E. Donnelly, Saginaw; Mrs. J. Schinon, New Baltimore; and the Manhattan Steamer.

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POPULAR FASHIONS

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CANADIAN-AUSTRALIAN STEAMSHIP LINE.

The Royal Mail service between Canada, Hawaii, Fiji & Australia is performed by the Canadian Australian line steamships: Aorangi, gross tons, 4,000; indicated horse-power, 4,700. Miowera, gross tons, 3,500; indicated horse-power, 4,500. Warrimoo, gross tons, 3,500; indicated horse-power, 4,500. These steamships are built to the requirements of the Board of Trade, & are classified 100 A1. They are fitted with a complete system of water ballast on the double bottom principle, giving great stability & safety, & the hulls being divided into a large number of watertight compartments, they are practically unsinkable. The size & speed of these steamers are such as to assure passengers of every comfort. The vessels of this line give a regular 4 weeks' service from B.C. ports to the Sub-tropics & Antipodes. Their trade has largely developed itself, a most common experience in shipping circles, & one which very truly exemplifies itself in this case as well as in that of the Empress line.

ATHENIAN AND TARTAR.

These two fine vessels, purchased by the C.P.R. last spring for the Northern trade, were a distinct acquisition to the shipping of B.C. At present they are on the China-Japan route—the amount of freight offering at this season, largely in new season's tea, & later in rice, being more than the capacity of the Empress line can handle, a striking proof of the saying that vessels being established on a run have the effect of bringing trade into that channel. It was many times predicted that the Empresses would never find sufficient trade. Today they cannot handle it! Lloyd's Register furnishes the following particulars of the two vessels:

Steamship Athenian, twin-screw steamer, 3 decks; registered A1. Built in 1881 by Aitkins & Mansell, Glasgow, for Union Steamship Co. of England, length, 365 ft.; beam, 45 ft.; depth, 29 ft.; engines 600 h.p., triple expansion; tonnage, 3,782.

Steamship Tartar, iron screw steamer, 3 decks; registered A1; built in 1883 by Aitkins & Mansell, Glasgow, for Union Steamship Co. of England; length, 376.5 ft.; beam, 47.2 ft.; depth, 30.3 ft.; engines, 762 h.p., triple expansion; tonnage, 4,246.

Each of the vessels is fitted with electric light throughout, & has ample & convenient passenger accommodation for all classes of passengers. An idea of their similarity in speed is given in the statement that the Tartar arrived on Apr. 1 from England, having steamed the distance in 51 days, 1 hour, 10 min., while the Athenian arrived Apr. 12, having steamed in 51 days, 5 hours, 56 min., a very close record on such a long voyage.

CANADIAN PACIFIC NAVIGATION CO.

This line commenced business in 1883 in connection with mail contracts between Victoria & inland ports, east & west coast ports of Vancouver Island, & northern coast ports. The fleet at the outset consisted of the steamers Otter, Princess Louise, Enterprise, R. P. Rithet, Western Slope, Yosemite, Wilson G. Hunt, Maud, Reliance, Wm. Irving & the Gertrude, to which was soon added the steamship Sardonyx. A number of steamers have since been built & purchased. The fleet now includes the steamers Yosemite (1050 tons), Princess Louise (544 tons), R. P. Rithet (686 tons), Maud (94 tons), Rainbow (140 tons), Islander (1495 tons), Charmer (496 tons), Danube (561 tons), Transfer (98 tons), Beaver (343 tons), Willapa (245 tons), Tees (330 tons), & Queen City (243 tons).

Steamers leave for Vancouver daily. For New Westminster tri-weekly, connecting there with steamers for upper Fraser River points each trip; for Naas River & intermediate British Columbia ports tri-weekly; for Alas-

kan ports weekly, & for west coast of Vancouver Island ports, four times per month. The Co. owns wharves in Victoria. Its steamers make close connection at Vancouver with the C.P.R. for the east.

ESQUIMALT AND NANAIMO RAILWAY CO.

The Company operates the steamer City of Nanaimo (517 tons), which maintains a passenger & freight service between Victoria & Comox, calling at all islands en route, & at Nanaimo. At Union wharf connection is made with the Union Colliery Co.'s railway to Cumberland, 11 miles distant. The route of the steamer has recently been extended to Texada Island, & if business justifies it, this will continue to be a permanent port of call. Victoria to Texada Island is 173 miles.

This Co. also operates the steamer Joan, (530 tons), plying daily between Nanaimo & Vancouver, furnishing passenger & freight service between these ports.

UNION STEAMSHIP CO. OF B.C.

This Co.'s fleet consists of the Cutch, in the Alaskan & northern B.C. trade, Coquitlam & Comox, in the northern coast trade, Capilano, now engaged with the New England Fish Co. in the halibut fishing of Queen Charlotte Islands; the Senator on the Moodyville & North Vancouver ferry; the Chehalis & Lenora, engaged in coast trade & towing. The success achieved by this Co., especially in developing trade with up-the-coast British Columbia points, is noteworthy, most especially in view of the fact that for a long time the business was irregular & not of large volume, while now it has grown to such proportions that the Coquitlam has been permanently placed on the run in addition to the Comox, which used to handle the business alone.

THE SEALING FLEET.

Victoria is the headquarters of the Canadian sealing fleet. Many of the fleet are now in port, though a number of vessels have already left for the sealing grounds. Sailing schooners are almost exclusively used for this service. They range in size from 50 to 100 tons. The fleet consists of about 50 schooners, & each vessel carries an average of 30 men & 12 canoes. In spring the sealing grounds are along the west coast of Vancouver Island, off the mouth of the Columbia River, & in Santa Barbara Channel, while some of the schooners extend their course to the Japan coast. In the fall the fleet proceeds to Behring Sea & Copper Island. In these waters the spring season is from Jan. 1 to May, & the fall season is from July 1 to Oct. For the Japanese coast the vessels usually leave Victoria in Jan., & return in Oct. The fall season extends from July to Oct. The average catch per season is 1,000 skins for each schooner, & the average value is \$8 a skin.

OTHER LINES.

The str. City of Seattle leaves the C.P.N. wharf in Victoria daily for Puget Sound ports, & the steamer Garland leaves Turner, Beeton & Co.'s wharf tri-weekly for Port Angeles, Port Townsend & Seattle.

The Alberni & Barclay Sound Steamboat Co.'s steamer Willie, sails daily from Alberni on the west coast of Vancouver Island, to Barclay Sound ports.

The steamers of the Pacific Coast Steamship Co., whose fleet includes the first-class passenger steamships Queen, Walla Walla & Umatilla, sail about every 5 days for San Francisco, connecting there with the Co.'s steamer for Southern Californian & Mexican coast ports.

The steamers of the Nippon Yusen Kaisha line, the Riojun Maru, the Kinshiu Maru, & the Yamaguchi Maru, sail monthly to Asiatic ports, this line running in connection with the Great Northern Ry.

The Northern Pacific Steamship Line, con-

sisting of the Tacoma, Victoria, Olympia & Glenogle, also sail monthly for the Orient.

The first-class steamship, Garonne, of the British-American Line, sails northerly for Hilo & Honolulu, Hawaiian Islands, while freight ships sail from Victoria to all parts of the world.

The str. Manauense, Captain Edwards, is a fine vessel brought round the Horn from England last spring, & engaged for some time in the Klondike trade. The owners are making a strong effort to establish a new line to run from B.C. ports to San Francisco direct, with some prospect of success.

The steamer Fastnet, owned in Halifax, is another vessel brought to this coast last spring for the Klondike rush. She was operated last summer in connection with a line of boats on the Yukon, but is now tied up at Victoria & there is some talk of the owners disposing of her.

While the intention in this article is not to go into particulars of the carrying trade, it would be an omission not to mention the extensive fleet engaged regularly in the lumber-carrying trade from British Columbia ports. The increased demand for lumber from many parts of the Orient has caused a big shipping trade to be done & many vessels have come & gone this year.

The str. North Pacific sails from Vancouver for Seattle & Tacoma thrice weekly.

The Washington & Alaska Steamship Co.'s str. City of Seattle sails every 12 days for Wrangel, Juneau, Skagway & Dyea. Speed, 15 knots, with accommodation for 600 passengers—200 1st-class & 400 2nd-class.

The Alaska Steamship Co.'s str. Rosalie & Dirigo, each with a capacity of 250 passengers, sail every week for Wrangel, Juneau, Skagway & Dyea.

The str. Robert Dunsmuir runs regularly from Vancouver to New Westminster & Fraser River points.

Many other small vessels also make regular coasting trips in freight-carrying trade. Among these may be mentioned McKenzie Bros. little fleet of coal & freight-carrying vessels. These are rather light draft & are in some respects unique of their class. Their ability has been amply demonstrated by the fact that they admirably suit the requirements they were built for & are a paying class of vessel.—British Columbia Weekly.

The Charmer has taken the Islander's place on the Victoria-Vancouver run.

Capt. Jno. Irving has retired from the management of the C. P. Navigation Co.

Capt. Mooney is negotiating in Victoria for the building of a steamer for the coast trade.

Capt. Ainsley, a well-known Fraser River captain, died recently, aged 74. He was born in the U.S. & came to New Westminster 41 years ago.

Advices from Australia are to the effect that it is doubtful if some of the Australian colonies will renew the subsidy for the Vancouver mail service which expires next spring.

Work is proceeding steadily on the tug Ymir which the C.P.R. Co. is building at Nelson to handle the barges between Nelson & Kootenay Landing. She will be the most powerful tug on the inland lakes.

The str. Tees has been overhauled at Victoria. A big house has been built on her deck & she has been built over forward, changing her appearance considerably. Her passenger accommodations have been much increased.

Owing to the difficulty experienced in suppressing the wholesale smuggling from Puget Sound, the Dominion Government has decided to establish patrol boats in B.C. waters, with a view of aiding in the checking of the traffic.

The question of U.S. bottoms carrying freight & passengers from Victoria & Nanaimo, destined to other Canadian ports, having been

considered by the Vancouver Board of Trade, the customs collectors at Vancouver & Victoria have been communicated with on the subject.

On Jan. 10 there were 13 big sailing ships, 11 British, 1 German & 1 Cuban, on the way to Victoria, 6 with cargo & 7 seeking. The on-bound ships have a total tonnage of 22,285 tons. At the same time last year the total tonnage on the way was 18,218, & in 1897 17,863 tons.

The Big Bend Transportation Co. has been incorporated under the B. C. Companies Act, capital, \$125,250, head office, Revelstoke. Among the objects are the operation of vessels on the Columbia River, carrying on a general transportation business, & the construction of telegraph & telephone lines.

The Vancouver Board of Trade has appointed a committee to secure direct steamship connection with northern ports, so as to get the trade of the Yukon & Altn Lake for Vancouver. The C.P.R. & other steamship owners in Vancouver are to be approached first & if they will do nothing R. Dunsmuir & Sons & the C. P. Navigation Co. of Victoria are to be applied to.

The committee of the Nelson Board of Trade, which investigated the loss of the str. Ainsworth, which resulted in the death of 9 men, at Crawford Bay, Nov. 29, reported that no blame could be attached to anyone connected with the steamer. They strongly recommended that an investigation into accidents of that character should be undertaken by the Government.

The str. Manauense was recently seized by the Admiralty Marshal at Victoria, at the instance of the mortgagees, R. Williamson & Co., of Workington, Eng., for a claim of \$40,000. The Albion Iron Works, Victoria, has a claim of \$45,000 for recent repairs, and the Esquimalt Marine Ry. claims \$5,000 in the same connection. The Manauense is said to have cost the Red Cross Co., for which she ran from Liverpool to the Brazils, \$375,000. Shortly before she was purchased by Capt. Edwards, who brought her around the Horn to engage in the Alaskan service, the Co. expended \$60,000 in the reconstruction of her engines. W. A. Ward, of Victoria, has been appointed by the court as Receiver for the str.

The Beaver Steamship Line.

Elder, Dempster & Co., of Liverpool, have acquired the Beaver line charter with the in-

tention of reorganizing the company. It will continue under the old name, but will be managed from Liverpool by them, & the Montreal office will continue under the management of D. Campbell. The two Montreal offices of Elder, Dempster & Co. & the Beaver line will be just as separate and distinct as hitherto. The steamers now owned by the Beaver line are the Lake Ontario, Lake Superior & Lake Huron. The Gallia & the Tongario, which have been run by the Beaver line, are the property of McIver Bros. & have only been chartered. Four steamers are in course of construction, & will have saloon accommodation for about 100 to 150 passengers, & good accommodation for intermediate & steerage passengers. These ships will not carry cattle, but will have a dead weight carrying capacity of 6,000 to 7,000 tons of cargo. The speed is to be 16 knots. They expect to have two of the new boats ready for the opening of navigation, & next season's shipping business, as far as the Liverpool trade is concerned, should be the greatest Montreal has ever seen. The probability is that there will be 5 or 6 ships sailing every week for Liverpool, representing a dead weight carrying capacity of 20,000 to 30,000 tons a week. A conservative estimate of what may be exported from Montreal next season is placed at about 350,000 tons a month, or over 10,000 tons a day.

Notices to Mariners.

The Dominion Department of Marine has issued the following notices:—

No. 78, Dec. 10, British Columbia.—Light house on Fiddle Reef.

No. 79, Dec. 12, Nova Scotia.—Buoys in Barrington Passage.

No. 80, Dec. 15, New Brunswick.—Improvement in Shediac North Channel range lights. Newfoundland.—Rocky patch off Peterel Island.

No. 81, Japan.—1. Harbor regulations for open ports. 2. Nindo-Saki light house. 3. Jizo-Saki light house.

No. 82, Dec. 17, British Columbia.—1. New buoy in Sidney Channel. 2. Change in color of east buoy in Sidney Channel. 3. Buoy removed from Shoal off D'Arcy Island.

No. 83, Dec. 21, British Columbia.—1. Buoy on Rosedale Rock. 2. Shoal in Mayor Channel. Japan, 3. Kyoga-mi-Saki light house.

No. 84, Dec. 29, British Columbia.—1. Light house on the Sisters Rocks. 2. Shoals

in Carrington Bay. 3. Disappearance of Maple Bank beacon.

No. 1, Jan. 14, New Brunswick.—Winter arrangements, Quaco buoys.

No. 2, Jan. 19, Nova Scotia.—Halifax pilots.

There Must Be No Modification.

A Washington despatch to a Detroit paper, says: "It can be stated on the highest authority that the Canadian members of the Joint High Commission are stubbornly resisting the efforts of the U. S. commissioners to bring about a modification of the agreement of 1817, concerning the construction of warships on the lakes. The argument has been advanced from the U. S. side that no possible menace to Canadian interests would result should lake ship-builders be permitted to construct light draft gunboats, torpedo boats, etc., with the distinct understanding that they should not receive their armament till they reached tidewater. The Canadian commissioners make no definite reply to these representations, but in a general way deplore any movement calculated to disturb what they style 'the present amicable condition of affairs.' This subject is now being thoroughly canvassed by the commission, and the U. S. members are making a very strong effort to secure the desired end."

Canadian Steamship Co.—A London, Eng., cable of Jan. 19, says:—The long expected issue of stock of the Canadian Steamship Co. is now being made in connection with the inauguration of the Milford Haven-Paspebiac service. The ordinary shares, amounting to £50,000, are not offered to the public, but the 5% debentures, amounting to £200,000, & £100,000 of 6% preference stock, are being offered to the public. The Atlantic & Lake Superior Ry. Co. guarantee the principal & interest, & undertake to provide a half dozen steamers between Milford Haven, Liverpool & Paspebiac.

The Oceanic, which was launched at Belfast, Jan. 14, will be the largest steamship in the world. Her dimensions are: Length, 704 ft.; breadth, 68 ft.; depth, 49½ ft.; gross registered tonnage, 17,040; displacement, 30,100; h. p., 28,000; speed, 21 knots. Her dead weight as she left the ways was 11,300 tons. Her funnels are of such immense diameter that two street cars could pass through them at once.

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Esplanade East, Foot of Sherbourne Street, -:-

TORONTO.

Richelieu & Ontario Navigation Co.

The stories of the infusion of United States capital into this Co., started several months ago, have again been revived, & it is said Chicago & New York people want to secure control of the stock. The President, Senator Forget, denies any knowledge of the matter. The stock has risen several points within the past few weeks. The Co. wants another boat for Lake Ontario to match the forthcoming str. Toronto, and there is need of a new hotel at Murray Bay, & hotels at several other points to properly accommodate the tourist travel. In order to provide these needs additional capital will be necessary.

molded, 14 ft. Engines are of the triple expansion, inclined jet-condensing type, with cylinders 28, 44 & 74 ins. by 72-in. stroke. The feathering paddle wheels are 22 ft. outside diameter & 10 ft. 3 ins. face of bucket. Air & feed pumps are attached to & worked from main engine. Boilers, 4 in number, are of the return tubular type, 11 ft. diameter & 11 ft. 6 ins. long over heads. Each boiler has two 41½-in. outside diameter suspension furnaces. They are fitted with the hot draft, & are designed for a working pressure of 175 lbs.

Spacious & elegant passenger accommodations are provided. 140 state rooms, including 4 parlor rooms & large Pullman sleeping cabin, furnish sleeping accommodation for

The official trial trip has not yet been made, but there were a couple of preliminary trips on Nov. 28 & 29. The main object of the first one was to ascertain the coal consumption—that is how many pounds of coal were consumed per indicated horse power per hour. The engines were indicated during the progress of trial (3 hours 43 minutes) with the following results: Steam by gauge, mean during trial, 155 lbs.; vacuum, mean, 24½ ins.; revolutions, 34.2; mean draught of steamer during trial, 7 ft. 7¾ ins.; displacement corresponding to this draught, 1,160 net tons; coal burned entire trial, 12,747 lbs.; I. H. P., mean during trial, 1,878; coal per I. H. P. per hour, 1.82 lbs. The



THE STEAMER TORONTO, OF THE RICHELIEU AND ONTARIO NAVIGATION COMPANY'S FLEET.

The str. Saguenay will be renovated & lighted by electricity before the opening of navigation, another boat will be added to the Saguenay fleet, & a daily service, including Sunday, will be provided. It is said the Hamilton service will also be augmented.

The illustration on this page shows the Co.'s steamer Toronto, which on the opening of navigation will go into service on the Toronto-Prescott run. A description of the steamer was published in our issue of July '98, pg. 132, shortly after the launching of the hull, & a portion of it may be repeated here. The hull of the Toronto is of open hearth steel, & of the following dimensions:—Length over all, 278 ft.; length, keel, 270 ft.; beam, molded, 36 ft.; beam, over guards, 63 ft.; depth,

430 passengers. The dining-room, placed on an upper deck, has a seating capacity for over 100. The interior finish & decorations of the spacious halls and deck saloons are elaborately executed, the main & gallery saloons being finished in Francis I. Renaissance, with the dining-room in Louis XVI. The entrance hall is decorated in Neo-Grec with modern Renaissance details, with the smoking room in Oriental treatment. The refreshment & waiting rooms are in Elizabethan paneling of prima vera, natural wood finish. The main stair cases are in Honduras mahogany with wrought metal balustrades in hammered leaf work, finished antique bronze, the main newels carrying bronze figures supporting electric torches.

steamer was also run on a 19-mile course during this trial & the accurate time noted. The course was from Oakville light house to Gibraltar light, Toronto. This stretch of 19 miles was covered in just 60 minutes, or at the rate of exactly 19 miles an hour. The total of engine revolutions over the 19-mile course was 2,047.

The second trip was made for the purpose of ascertaining the greatest number of revolutions for which the boilers could continuously & comfortably furnish steam and also to record the speed with this number of revolutions. The steamer was run on the same course as the previous day, & a record of time, revolution, steam gauges, etc. carefully taken, the same as on the pre-

vicious day, but the engines were not indicated for power. The record of this trial is as follows: steam pressure by gauge, mean over course, 175 lbs.; vacuum, 23½ ins.; revolutions, mean over course, 36.87; mean draught of ship, 7 ft. 7 ins.; displacement corresponding to this draught, 1,148 net tons; time over course, 58¼ minutes; distance, 19 miles; speed, 10.6 miles an hour.

Railway & Canal Statistics.

The Dominion Public Accounts for the year ended June 30, 1898, just issued, show the following items among expenditure chargeable to capital:

Intercolonial Railway	\$ 452,750 80
Prince Edward Island Railway	17,541 88
Lachine Canal	216,717 44
Ottawa Works	82,663 37
St. Lawrence River & Canals	2,535,949 61
Sault Ste. Marie Canal	31,004 56
Trent Canal	351,273 31
Improvement of the St. Lawrence	198,914 36
Port Arthur Harbor (River Kamistiquia)	12,856 27
Canadian Pacific Railway Company	692 17

Railway subsidies were paid as follows:

Atlantic & Northwestern	\$ 186,600 00
Coast Railway of Nova Scotia	90,400 00
Gulf Shore	25,064 15
Ottawa, Arnprior & Parry Sound	327,232 00
St. Lawrence & Adirondack	84,480 00
Crow's Nest Pass	453,750 00
Montreal & Ottawa	40,000 00
Ottawa & New York	33,600 00
St. Stephen & Milltown	5,212 11
Montfort Colonization	35,840 00
United Counties	1,488 00
Grand Trunk	131,268 52

\$1,414,934 78

The payments on railway subsidies during the past 15 years have been as follows:

1884	\$ 208,000 00
1885	493,245 00
1886	2,701,249 00
1887	1,406,533 00
1888	1,027,041 92
1889	846,721 83
1890	1,678,195 72
1891	1,265,705 87
1892	1,248,215 93
1893	811,394 07
1894	1,229,885 10
1895	1,310,549 10
1896	3,228,745 49
1897	416,955 30
1898	1,414,934 78

\$19,197,372 11

The balance sheet contains the following items among the assets:

CANALS.	
Burlington Bay Canal	\$ 308,328 32
Chambly Canal & River Richelieu	436,152 83
Improvement of the Trent	559,067 70
Murray Canal	1,247,470 26
Lachine Canal	7,634,638 03
Lake St. Peter	1,164,235 08
Ottawa Works	6,794,951 33
Rideau Canal	10,720 50
St. Lawrence Canals	22,113,065 70
St. Peter's Canal	492,023 82
Sault Ste. Marie Canal	3,678,578 21
Tay River Navigation	476,128 73
Trent River Canal	2,066,696 17
Welland Canal	23,549,415 76

RAILWAYS.

Digby & Annapolis Railway	660,683 09
Intercolonial Railway	56,004,146 98
Prince Edward Island Railway	3,768,107 26

To the Land of Sunshine.

Take the Sunshine Route from Chicago to Los Angeles, San Francisco and other points in California, and escape the rigors of winter in the East and North.

Pullman Tourist Cars for first and second class passengers leave Chicago every Saturday at 2 o'clock p.m. via the Chicago, Milwaukee and St. Paul Railway to Kansas City, thence to California via the Atchison, Topeka and Santa Fe Railway—a real Sunshine Route.

This is the earliest afternoon train leaving Chicago for the West after arrival of morning trains from the East, thus avoiding tedious delay.

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TELEGRAPHS & CABLES.

Canadian, British Columbian & Dawson City Telegraph Company.

In our last issue we published a very full summary of a prospectus issued by this Co., which only reached us just as we were going to press, & when there was no time for comment. We have since received a complete copy of the prospectus & of the memorandum of Association. The issue at £95 of £225,000 5% 1st mortgage debenture stock has been severely criticised by some of the English financial papers, & after thoroughly looking into the matter we are inclined to agree with them that the scheme is at least visionary, if nothing worse. The London Statist recommends the debentures to "old ladies in search of highly speculative debentures," & says:—"The dear innocent public will be very innocent indeed if it accepts off hand the idea that there is solid attraction in the enterprise." J. Morris Catton, who trades as J. Morris & Co., advertising agents, is apparently the promoter of the scheme, & we think it is to be regretted that he has been able to secure Sir Adolphe Caron & Sir Jas. Grant, of Ottawa, & ex-Premier Turner, of B.C., as directors. Our advice to them, in the vernacular, is to "jump the outfit" forthwith.

Strange to say the prospectus does not contain even an approximate estimate of the cost of building the line from Quesnelle to Dawson City & branches, & this very essential feature is also wanting in the report made by the Co.'s resident engineer, a copy of which we publish further on, though elaborate & detailed estimates of revenue are given. We have consulted a telegraph expert in whom we have every confidence, & who has a practical knowledge of the class of country through which the lines are projected. His estimate of the cost of construction does not exceed \$300 a mile, which for the 1,400 miles mentioned in the prospectus would aggregate \$420,000. By the sale of £225,000 debenture stock at £95, over \$1,000,000 would be realized. It would be interesting to know what the promoters intend to do with the difference. They appear to have asked more than double what is required.

The estimate of revenue would be laughable, were it not too serious, in view of the beguiling effect it may have had on investors. In addition to local and intermediate traffic estimated at £37,500 a year, it is estimated there will be 200 telegrams a day between Quesnelle & Dawson at 5s a word, producing a further revenue of £150,000 a year, or a total revenue of £187,500 a year. The rate of 5s a word (\$1.22) is rather startling in view of the facts that the Atlantic cable rate is only 25c a word, and that the day rate from Halifax, N.S., to Vancouver, B.C., the longest land line in Canada, 3,662 miles, is only \$1 for 10 words. We have no hesitation in saying that an estimate based on 5s a word is illu-

sionary and deceptive. Mr. Woodford refers to the rate of 9s a word from the Transvaal, which, however, is an entirely different proposition. The rates that prevailed in the Klondike last year are no criterion. Everything is cheapening there with marvellous rapidity, fancy prices will be at an end in the spring, & a most careful enquiry in the best informed quarters leads us to believe that a revenue of \$1,000 a day, or say \$300,000 a year of 300 days, is the very most that can be expected, instead of the prospectus estimate of \$911,250. Even \$300,000 is to some extent problematical, as the line will be a most difficult one to maintain & the wires will be down a great deal, Mr. Woodford to the contrary, notwithstanding. The revenue anticipated from the North American Transportation Co., the Alaska Commercial Co. & the Hudson's Bay Co.'s business is not likely to reach the considerable proportions foreshadowed in the prospectus.

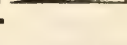
London, Eng., advices say the C.B.C. & D.C.T. Co. has been registered with a capital of £300,000 to acquire the securities of the Dawson City & Victoria Telephone Co. It is also stated that the letters of allotment to applicants for the mortgage debenture stock have been mailed & that E. G. Woodford, the Resident Engineer, has sailed for Canada to superintend the construction of the line. Our advice to the subscribers is to take any steps they can to prevent the expenditure of the proceeds of the debenture stock until reliable estimates of the cost of construction & of the revenue to be obtained have been secured. If the three Canadian directors above named do not insist on these precautions we predict troublous times ahead for them. We are anxious to see telegraph communication with the Klondike established—we believe it is a pressing necessity—but we want to see it done on legitimate business principles & not to the loss of British investors in a way that would give a black eye to future legitimate projects.

RESIDENT ENGINEER'S REPORT.

Following is the report of E. G. Woodford, M.A.I.M.E., late State mining engineer, Transvaal, &c., made on Dec. 10 last & which accompanied the prospectus as mentioned above:—

"In compliance with your request for information re the construction & operation of a telegraph line between Quesnelle—the present terminus of the telegraph system of B.C.—and Dawson City, in the Klondike mining district, I submit the following, which is based upon my personal knowledge of the country from which I have just returned. The proposed route of the telegraph would follow a line surveyed many years since for the all-land route to Europe via Behring's Straits. By this route, which follows an old trail, the distance from Quesnelle to Telegraph Creek on the Stikine River is 570 miles, & from Telegraph Creek via Teslin Lake, Atlin Lake (the new gold rush), White Horse Rapids, & the Yukon River is 730 miles, or a total between

BURN



E. B. EDDY'S

MATCHES

Notice is hereby given that The British Yukon Mining, Trading & Transportation Company will apply to the Parliament of Canada, at the next session thereof, for an Act authorizing the said company to construct & operate a line of railway from a point at or near Fort Selkirk to a point at or near Dawson City; thence westerly to the one hundred & forty-first Meridian; also to construct & operate lines of railway from a point at or near Cariboo Crossing or from or near Tagish Houses to Teslin Lake or River & to Atlin, & with the consent of the Governor in Council, to construct & operate branch lines in the Yukon District not exceeding fifty miles in length: to change the name of the company to "The British Yukon Railway Company," & to divide the undertaking of the company into sections, & to borrow money separately upon each of said sections, or on any two or more of them combined; also to confirm the proceedings taken upon the organization of the company; & to further amend the Act incorporating the company.

CHRYSLER & BETHUNE.

OTTAWA, 19th November, 1898.

Quesnelle & Dawson City of 1,300 miles. I would recommend that a connection be made between the new port of Skagway at or near Atlin Lake, an additional length of about 100 miles. I consider that such a telegraph line can be quickly & substantially constructed without exceptional difficulties, provided that the work be commenced simultaneously at various points along the route by an adequate staff of skilled Canadian workmen. The peculiar geographical configuration of the country & the many streams which directly cross the line of operation will permit of the prompt delivery over the ice of the necessary materials & supplies for the construction parties. The upper portion of the line is also readily accessible by the many rivers & trails leading to the different mining camps of the thousands of miners at work this winter between Telegraph Creek & Dawson City. This latter fact is of importance in connection with transport & labour, as both men & transport animals will be obtainable at numerous points where most urgently required.

"The necessity of telegraphic communication between the Klondike & the Canadian system very naturally occurred to me during my recent expedition to that country. During my journey from Skagway via the White Pass & the Yukon River, I was satisfied from observation that a telegraph line could be rapidly constructed either in winter or summer, which could be cheaply maintained & readily repaired. The coast of B. C. & the Klondike district are noticeable for the entire absence of storms. Repairs & breakdowns should therefore be very infrequent. The route of this line of telegraph is unique in my experience, as its whole length of 1,300 miles is on the rich Western mineral belt that is now commencing to attract attention, & which promises to be as great a field for mining investment as the Transvaal or Western Australia. In addition, therefore, to the business which will arise by connecting Dawson City with the world's telegraph system, the discovery & development of numerous mining camps along the route will be a source of constantly increasing returns & profits to your Company. The population of Dawson & the immediate vicinity is now from 25,000 to 30,000. The population of the mining camps along the route of the proposed telegraph line is rapidly increasing. The entire route even far beyond Dawson City is covered with timber, consequently an inexhaustible supply of suitable poles is at hand, & I may here also mention that the difficulty of securing suitable operators & line men which so often occurs in remote countries need not be anticipated, as amongst the numerous miners who have flocked into the country there will be found many hundreds of experienced telegraph men.

"With regard to an estimate of possible business, or the amount of income that may be safely anticipated, it is evident that, as telegraphic communication is a necessity, almost any price might be asked & would be cheerfully paid, as, per example, the 9s a word from the Transvaal. During my stay in Dawson City last Aug., telephone messages to Eldorado City, a distance of 15 miles, cost 4s a minute, with a minimum charge of 20s! With a reasonable charge per word, of say 5s, I am confident that a large & immensely profitable business can be done. The permanent nature of the gold deposits of the Klondike & other districts has now been established from many reliable sources, not the least being the fact of an output of £3,000,000 for last season. Immense quantities of supplies have been forwarded into the country this year, & next year will see the employment of large quantities of machinery & large hydraulic operations. The heavy investments of European & American capital is ample security for the construction of a telegraph line, more especially in a country where the changes of seasons are sudden &

severe. I would therefore suggest that your Co. lose no time in commencing the building of the line, & if work is promptly commenced & vigorously carried on during the present winter, it should be in working operation by the end of April next. From my knowledge of B. C. & of Klondike & their wonderful mineral resources, I am convinced that a telegraph line will prove one of the most profitable industrial enterprises that have been proposed in connection with these new mining countries."

Government Line to the Yukon.

In our Nov. issue we gave currency to a rumor from Ottawa that at the next session of Parliament the Minister of Public Works will ask for an appropriation to build a telegraph line to the Yukon via the Ashcroft-Cariboo route. The Government now has a line from Ashcroft, on the C.P.R., to Barkerville, 276 miles. This line, which was built as far as Quesnelle in the Cariboo country in 1865, will be found fully described in our issue of Aug., '98, pg. 167. Early this month a Victoria, B.C., telegram stated that a telegraph line & wagon road from the end of the present Ashcroft-Cariboo line & road to the Yukon, had been decided on, & that the whole work would involve an expenditure of \$5,000,000. Since then the rumor as to the building of a Government telegraph line has been revived at Ottawa, & it is said the Government has obtained an estimate of the cost of construction, & it is said a rate of \$2 for a 10-word message is talked of. This is in marked contrast to the proposed rate of the Canadian British Columbian & Dawson City Telegraph Co., already referred to in this issue.

Suit Against the G.N.W.T. Co.

Proceedings have been commenced in the High Court of Justice of Ontario to set aside the agreement made in 1881 under which the lines of the Montreal Telegraph Co. were leased to the G.N.W. Telegraph Co., & to restrain the parties thereto, the Montreal, the G.N.W. & the Western Union Telegraph Companies & H. P. Dwight, the President of the G.N.W., from acting under the agreement. The plaintiffs are H. M. Morrow, accountant, & W. A. Clark, banker, of Boston. Morrow claims to be a holder of 750 shares of G.N.W. stock & Clark claims to hold 250 shares pledged to him by Morrow to secure indebtedness. In connection with this suit it may be interesting to look back for a few years. In 1879, the Dominion Telegraph Co. leased all its lines in Canada to the American Union Telegraph Co. for 99 years, & in 1880 the latter Co. assigned the lease to the Western Union. In 1881 the Montreal Co. leased its lines, &c., to the G.N.W.T. Co. for 97 years for \$16,000 a year, which provides a dividend of 8% on the Montreal Co.'s capital of \$2,000,000. The W.U. was a party to this agreement, guaranteeing the payment of the \$165,000 a year & also the performance by the G.N.W. of the other covenants. The W.U. then sublet the Dominion Co.'s lines in Ontario & Quebec to the G.N.W. Co. for \$60,000 a year. The capital of the G.N.W. is \$500,000. Plaintiffs allege that \$255,000 of this is owned by the W.U. Co., but that it stands in the name of H. P. Dwight, & that the W.U. Co. nominates the directors, &c., of the G.N.W. Co. & controls its operations, &c., that the W.U., having no power to give the guarantee above referred to, is at liberty to withdraw it at any time, that the operation of the Montreal and Dominion lines & lines built by the G.N.W. Co. has resulted in loss, which the W.U. has had to make up to maintain the payments to the Montreal Co., & that should the W.U. refuse to continue making up the deficits the Montreal Co. will terminate its

agreement, taking possession of its lines & of the additions & improvements made thereto by the G.N.W. Co. The plaintiffs claim that the agreement of Aug., 1881, is void because it is an attempt by a foreign corporation to exercise the powers, &c., of the G.N.W. Co. in the interests of the W.U., that the agreement was not made in the interest of the G.N.W. Co., that it was a surrender of the property of the G.N.W. Co. & is a delegation of that Co.'s franchises and powers to the Montreal Co. & a misuse of statutory powers, &c.

The motive for the action above referred to is in doubt. A Montreal telegram, stating that it is "an attempt by the W. U. to gobble up the G. N. W." is absurd. It looks very much like a stock jobbing operation. Before the papers were served on the defendants copies of them were in the hands of Montreal brokers & were undoubtedly used for the purpose of depressing the Montreal Co.'s stock. We are informed, on the highest authority, that there is no truth in the allegation that the W. U. Co. has had to come to the rescue of the G.N.W. Co. financially & that the latter Co. has done its own financing right along without calling on the W. U. for any payment under the latter's guarantee. At one time the G. N. W. Co. paid handsome dividends, but latterly, owing largely to competition, it has not been able to do more than pay its rentals.

Montreal Telegraph Company.

At the annual meeting in Montreal Jan. 12, the report showed assets \$2,268,143.52; liabilities \$2,041,974.74, an excess over shareholders' capital of \$151,823.85, leaving a contingent fund of \$74,371.93. During the year 4 quarterly dividends aggregating 8% were paid. The rental of 8% per year, amounting to \$160,000, had been paid quarterly by the G. N. W. Telegraph Co. The following were elected: President, A. Allan; other directors, H. Mackenzie, J. Joseph, W. Wainwright, H. Archibald, H. A. Allan, W. M. Marler.

In answer to a question the President said with reference to a suit undertaken by H. M. Morrow, & one Clark, to upset the lease, "the complaint of Morrow was in the hands of one or two stockholders & shown by them around the street & on the Stock Exchange, before any service was made upon the Co. So far as we know the copy served upon the Co. may have been served by a broker's clerk. Its contents are utter rubbish, & clearly got up for the purpose of affecting the price of the stock. We understand that Morrow is not a bona fide shareholder of the G. N. W. Co., against which the action is taken. He was Erastus Wiman's stenographer at the time Wiman was obliged to retire from the firm of R. G. Dun & Co. The action, if it can be termed such, is against the G. N. W. Co., & we are, with the Western Union, brought into the case incidentally. We do not know who Clark is, he may be a pawnbroker. Under the agreement the legal position of the Co. is unassailable. The guarantee of the W. U. is beyond question, & the security of the Co. is ample in every respect. In fact, the stock of this Co. should rank among the highest class in the market. As to the legality of the W. U. guarantee, the opinion of E. P. Wheeler, of New York, is on the table with the clauses in the agreement binding that Co.

"As to any deficit in the workings of the lines of the company by the G. N. W. T. Co., it must not be forgotten that the G. N. W. operates other lines of telegraph besides ours. The G. N. W. does not furnish us with the results of the operations of the lines, nor is it under any obligation to do so. Should there be any deficit, it does not concern this Co. or its shareholders. We are convinced, however, the working of the lines of this Co.

ASSESSMENT SYSTEM.



THE BEST FRATERNAL BENEFIT SOCIETY IN THE WORLD.

THE SPLENDID RECORD OF THE I. O. F.

The Magnificent Benefits Paid.

Benefits paid last Year (1897).....	\$ 992,225 60
Benefits paid last Five Years.....	3,401,515 92
Benefits paid last Ten Years.....	4,395,353 72
Benefits paid from organisation to 31st Dec., 1897	5,103,867 70

The Growth of the Membership.

Membership 1st July, 1881.....	369	Date of Reorganization.....	
Membership 31st December, 1881.....	1,719	Increase in Six Months.....	650
Membership 31st December, 1886.....	5,804	Increase in First Five Years.....	4,785
Membership 31st December, 1891.....	32,303	Increase in Second Five Years.....	26,499
Membership 31st December, 1896.....	102,838	Increase in Third Five Years.....	70,535
Membership 31st December, 1897.....	124,685	Increase during Year 1897.....	21,847

The Expansion of the Surplus.

Surplus 1st July, 1891.....	\$ 0	Date of Reorganization.....	
Surplus 31st Dec., 1891.....	4,568 55	Increase in Six Months.....	4,568 55
Surplus 31st Dec., 1896.....	53,081 28	Increase in 1st Five Years.....	49,412 73
Surplus 31st Dec., 1897.....	408,798 20	Increase in 2nd Five Years.....	354,816 92
Surplus 31st Dec., 1897.....	2,015,484 38	Increase in 3rd Five Years.....	1,606,680 18
Surplus 31st Dec., 1897.....	2,558,832 78	Increase during Year 1897.....	543,348 40

The Members and Their Assurance.

At 31st December Each Year.

Year.	Total Membership.	Insurance Carried.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,140,000	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	1,276,000	2,967 93	2 61	11.00
1883	2,210	2,490,000	10,857 65	4 91	4.73
1884	2,558	2,923,000	23,081 85	9 01	4.23
1885	3,642	4,283,000	29,802 12	8 18	7.76
1886	5,804	6,764,000	53,981 28	9 30	4.85
1887	7,811	9,120,000	81,384 41	10 44	5.78
1888	11,800	13,714,000	117,821 96	9 98	6.43
1889	17,349	20,078,000	188,130 36	10 84	5.85
1890	21,604	28,498,000	283,967 20	11 54	5.18
1891	32,303	39,395,000	408,798 20	12 65	6.40
1892	43,024	53,243,000	580,597 85	13 49	6.25
1893	54,484	67,781,000	858,857 89	15 76	5.47
1894	70,055	86,500,500	1,187,225 11	16 94	5.47
1895	86,521	108,027,500	1,590,373 46	18 03	5.67
1896	102,838	128,791,000	2,015,484 38	19 60	5.50
1897	124,685	154,510,000	2,558,832 78	20 52	5.56

For Further Information Respecting this Great Fraternal Benefit Society, Apply to

Oronhyatekha, M.D., S.C.R., Toronto, Ont.

James Marshall, 24 Charing Cross, London, Eng.

John A. McGillivray, Q.C., S.S., Toronto, Ont.

A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.

Or Any Officer or Member of the Order.

results in no loss to the G. N. W. Any loss in operating must be looked for in the workings of the lines of other companies. The official returns of the G. N. W. T. Co., which we had the privilege of seeing, showed extremely handsome profits paid to the shareholders.

"Nothing but good feeling prevails between the companies interested. No complaint has been made by the W. U. of the terms of agreement. Since 11 judges settled the legal questions raised 10 years ago by the G. N. W., that Co. has carried out, & is carrying out in good faith, the conditions of the agreement. There is no issue between the parties interested; nor has there been any of any importance during the past 10 years. The agreement was executed 18 years ago, & during all that period dividends at the rate of 8% have been paid our shareholders."

Vancouver Island Telegraph Service.

The residents of Clayoquot, Uclulet & other points in Alberni district, with a number of Victorians interested in shipping & mining on the West Coast, have petitioned the Legislative Assembly praying for the establishment of a government telegraph line from Alberni to Clayoquot & Uclulet, & along the coast. The petitioners claim that such a line would be of great advantage to the mining & shipping interests of the coast. The only communication at present is by steamer from Victoria, 3 times a month in winter & 4 in summer, & from the lack of immediate communication mining transactions are sometimes delayed. Then again, shipwrecks occur & many lives & much property are sacrificed which might be saved was there direct communication. The line to Cape Beale from Alberni has already been sanctioned by the government, & the small additional outlay for the continuance of the line would, in the opinion of the petitioners, be amply justified.

The present Dominion Government line along the coast from Victoria to Cape Beale, near the entrance of Juan de Fuca Strait, 118 miles, built in 1881, has proved so unreliable that it has been decided to adopt an alternative route from Alberni, at the head of the Alberni Canal almost due west of Nanaimo. In 1895 a branch line of 29½ miles was run over to Alberni from the Nanaimo-Comox line, built in 1893, so that the gap to be now spanned between Alberni & Cape Beale is only about 38 miles. The Department of Public Works invited tenders to be sent in by Jan. 10 for the supply of telegraph poles, & for the construction of the line from Alberni to Cape Beale. The poles are to be cedar, 23 ft. long, not less than 6 ins. diameter at top, straight & sound, barked 5 ft. from the butt. On the steep bluffs opposite Uchucklesit Bay, Hell Gate & Copper Mountain, 1½ miles in all, iron brackets bolted to the rock are to be used to support the wire. The poles are to be erected not more than 165 ft. apart, & the Government will supply the following material, &c., which is similar to what was used on the coast line, viz., no. 6 line wire, no. 9 tie wire, white porcelain insulators, & oak screw brackets, also pins, instruments & batteries.

Canadian Pacific Ry. Co.'s Telegraph.

The Crow's Nest Pass branch of the C.P.R. having been taken over by the Telegraph Department, the following new offices on that branch have been placed on the same basis as offices in the Kootenay district of B.C., thus reducing the rates from \$2 & \$2.25 to \$1 & \$1.25 from the East & a corresponding reduction from the West. This went into effect Jan. 1.

NEW OFFICES.—Blairmore, Pincher, Brocket, Pincher Creek, Coal Creek, Crow's

Nest, Elko, Fisher, Kitchener, Sirdar, Cranbrook, Fort Steele Jct., Fernie, Hosmer, Michel, Wardner.

OFFICES CLOSED.—6th Siding, 7th Siding, Alta.; Kuskanook, B.C., Irishman's Creek, B.C.

OFFICES CHANGED.—Bull Head, B.C., changed to Crow's Nest; Duck Lake, B.C., changed to Sirdar; Russell Creek, B.C., changed to Kitchener.

It is expected a branch telegraph line to Fort Steele, B.C., will be built at once; at present messages are sent to Fort Steele by telephone line from Cranbrook.

The new office at Winnipeg is about completed & ready for occupancy.

The Boundary Creek Telegraph & Telephone Co. has been incorporated under the B.C. Companies Act with \$50,000 capital. Head office, Greenwood, B.C.

Direct West India Cable Co.—At the recent annual meeting the report stated:—"The Co.'s cables were successfully completed & opened to the public January 31, 1898. The Jamaica Government has passed a law granting the Co. a subsidy of £2,000 a year for 5 years, & the Turk's Island Government has agreed to give £120 a year for a similar period. The revenue account shows a credit balance of £15,045, of which £10,490 has been applied to the discharge of all expenses incurred prior to the opening of the cable for traffic, including the discount at which the debentures were issued (£6,000), leaving available £4,554. It is proposed to pay a dividend for the ½ year to June 30, 1898, at the rate of 5% per annum, which will absorb £750, leaving £3,804 to be carried forward."

Royal Telegraph Co.—R. G. Code, A. F. May, A. Macfarlane, E. F. Burritt, & C. T. Moffatt, of Ottawa, 4 barristers & a clerk, give notice of application for incorporation under the Dominion Companies Act, under this title, with power to build & operate lines for the transmission of messages by telegraph or telephone through any place or places in the Dominion or elsewhere. To aid or advance money to build or work any such line to be used for telegraph or telephone purposes. To lease their lines or any portion thereof to any other company. To enter into working or other agreements with the owners of other telegraph or telephone lines for the transmission of messages to points on such other telegraph or telephone lines. To manufacture, operate, sell, let, hire, purchase or lease every description of electrical apparatus, telegraph or telephone instruments, material, plant, patents & things capable of being used in connection with any of the aforementioned objects. Ottawa is to be the chief place of business, & the capital stock \$100,000.

Yale & Kootenays.—Bodwell & Duff, solicitors, Victoria, B.C., give notice of application to the Dominion Parliament to incorporate a company to construct & operate telegraph lines in Yale & East & West Kootenay, B.C., & to make connection with any telegraph company in the U.S., or with any other telegraph or telephone company & with other powers. B.C. papers say the application is made on behalf of D. C. Corbin & A. Corbin, who retained control of the telegraph line along the Spokane Falls & Northern Ry., when that line was sold to the Great Northern. The chief object of the application is to secure the right to extend the system into the Boundary Creek country. It is also reported that Messrs. Corbin intend to connect their telegraph system with branch telephone lines to the different mining camps, & that they are behind an application recently made to the Greenwood town council, for the right to erect poles & string wires within the town limits.

TELEPHONE MATTERS.

The Bell Telephone Company.

The appeal of the Co. against an assessment of \$638,649 on its plant in Toronto, was argued before County Judges McDougall, Dartnell & McGibbon last month. Previously the plant had been assessed at \$100,000. This year the assessment was proportioned as follows: Land, \$8,750; buildings, \$24,000; poles, wires, conduits, etc., \$377,992; Temperance street switchboard, \$177,174; Yorkville & Parkdale switchboards, \$50,773. The decision of the Court of Appeal in the case of the assessment of the Co.'s plant at Hamilton stood as a precedent. This decision held that the poles, wires, etc., could not be assessed for their value as a part of a growing concern, but only on their value when detached, or as scrap iron.

A. L. Salt, Assistant Manager of the Western Electric Co., New York, gave his estimate of the value of the switchboards as follows: Temperance street, \$10,000; Yorkville ave., \$1,900; Parkdale, \$565.50.

W. C. Marshall, Inspector C.P.R. Telegraphs, said that the wires, poles, etc., of the Co. were of no value when detached. They would not realize, on sale, the cost of taking them down. The only articles which were of any value were the braces, which, when taken down, would realize about 5c. each, half of their original cost. The wire would cost about \$4 a mile to take down, which is more than they would sell for as scrap. J. J. Wright, Manager Toronto Electric Light Co., gave similar testimony.

E. F. Peck, Electric Light Superintendent at Brooklyn, N.Y., said that, as an outgrowth of his 18 years' experience, he considered the Bell poles could be removed, as they stood, for from 25c. to \$2.50 each. It was worth \$2 to erect a 25-ft. pole. There was no market for taken-down, galvanized iron wire. The aerial wire was valuable only as scrap iron.

H. C. Baker, Ontario Manager of the Bell Telephone Co., stated that the Co. had invested in the Dominion, in realty, \$4,171,432.91. This included everything except switchboard instruments & indoor plant. He believed the average life of poles in Toronto to be about 6 years; they had now lived half their life; the cables, underground, had been used about 4 years. Cables were worth from 5 to 11c. a foot; some had been sold at \$35 a ton. Wire was worth 9 or 10c. a pound when taken down. Poles taken down found little market, & would be worth from 25c. to \$2, according to size.

Expert evidence was also submitted by W. Bamfield, of Pittsburg, formerly Manager of the Pennsylvania Telephone Co., J. C. Reilly, General Superintendent of the New York & New Jersey Telephone Co., & others, the case occupying several days. The decision of the court was in favor of the Bell Co., the assessment being reduced to \$102,550, made up as follows: Poles, wires & conduits, \$53,900; Temperance street switchboard, \$12,000; Yorkville avenue & Parkdale switchboard, \$3,900; land & buildings, \$32,750. The court found as follows: "The wooden poles are valued at 25c. each; the rails & iron poles, considered as 'scrap,' what the market allows, including cost of removal, etc., are put at \$3.50 a ton net; the wire is rated as second-hand & is worth 9c. a pound, while the attachments are valued at 7c. a pound—all considered as scrap."—Canadian Electrical News.

The Co. has declared a dividend of 2% for the current quarter, payable Jan. 14.

In an appeal of the Bell Telephone Co. against its assessment in Woodstock, Ont., before Judge Finkle last month, counsel for the Co. urged that its property should only be assessed at what it was worth, apart from the uses of the Co. This view was upheld in Hamil-

ton & elsewhere. The Judge decided he would have to abide by the precedent.

The city of Montreal, as a result of arbitration, has to pay the Co. \$1,722.00 damages for the removal of conduits from Gosford St. & Jacques Cartier Square & to return the conduits to the Co.

Spokane & B.C. Telephone Co.

This Co. has about 225 miles of line connecting Spokane with Northport, Wash. & Rossland, B.C., & has branch lines from Meyers Falls to Republic, Wash., & from Bosburg to Grand Forks, B.C. It is said to be the Co.'s intention in the near future to build into Rossland, B.C., under a charter it recently purchased from the Columbia Telephone & Telegraph Co., which holds a Dominion franchise for B.C. The officers of the S. & B. C. Co. are: President, Treasurer & General Manager, C. O'Brien Reddin; Vice-President, S. M. Babcock; Secretary, W. T. Stoll. These with W. I. Reddin, constitute the Board of Directors. The head office of the Co. has been removed to Spokane, Wash. It has offices at all of the stations & towns between Spokane & Northport, also one at Republic.

It is expected extensive improvements will be made in the line in the spring, the principal of which will be the running of a double metallic circuit from Spokane to Rossland, & from Meyer's Falls or Bosburg to Republic. The Columbia Telephone & Telegraph Co. will probably string about 100 miles of wire, principally in stub lines, to connect with the S. & B. C. T. Co., the intention being to build into Rossland, Trail, Greenwood, Grand Forks & Cascade, to place exchanges there. A line to Camp McKinney is also proposed, & several stub lines to connect at the International Boundary with the S. & B. C. T. Co.'s wires.

In reference to a despatch from Myers' Falls, published in our last issue, pg. 280, we are informed that Messrs. Aris & Oakes applied to the courts for a receiver; the application was heard & denied. Mr. Oakes, the former President of the Co., testified that the lines were worth \$60,000, & were bonded

for \$20,000; that the indebtedness of the Co. was probably \$1,200 or \$1,400. On this showing the court held that there was no evidence to warrant the appointment of a receiver. From this it would appear that the Co. is in excellent financial condition, as the indebtedness is simply the ordinary one in regard to expenses which is paid on the regular pay-day, the 20th of each month.

The official inauguration of the new telephone line between Moscow & St. Petersburg, Russia, took place Jan. 13. In the exchanges at all stations, American telephone apparatus is used exclusively.

Strong complaints are made of the service given by the Nelson & Vernon Telephone Co., which operates a line into the Boundary Creek district of B.C. Supt. Hodge blames contractors on the Robson-Midway railway for breaking the wires during blasting operations.

EXPRESS MATTERS.

The Alaska Pacific Express Company.

General Manager Hall, of Portland, Ore., advises us as follows under date of Jan. 7: "We have service on all the regular steamers plying between Puget Sound ports & Alaska points. We are also operating the White Pass & Yukon route—a railway now under construction between Skagway & Lake Bennett. This line is now completed, & under operation as far as the summit, & will be completed through to Bennett by July 1. During navigation we also have service on the regular steamer lines between Lake Bennett & Dawson City; also between Lake Bennett & Lake Atlin. We now have agencies established at the following points: Portland, Ore.; Seattle, Port Townsend, Tacoma, Wash.; Victoria, Log Cabin, Lake Bennett, Atlin City, Lake Tagish, White Horse Rapids, B.C.; Wrangel, Juneau, Sitka, Skagway, Henev, Alaska; Dawson City, Yukon."

In reference to the foregoing we presume that as the White Pass & Yukon Ry. has organized an express company, it will be likely to do its own express business in future.

Express Companies Items.

It is said the Arctic Express Co. has gone out of business.

After a trial lasting a month Ex-Auditor Bechal, of the Pacific Co., charged with \$200,000 shortages, has been acquitted.

The Dominion Co. has established a route on the extension of the United Counties Ry. between Henriville & Noyan Jct., Que., 21 miles, with offices at Clarenceville & Noyan Jct.

The Dominion Co. has closed its St. Thomas & Aylmer, Ont., wagon route. This does not affect the Dominion office at Aylmer, which is now reached by a through arrangement with the Pacific Express Co., via St. Thomas.

Route Agents E. J. Salisbury & C. Bowen of the Dominion having been assigned to other duties in the audit department, the lines heretofore under their respective jurisdiction have been consolidated with remaining route agencies.

At the annual meeting at Omaha recently the following were elected officers of the Pacific Co.: J. Eggleston, President; H. G. Burt, Vice-President; W. R. Carter, Secretary & Treasurer; E. B. Pryor, F. G. Merriam, S. B. Schuyler, E. T. Clapp, St. Louis; E. Young, Omaha, directors.

The following changes have been made in the Canadian Co.: W. T. Anderson, formerly Auditor of the money department, is appointed Superintendent of that department, with charge of all detail matters pertaining to money order business. W. H. Bryce has been appointed Assistant Auditor money order department. D. B. Atkinson has been appointed Office Supply Clerk.

The White Pass & Yukon Express Co. has been established in connection with the White Pass & Yukon Ry. The rate from Skagway to Atlin Jct. is 7c. a lb., to Log Cabin 7c. & to Lake Bennett 9c. Animals securely boxed & diamonds & jewelry double rates. The officers are: C. E. Hawkins, General Superintendent; H. M. McCartney, Division Superintendent; L. H. Gray, General Manager.

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





W. G. BLYTH,
Agent for Canada,
29 Melinda St., - Toronto

The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Steamship, Express, Telegraph & Telephone supplies, &c.

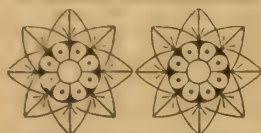
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Anchors Rice Lewis & Son. Toronto.	Grease Eureka Min. Wool & Asbestos Co. Toronto. W. C. Wilson & Co. Toronto.	Ship Carpenters' Tools Rice Lewis & Son. Toronto.
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Block & Tackle Rice Lewis & Son. Toronto.	Japans McCaskill, Dougall & Co. Montreal.	Speed Indicators Rice Lewis & Son. Toronto.
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Boat Fittings & Hardware Rice Lewis & Son. Toronto.	Lanterns Rice Lewis & Son. Toronto.	Springs Rhodes, Curry & Co. Amherst, N.S.
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Bunting Rice Lewis & Son. Toronto.	Mohair Lister & Co. Manningham, Eng.	Telegraph Office Signs Acton Burrows Co. Toronto.
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A Western Railway Manager.

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Possessed of excellent administrative ability, shrewd, sharp & with sound judgment, he has all those characteristics which are considered necessary in the make-up of a successful railroader, & which are pre-eminently requisite for the proper fulfilment of the responsible position he occupies. His forte is railway management, which fact is easily seen by his rapid advancement from the ranks. Added to his other qualifications are a pleasing personal address, a courteous demeanor & affable manner, which have gained him a large measure of popularity, not only among his associates & subordinates on the railway, but among all classes of citizens. In Winnipeg, where he has lived in recent years, there is no man more popular or who enjoys to a greater degree public respect & esteem. His reputation for integrity & uprightness is so well established that his counsel is readily accepted by the public in any controversy.

The position which Mr. Whyte holds as Manager of the western portion of Canada's great transcontinental highway is no sinecure, indeed involves the greatest responsibilities. His duties are numerous & unceasing, the ordinary railway routine being the smallest portion of them. In the public affairs of Manitoba, British Columbia & the Canadian Northwest, in which the C.P.R. Co. is naturally very closely interested & connected, Mr. Whyte's tact & ability are frequently manifested. There have been difficulties between the great corporation & the public which few men would have been capable to deal with, & which fewer would have succeeded in overcoming. It has been in great & important matters that Mr. Whyte has displayed those qualities which only statesmen & diplomats are supposed to possess. There have been such intricate problems as strikes; there was, a few years ago, the famous anti-monopoly or "disallowance" agitation, which bordered dangerously close on civil war, & in all these stormy & exciting times the Company relied largely on Mr. Whyte's judgement, a reliance which was well placed. His manly & determined line of ac-

tion in times of trouble & agitation, firmly but courteously carried out, has gained for him the admiration & personal approval of even those who have been opposed to the policy which the C.P.R. considered itself justified in pursuing.

In another way, too, has Mr. Whyte earned the admiration of a large class of citizens—in his efforts to minimize Sunday labor on the railway. He conscientiously abstains from

& morality—indeed is an ideal citizen of the greatest value to any community.

Busy man though he is, Mr. Whyte realizes fully the force of the adage that declares against "all work and no play." In all the boundless west there is no more enthusiastic sportsman than he, no greater lover of shooting, & no more ardent admirer of a good dog. In the grouse and duck seasons Mr. Whyte invariably takes his vacation, & he is credited

with being one of the best shots in Manitoba. Mr. Whyte began railway work at the age of 18, having been equipped with a good education & naturally possessing a fondness for railroad duties. He is a native of Charleston, Fifeshire, Scotland, where he was born Sept. 15, 1843, being now just 55 years of age, though in personal appearance he would pass for a much younger man. He was educated in the schools of his native town, & in 1861 entered the employment of the North British Ry. Co. It was in 1863 that he determined to emigrate to Canada. For two years after arriving he did not find a suitable opening in railway work; but then he received the appointment of freight clerk on the G.T.R. at Cobourg, Ont. In the same year he was transferred to the Co.'s freight office in Toronto, occupying a similar position till the early part of 1867, when he became Freight Foreman of the sheds. Afterwards he occupied the position of Yardmaster at Toronto & in 1870 was appointed Night Station Agent at the same city.

A year later, in 1871, he was at Stratford, occupying the dual position of Freight & Station Agent. It was here that Mr. Whyte got his first opportunity in the making of the enviable reputation he now enjoys. The gauge of the G.T.R. was then being changed, & all way-freight & passenger traffic was transferred at Stratford. Owing to Mr. Whyte's excellent management, matters were so well arranged that little delay & no blockade was occasioned, though the ordinary work was immensely increased. From 1874 to 1881 he managed the G.T.R. business at

London, Ont., & in the latter year he took charge of the freight offices and sheds at Toronto. In Nov., 1881, the Co. acknowledged his services by promoting him to the assistant superintendency of the central division of the system from Kingston to Stratford.

In Sept., 1883, he severed his connection with the G.T.R., to become General Superintendent of the Toronto, Grey & Bruce, which had been leased to the Ontario & Que-



WILLIAM WHYTE.

labor on Sundays himself, & while, of course, in a concern of such magnitude as the Canadian transcontinental route, entire cessation from labor at any time would be utterly impossible, thanks to Mr. Whyte's efforts the least possible work, consistent with the perfect efficiency of the service, is required of the army of employes on Sundays. Mr. Whyte has also always been foremost in works of Christian charity, in promoting temperance

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NEXT ANNUAL MEETING at Toronto, Sep. 20, 1899.

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NEXT ANNUAL MEETING at Winnipeg, Oct. 13, 1899.

bec Ry. Co. before the completion of that
Co.'s line. On the completion of the O. & Q.
Ry. it, along with the Credit Valley & Toronto,
Grey & Bruce, became a part of the C.P.R. sys-
tem, & was designated the Ontario Division.
Mr. Whyte being appointed General Superin-
tendent of it in Aug., 1884. In May, 1885, he
was appointed General Superintendent of the
Eastern Division, in addition to the Ontario
Division, with headquarters at Montreal, cen-
tinue to control the two divisions until, in

1886, he was transferred to Winnipeg as Gen-
eral Superintendent of the Western Division,
in the administration of which he met with
such marked success that, in May, 1897,
he was appointed Manager of all the Co.'s
lines from Fort William on Lake Superior to
the Pacific Coast.

RAILWAY PROJECTS.

Algoma Central Ry.—H. C. Hamilton,
Sault Ste. Marie, Ont., gives notice of appli-
cation to Dominion Parliament, for power to
build from Sault Ste. Marie, Ont., to the
Michipicoton River, thence northerly to the
C.P.R. main line & southerly to Michipicoton
harbor.

Ashcroft to Yukon.—Blake, Lash & Cas-
sels, solicitors, Toronto, give notice of appli-
cation to Dominion Parliament for an act
authorizing the building of railway, telegraph
& telephone lines from or near Ashcroft, B.C.,
to Dawson City, Yukon, & thence to the In-
ternational boundary, & branch lines of tele-
graph & telephone from points on the main
line to other points in B. C. & Yukon.

Brandon & Southwestern Ry.—J. S. Ewart,
Winnipeg, gives notice of application to
Manitoba Legislature for an amendment to
this Co.'s act, authorizing it to construct a
line from its projected line in township one or
two, westerly to the western boundary of
Manitoba.

Bruce Mines & Algoma Ry.—Hearst &
McKay, Sault Ste. Marie, Ont., give notice of
application to Ontario Legislature for power
to build a line from Bruce Mines, northerly to
the Rock Lake copper mines, in Coffin town-
ship, thence northerly 30 miles, to be operat-
ed by steam or electricity, & to construct
branch lines not over 12 miles long.

Buffalo & Fort Erie Bridge Co.—F. W.
Hill, solicitor, gives notice that this Co. will
apply to Dominion Parliament to revive &
amend its act of incorporation, to extend the
times for the commencement & completion of
its undertakings, & also to extend the limits
within which the bridge or tunnel & connect-
ing line of railway may be built, & to change
certain of the incorporators.

C.P.R. Western Division Branches.—The
Co. will apply to Dominion Parliament for an
act authorizing it to build a line from the
north terminus of its Stonewall Branch, in
Manitoba, to the west shore of Lake Winni-
peg between Gimli & Arnes; and also a line
from a point on the one last named, to the
east shore of Lake Manitoba, between Marsh
Point & the north boundary of township 25; &
also a line from Reston, on the Souris
Branch, to the Moose Mountain District,
thence to or near Regina.

Central Counties Ry.—Chrysler & Bethune,
Ottawa, give notice of application to Domi-
nion Parliament for amendments to this Co.'s
acts, authorizing it to construct sec 2 of the
railway from Hawkesbury, Ont., to connect
with the Rockland branch of the Canada At-
lantic, in Cambridge township. The C.C.
Ry. Co., formerly the Prescott County Ry.
Co., is leased to the Canada Atlantic. The
proposed line from or near Casselman, in
Cambridge township, to Hawkesbury, is to
connect with the Great Northern Ry., now
partly built between Quebec & Hawkesbury,
(Jan., pg. 11).

Copper River & Yukon.—A bill has been
introduced in the U.S. Congress to grant this
Co. right-of-way & a subsidy of \$16,000 a
mile for a railway in Alaska, from Valdes In-
let through the pass & along the mountains to
the Copper River bottoms; thence up the
west bank of the river to Slahna River & Man-
tasta Lake; thence through Mantasta Pass to
the Little Tokio River, down the left branch
& up the right; thence to & up Copper Creek
as far as the mines extend. It is provided

that a branch line shall be built from east of
Mantasta Pass down some stream to the Yu-
kon River or the Canadian boundary. The
projectors are C. C. Gilman, of Marshall-
town, Iowa, & others.

Dawson City.—Eberts & Taylor, Victoria,
B.C., give notice of application to Dominion
Parliament to incorporate a company to build
a railway from Dawson City to the forks of
Eldorado & Bonanza Creeks, & from Dawson
City to the divide or head of Dominion &
Sulphur Creeks, with power to build branch
lines therefrom not exceeding in any one case
30 miles in length.

Edmonton Belt Line.—Lougheed & Ben-
nett, Calgary, give notice of application to
Dominion Parliament for power to build a
railway or tramway from Edmonton or South
Edmonton, Alberta, by way of Clover Bar &
Fort Saskatchewan to Victoria, thence by
Beaver Lake to South Edmonton.

Edmonton to Peace River.—G. E. Kidd,
solicitor, Ottawa, Ont., gives notice of appli-
cation to the Dominion Parliament for the in-
corporation of a company to build a railway
from or near Edmonton, Alta., via Athabasca
Landing & Lesser Slave Lake to Peace
River; also to own vessels & navigate the
Athabasca River from Athabasca Landing to
the mouth of Little Slave River & up the same
into & through Lesser Slave Lake, & for
other purposes.

G.T.R. & St. John, N.B.—A Calais, Me.,
paper recently stated that a movement was on
foot to build a connecting line between the
Washington County Ry. at Ellsworth & the
G.T.R. at Lewiston, Me., so as to give the
G.T. connection with St. John N.B. The
route talked of is via Buckport to Augusta,
thence to Lewiston, & would require the
building of about 100 miles of line. We are
officially informed that, while there has been
a good deal of newspaper talk about the mat-
ter, the G.T.R. management has taken no in-
terest in it.

G.T.R. & Ottawa.—There has been a good
deal of newspaper talk about the likelihood of
the G. T. R. building from Kingston, Ont.,
via Smith's Falls & Richmond to Ottawa.
We are officially informed there is no truth in
the rumor that the Co. is contemplating the
construction of such a line.

Hamilton & Caledonia Ry.—W. Anderson,
Hamilton, is secretary of this proposed Co.,
particulars of which were given in our Nov.
issue, pg. 274. If the charter is granted by
the Ontario Legislature it is said to be the in-
tention to build the line between Caledonia &
Hamilton, 14 miles first, and then 12 miles
further to Cayuga.

Klondike City Belt Line.—MacCracken,
Henderson & McGiverin, Ottawa, give notice
of application to Dominion Parliament for
power to build a railway or tramway from
Klondike City along Klondike River to Bon-
anza Creek, along Bonanza Creek to the
Divide, across the Divide to Dominion Creek,
along Dominion Creek to Indian River, along
Indian River to Yukon River, & along Yukon
River to Klondike City. Also to construct
branch lines on Hunker, Bear, Quartz, Sul-
phur Creek, Eldorado & other creeks.

**La Chute aux Iroquois to Lake Temis-
caminque.**—T. P. Foran, Hull, Que., gives
notice of application to Dominion Parliament
for power to build a line from La Chute aux
Iroquois, Labelle county, to Lake Temiscam-
nique, thence to Lake Temiscaminque.

The Lindsay, Haliburton & Mattawa Ry.
Co. will apply to Dominion Parliament for an
extension of the times limited for the com-
mencement & completion of its line.

Manitoba.—T. L. Metcalf gives notice of
application to Manitoba Legislature to incor-
porate a company to build a line from a point
between the Red River & the 1st Principal
Meridian in Manitoba, on the International

boundary line; northwesterly to or near Portage la Prairie, thence westerly to or near Rapid City, thence northwesterly & westerly to township 13, in range 25 or range 26 west, thence northerly to or near Birtle, thence northwesterly to the west boundary of the province, together with a branch from or near Carman easterly to Red River; also a branch from range 11 or 12 on the said line to or near Gladstone; and also a branch from between range 15 & Rapid City on the said line to a point in or near Brandon.

The Minneapolis Ry. Terminal Co. has been incorporated with \$100,000 capital to build terminals there, the incorporators being W. D. Washburn, J. S. Pillsbury, M. B. Koon, H. Pellit & W. D. Hale. It is said the Co. has bought a strip of land, half a block wide, fronting east on Second street north from the tracks, extending north to Tenth avenue.

Nepigon to Schreiber or Rosspoint.—A. Ferguson gives notice of application to Dominion Parliament to incorporate a company to build a line from mining location 30 T. northeast of Nepigon Bay, Lake Superior, southerly to Lake Superior, crossing the C.P.R. at or near Schreiber or Rosspoint or some point between them.

Nickel Range Ry. Co.—H. C. Hamilton, Sault Ste. Marie, gives notice of application to Ontario Legislature to incorporate a company under this name to build a line from the Sault Ste. Marie branch of the C.P.R., in the townships of Graham or Denison, northerly through the township of Creighton to the main line of the C. P. R.

North Lanark Ry.—Creig & Jamieson, Almonte, give notice of application to Ontario Legislature to incorporate a company to build a line from the K. & P. Ry. at or near Mile Lake, Renfrew County, passing through the townships of Darling and Pakenham, to the C.P.R., or O.A. & P.S. Ry., at or near Arnprior. The route has been surveyed by A. Bell, C.E., of Almonte, acting for a number of persons interested in iron mining. J. Bell, of Arnprior, one of the promoters, states the matter is about to take practical shape. It is proposed to build a tramway capable of running a light train, and, while passengers will be carried, the main object of the construction is the transportation of mineral products. The country through which the road will pass, particularly Darling township, is rich in iron ore & other minerals, & it is proposed to transport this ore to Arnprior to be smelted.

Pontiac Pacific Jet. Ry.—This Co. will apply to Dominion Parliament to extend the times for commencing & completing its extensions already authorized from its present terminus at Waltham to Sault Ste. Marie, via Pembroke, from Waltham northwesterly to a point in the county of Pontiac, & from its present terminus at Aylmer to Hull, & thence over the Ottawa River to Ottawa; & also for commencing & completing the bridges authorized to be constructed over the Ottawa River at Allumette Island.

Portage la Prairie Westerly & Northwesterly.—J. S. Ewart, solicitor, Winnipeg, gives notice of application to Manitoba Legislature to incorporate a company to build a line from Portage la Prairie, northwesterly & westerly between the lines of the C.P.R. on the south & the Manitoba & Northwestern & the Great Northwest Central on the north, to near Hamiota, thence northerly & northwesterly to or near Birtle, thence northerly to the north boundary of the Province; & a branch running from the main line, in range 18 or 19 west, to Brandon.

Portage du Fort & Bristol Branch Ry.—This Co. gives notice of application to Dominion Parliament for an act to declare it to be a work for the general advantage of Canada; also to authorize the extension of the line from or near Quyon, Pontiac County, through the

townships of Onslow, Eardley & South Hull, to Hull, & to any bridges connecting the cities or Ottawa & Hull, with power to make running arrangements over the bridges into the city or Ottawa; to acquire the rights, &c., of the Deschenes Bridge Co., to construct a line from or near Deschenes Rapids into Ottawa; to erect a railway & general traffic bridge across the Ottawa River at or near Portage du Fort; also to authorize the extension of the line of railway through the townships of Ross, Westmeath & Pembroke, to Pembroke.

The Red Deer Valley Ry. & Coal Co. will apply to Dominion Parliament to extend the line for commencement & completion of the railway.

Revelstoke to the 53rd Parallel.—Bradburn, Dumbleton & Innes, Victoria, give notice of application to B. C. Legislature to incorporate a company to build a line from or near Revelstoke, northerly, following the valleys of the Columbia & Canoe Rivers up stream to the 53rd parallel of latitude.

Russell, Dundas & Grenville Counties Ry.—Wallace, Leslie & Palmer, Winchester, Ont., give notice of application to Dominion Parliament to incorporate a company under this name to build a line from South Indian, through the townships of Cambridge, Russell, Winchester, Mountain, Matilda & Edwardsburg to Prescott.

St. Catharines & Niagara Central.—Blake, Lash & Cassels, solicitors, Toronto, give notice of application to the Dominion Parliament to incorporate a company having power to acquire from the purchasers thereof the railway heretofore owned by the St. C. & N.C. Ry. Co., & to extend the line to Hamilton, Toronto & the Niagara River, with a branch to Lake Ontario, & with the usual powers conferred upon railway companies.

The Saskatchewan Ry. & Mining Co. will apply to the Dominion Parliament for power to commence construction of branch lines prior to construction of the main line & at such junction or crossing of the main line by any other railway as may be approved by the Governor-in-Council; also for power to extend its line from Humboldt eastward to any point on the lines of the Canadian Pacific, the Great Northwest Central, or the Lake Manitoba Railway & Canal Co.'s railways, approved by the Governor-in-Council, and westward from Battleford to the Rocky Mountains.

The Sault Ste. Marie & Hudson's Bay Ry. Co. will apply to the Ontario Legislature for an act extending the time for commencement & completion of the Co.'s undertakings, empowering the Co. to run & operate a stage & waggon road from the C.P. Ry., near Misanable Station to navigable water on Moose River, changing the name of the Co., & enabling it to amalgamate with or make traffic & other arrangements with other companies having powers to operate railways, or navigation connections, with or beyond Hudson's Bay.

The Smith's Falls, Rideau & Ottawa Ry. Co. will apply to the Ontario Legislature for an act amending its act of incorporation, by extending the time for the commencement & completion of the railway; by authorizing the extension of its railway to Gananoque; by authorizing it to construct & operate a system of elevated railways in conjunction with the system of surface railways as authorized by its act of incorporation & its proposed extension; by authorizing it to operate its road by compressed air or steam, as well as by electricity.

Thessalon & Grand Portage Ry.—F. E. Williams, Thessalon, gives notice of application to Ontario Legislature to incorporate a company under this name to build a line from Thessalon, Algoma, northerly to the Grand Portage on the Mississauga River, thence northerly about 30 miles.

Toronto, Lindsay & Pembroke Ry.—J. G. Forgie, Pembroke, gives notice of application to Ontario Legislature for incorporation of a company to build a line from Golden Lake to some point on the Ironstone, Bancroft & Ottawa Ry., or the Central Ontario Ry., in the County of Hastings. The Pembroke Southern is already built from Pembroke to Golden Lake. From the other end of the proposed line the I. B. & O. Ry. or the C. O. Ry. will be used to connect with the Midland Division of the G.T.R., thus affording a short route to Toronto. P. E. Strickland, Manager of the Pembroke branch of the Quebec Bank, says the promoters of the scheme are practically the same as those who control the Pembroke Southern.

Trail to Salmon River.—A. Nelson, B.C., correspondent writes us: "The parties who are applying to the B.C. Legislature for a charter are all largely interested in mining properties in the Salmon River district. Many of these properties are in a forward state of development & many others, especially in the Southern part of this district, are lying idle owing to an entire lack of transportation facilities. The object of this railway will be to place all the mining camps of the Salmon River district in connection with the C.P.R. smelter at Trail by the most direct & feasible route. The main line, following the valleys of the Columbia, Beaver & Salmon Rivers, will encounter no difficulties. The branch lines up the different creeks will have heavier grades and more curvature, but these will not exceed those in use on the railway between Trail & Rossland. The C.P.R. is not at the back of the project, the company being composed of mining men anxious to develop their properties & to gain a connection with the C.P.R. smelter & track system at Trail."

White Pass to Tagish Lake, &c.—R. Cassidy, Victoria, gives notice of application to B. C. Legislature for an act to incorporate a company to build a line from Log Cabin, on the White Pass, in B. C., to the Taku Arm of Tagish Lake, thence to Atlin City, and thence to Telegraph Creek.

Worthington & Onaping Ry.—Hearst & McKay, Sault Ste. Marie, give notice of application to Ontario Legislature to incorporate a company under this name to build a line from Worthington, Algoma, northerly near the Inez mine, Drury township, thence north-easterly to the Sultana nickel mine in the Township of Trill, thence northerly & easterly about 50 miles, crossing the main line of the C.P.R. at or near Onaping.

Georgian Bay—Toronto Railway.

At a recent public meeting in Toronto the following resolution was adopted: "That this meeting is of opinion that the best way of transporting the agricultural products of the Canadian & American northwest will be by the construction of a railway from the Georgian Bay to Toronto, & that this meeting is further of opinion that such a railway should be constructed & operated by the Federal Government as an independent line in connection with our canal system, deepened & improved, & that it is therefore resolved that 6 gentlemen be named by this meeting to co-operate with the City Council committee & 6 members of the Board of Trade to take such action in connection with other organizations as they may deem fit to speedily realize the construction of such a national line."

This is the result of the agitation which has been going on for several months with a view to placing Toronto on the ocean bound grain route from the northwest. It is not likely that the movement will have the desired effect. The geographical position of Toronto is against it to begin with & it is not on the natural route for this traffic. In the next place, there are already several railway lines

the Georgian Bay to Toronto, owned by the C.P.R. & G.T.R., in which a large amount of capital has been invested. The Dominion Parliament would not be justified in building another line to take away the business from the lines of those companies & to ruin their properties, which would be the practical result of an air line such as is proposed. Another & a very important consideration is the fact that the people generally—outside of those having town & city interests to be directly benefited—are not in favor of the Government owning any more railways. The experience in the operation of the Intercolonial & Prince Edward Island Railways, with their actual loss in working, has shown conclusively that Government railways cannot be successfully operated in Canada. This is no reflection on the permanent officials in charge of them, but is owing to the fact that successive Governments—it makes no difference whether they are Liberal or Conservative—use these lines as a part of their political machinery & exploit them for the benefit of their respective parties without any regard to business principles.

Detroit River Bridge.

The bill introduced in the U.S. Senate by Senator McMillan provides that the Detroit River Bridge Co., which is incorporated under the laws of Michigan & of Canada, may build & maintain a bridge over the Detroit River at or near the city of Detroit. Following are the principal provisions of the bill:—The plan, location & elevation of the bridge, so far as the interests of navigation are concerned, shall be recommended by a board of 3 officers of the Corps of Engineers, which shall be selected by the U.S. Secretary of War, & the Secretary of War shall determine the plan, location & elevation of the bridge, which shall be constructed for the use of all connecting railroads on either side of the river on equal terms, & for other purposes. Any bridge built under the act shall be a lawful structure, & shall be recognized as a post route. The bridge shall be made with not more than 3 unbroken & continuous spans between the bulkhead line on the Detroit side of the river & the bulkhead line on the Canadian side. The length of the main channel span shall not be less than 1,200 ft. in clear width between the masonry piers, measured at a point 25 ft. below extreme low water, & shall be located by the Secretary of War. The height of the superstructure shall not be less than the height recommended by

the board of engineers above mentioned; & the bridge shall be at right angles to & its piers parallel with the current of the river. The bridge shall be located on the Detroit River between the northeasterly limits of the city of Detroit & a point not more than $2\frac{1}{2}$ miles southwesterly from the present southwesterly limits of the city. No bridge shall be erected or maintained which shall at any time substantially or materially obstruct navigation; & if any bridge when so erected shall, in the opinion of the Secretary of War, prove to be such an obstruction, he is authorized to cause such alteration to be made as will obviate such obstruction, & if necessary, may cause the bridge to be removed. Alterations to be made & bridge removed at expense of owners. All railway companies in the U.S. or Canada desiring the use of the bridge shall be entitled to equal rights & privileges relative to the passage of trains over it & its approaches, & the rates charged for the use of the bridge & approaches shall be the same for all companies alike. The bridge is to be commenced within 3 years from the going into effect of this act & to be completed within 6 years from the same date. Construction shall not be begun until the Dominion Government has authorized the construction & maintenance of that part of the bridge which will occupy the portion of the river which is under the jurisdiction of the Dominion.

RAILWAY APPOINTMENTS, &c.

Canadian Pacific.—S. Phipps, Acting Road Foreman, has been appointed Assistant Master Mechanic, with jurisdiction from Fort William to Swift Current. Headquarters, Winnipeg.

J. Cardell, Trainmaster & Locomotive Foreman at Canmore, has been appointed Assistant Master Mechanic, from Swift Current to Laggan, & to Kootenay Landing, B.C.

F. E. Hobbs has been appointed Assistant Master Mechanic of the Pacific Division, with headquarters for the present at Vancouver. Communications heretofore addressed to A. Stronach, Acting Master Mechanic, will be directed to Mr. Hobbs, as Mr. Stronach is returning to Winnipeg, where he formerly acted as General Foreman.

The Vancouver World recently gave currency to rumors that W. Whyte, manager of the Western Lines, would be transferred to Montreal to a more important position in connection with the general management, and that the jurisdiction of G. McL. Brown,

Executive Agent in B. C., would be extended over the Western Division. We do not think there is anything in either of these rumors. Mr. Whyte's present position is about the most important in the service, outside of those occupied by members of the board of directors, embracing, as it does, the control of the vast interests of the Company in Northwest Ontario, Manitoba, the Territories & British Columbia, & there is no position in sight in Montreal which is of more, or even equal importance. It is hardly likely that at this juncture the vast western interests of the Co. will be entrusted to other hands. Mr. Brown, as Executive Agent for B. C., has special duties necessitating his frequent presence in Victoria, & there does not appear to be any necessity for the extension of his jurisdiction east of the Pacific Division, the diplomatic matters of the Western Division being handled from the western headquarters at Winnipeg.

J. Osborne's removal to Winnipeg to take the General Superintendency of the Western Division, has been postponed until Vice-President Shaughnessy's return from Europe.

It is rumored that F. W. Jones, Assistant to the Manager at Winnipeg, will be transferred to an important position at Montreal, but we have been unable to obtain any information on the subject.

The office of the Superintendent of Bridge Construction on the C.P.R. Western Division, has been removed from Winnipeg to Moose Jaw.

Grand Trunk.—R. Patterson has been appointed Master Mechanic of shops at Stratford, Ont., vice J. D. Barnett, resigned, & J. E. Muhlfeld, Master Mechanic of Western Division, headquarters at Fort Gratiot, Mich., vice R. Patterson, transferred.

C. F. Neild having resigned, B. Stimson is appointed Locomotive Foreman at Stratford. J. R. Donnelly, of Palmerston, is appointed Foreman at York, in place of B. Stimson, transferred.

J. Hodgson is appointed Master Car Builder at Fort Gratiot, Mich.; F. Sutherland, Master Car Builder at Montreal, and S. King, Master Car Builder at London, Ont.

A. W. Davis has been appointed Locomotive Foreman of the G.T. & Wabash shops at St. Thomas, Ont., vice J. Armitage who goes to Palmerston, Ont.

The widow of C. Giles, a C.P.R. Roadmaster, who was killed in a collision in the Crow's Nest Pass last Aug., is suing the Co. for \$25,000.

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For Locomotive, Marine and Stationary Boilers

Tested by Mechanical Experts of the C.P.Ry. Co., G.T.Ry. Co., M.C.Ry. Co., Boiler Inspection Insurance Co., and proved to be the

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Personal Mention.

General Traffic Manager Reeve, of the G.T.R., has had a severe attack of la grippe.

F. S. Forrest has been appointed Assistant Superintendent of the Spokane Falls & Northern system.

Land Commissioner Hamilton, of the C. P. R., & Mrs. Hamilton, have gone to Europe for an extended trip.

Vice-President Shaughnessy, of the C.P.R., left Feb. 6, on a trip to Europe, expecting to be absent about a month.

C. W. Graves has been appointed District Freight & Passenger Agent of the Great Northern Ry. (U.S.A.) at Toronto.

R. L. Middleton, of Brantford Railway fame, has been put in the dungeon at Kingston Penitentiary for mutinous conduct.

A. Onderdonk, the well-known railway contractor, who resides at Hamilton, Ont., is seriously ill at the Manhattan Club, New York.

During Lady Laurier's recent visit to Montreal luncheons were given in her honor by Lady Van Horne, Mrs. Jas. Ross & Mrs. D. D. Mann.

Miss May Belle, youngest daughter of President J. R. Booth, of the Canada Atlantic, died Jan. 23, aged 23, of lung trouble, after several years illness.

J. M. Hannaford, General Traffic Manager of the Northern Pacific, has been appointed 3rd Vice-President, & will continue in charge of traffic as heretofore.

J. H. McClure, an engineer on the Wabash, has been appointed Road Foreman of engines for the eastern division of that road from Detroit, Mich., to Buffalo, N.Y.

E. T. Galt, President of the Alberta Ry. & Coal Co. at Lethbridge, is staying with his mother, Lady Galt, in Montreal. He has been in poor health for some time past.

Lord Mount Stephen is seeking to rent the London residence of Lord Curzon, Viceroy of India, No. 1 Carlton House Terrace, which his father-in-law, Mr. Leiter, recently presented him.

The widow of G.T.R. Fireman Cleary, who was killed in the Murray Hill disaster, has settled her suit against the Co. for \$6,000, & costs amounting to \$400. The suit was for \$10,000.

W. Keating, formerly Toronto City Ticket Agent for the G.T.R., has been appointed Freight & Passenger Agent for the Canadian Steamship Co., the Paspebiac-Milford Haven line, with headquarters at Toronto.

The old rumor that Sir Wm. Van Horne would shortly resign the presidency of the C.P.R. was current in Montreal recently. When Sir William was asked about it he smiled & said, "There is nothing in it."

Dr. H. A. Beatty, son of H. Beatty, formerly of the C.P.R. Steamship Department, a graduate of the Toronto School of Medicine, has successfully passed the examinations for the M.R.C.S. & L.R.C.P. degrees in England.

The names of H. G. McMicken, European Agent of the Great Northern Ry., & Miss McMicken, appear among the list of guests at a Cinderella dance given by the Colonial Club at the Hotel Cecil, London, Eng., recently.

C. S. Cunningham, G.T.R. Trainmaster at Portland, Me., while on a visit recently to London, Ont., where he was stationed until lately, was presented by his former associates with an address & a Knight Templar & Shriner emblem, & with a silver service of 6 pieces for Mrs. Cunningham.

Robt. Johnston, who died in Toronto Jan. 30, aged 70, entered the G.T.R. service in 1857, & ran a train between Toronto & Strat-

ford. He was one of the first conductors to run a passenger train between Toronto & Detroit when the line was opened in 1859. He retired from the Co's. service about 15 years ago.

J. W. Kendrick, General Manager of the Northern Pacific, has been appointed 2nd Vice-President, & will continue in charge of the duties heretofore performed by him. He has been connected with the N. P. for 25 years, & has been General Manager since 1893, previous to which date he was for 5 years Chief Engineer.

E. G. McMicken, heretofore General Agent of the Great Northern Ry. at Seattle, has been appointed General Freight & Passenger Agent of the North American Trading & Transportation Co., with headquarters at Seattle, Wash., in place of F. P. Searle, General Freight Agent, & M. J. Bissel, General Passenger Agent, resigned.

S. Barker, of Hamilton, Ont., has been elected President of the St. Louis, Kansas & Southwestern Ry., & J. N. Young, formerly of the T.H. & B. Ry., Vice-President & Manager. The railway is 60 miles long, & was recently bought by Mr. Barker for \$150,000, he representing the Canadian holders of bonds to the value of \$800,000.

A contemporary says: Alex. Gibson, "King of the Nashwaak," is one of the largest commercial operators in Canada. He was born in St. Andrew's N. B., in 1819, a poor boy, & now he owns hundreds of square miles of valuable timber lands in the Nashwaak, & employs 1,000 men & 1,200 horses in the lumber trade alone. In the town of Marysville, N. B., all the citizens are in his employ. He controls the Canada Eastern Ry.

In retiring from the General Managership of the Soo line to take a similar position with the Baltimore & Ohio, F. D. Underwood issued a letter to all the employees, in which he said: "After having been a co-laborer with you for a period of more than 12 years, I am about to leave the service. For your constant support & loyalty to the Co. & myself I have not words to express gratitude. For my successor, who has been with the Co. from the first, I bespeak your most cordial co-operation."

C. R. Hosmer, Manager of the C. P. R. Telegraphs, & Mrs. Hosmer have been unfortunate of late. In December, a day or two after they returned from Paris, where they left Miss Hosmer in an educational establishment, they received a cable that she had typhoid fever, & at once went back. Fortunately the attack was mild, & Miss Hosmer is now recovering, but in the middle of Jan. Mrs. T. D. Bigelow, mother of Mrs. Hosmer, died at Mr. Hosmer's Montreal residence, of la grippe.

Sir C. Rivers-Wilson recently distributed the prizes at the Crystal Palace, Sydenham, Eng., to the students of the School of Engineering, & delivered an interesting address, in which he dwelt on the career of his old friend, the late M. Lesseps, who, he said, had overcome obstacles in the construction of the Suez canal which had seemed insuperable to every professional engineer, by dint of obstinacy and genius which was superior to all training. He spoke also of the reconstruction of the Victoria bridge at Montreal, & hoped to see some of the Crystal Palace students at its opening next spring.

A recent despatch from Ogdensburg, N. Y., stated that E. J. Chamberlin, General Manager of the Canada Atlantic, would be appointed General Manager of the Rutland & Ogdensburg & Lake Champlain Rys. Mr. Chamberlin informs us there is no truth whatever in the report, & that so far as he is concerned the matter has not even been under discussion. A few days later a Montreal des-

patch said C. W. Spencer, General Superintendent of the Eastern Division of the C.P.R., was to succeed Mr. Chamberlin on the Canada Atlantic. Mr. Chamberlain's denial, above referred to, disposes of this rumor also.

The Late W. R. Campbell.

There was interred in Highgate Cemetery, London, Eng., Jan. 10, W. R. Campbell, General Manager of the Dominion Atlantic Ry., who died Jan. 8, at the early age of 49. He was one of the brilliantly clever young men educated by the North British Ry. over 30 years ago, when it was not the system of to-day. That band of young men included the Hon. D. Hunter, General Manager of the South African Government Rys., & his brother, J. Hunter, Assistant General Manager of the same property; J. Thallon, Manager of the Queensland Government Rys., & now a commissioner of railways in Australia; more notable still, D. McNicholl, Passenger Traffic Superintendent of the vast C.P.R. system; & lastly, W. R. Campbell, who, from being secretary of a small line in the fruit-growing districts of Nova Scotia, became General Manager of the well-known Dominion Atlantic system of Canada, which links New England & the Maritime Provinces of the Dominion together by a Pullman car service, & the fastest twin-screw passenger fleet in the whole of North America. W. R. Campbell was born in Edinburgh Sep. 25, 1849. He was educated in Edinburgh, went through his apprenticeship in the North British Ry., joined the Brecon & Merthyr Ry., & then at the early age of 21, took up what proved to be his life work in connection with the Dominion Atlantic Ry. & its kindred institutions, with which he was connected for 28 years. A man of exquisite taste, a passionate lover of music, a railway lawyer who won one of the most difficult cases ever presented to the Privy Council, he was the esteemed friend of many Canadian & U.S. statesmen, & was as well known in London as in Canada. He was in some degree the cause of a friendly reciprocity between Canada & the U.S. He originated that vast stream of tourist business which now turns like a tide every summer from the Eastern States to the Maritime Provinces, & Nova Scotia & New Brunswick owe to him much of their present development & prosperity.—Canadian Gazette.

FINANCE, MEETINGS, &C.

Atlantic & Lake Superior.—The prospectus of the Canadian Steamship Co., which is to run vessels between the Atlantic terminus of this line at Paspebiac, Que., & Milford Haven, Wales, has been issued in London, Eng. The share capital of the Co. is fixed at £150,000, & it is divided into 100,000 6% cumulative preference shares, & 50,000 ordinary shares, all of £1 each. The ordinary shares credited as fully paid seem to be taken by the Atlantic & Lake Superior Ry. Co. as part payment of £300,000 (the balance is in cash) for "six suitable steamers." Of the preference shares it is stated 25,000 have been taken up. The interest & principal of the 75,000 preference shares left to be taken by the public are secured by the A. & L. S. Ry. Co.

The **Bedlington & Nelson Ry. Co.** gives notice of application to Dominion Parliament for an act to declare it to be a body corporate within the jurisdiction of the Parliament of Canada, & its railway to be a work for the general advantage of Canada, also to authorize the Co. to exercise running powers over other railways, & to make such arrangements for conveying or leasing the Co.'s railway & its rights, &c., as is usually given to railway companies in their acts of incorporation.

B.C. Railway Legislation.—In all railway bills going through the B.C. Legislature this session it is provided, at the instance of the Government, that the railways shall be bound to carry over their lines, without charge, all persons whose transportation would otherwise be a charge against the Provincial Government, also all members of the Legislature.

Calgary & Edmonton.—At last session of the Dominion Parliament this Co. was authorized to extend its line from its then terminus at West Macleod across the Old Man River to connect with the C.P.R. Crow's Nest Branch, & was empowered to issue bonds at the rate of \$18,500 a mile. A special meeting of shareholders was held Jan. 18 to authorize the issue of bonds for the distance built, which was slightly under a mile. The bonds have been placed privately.

Canada Eastern.—It is again rumored that the Dominion Minister of Railways will submit a measure next session to buy the Canada Eastern Ry. & make it a branch of the I.C.R. The line runs from Fredericton, N.B., to Loggieville, 125 miles, A. Gibson being the President. The shareholders recently decided to sell the road to the Alex. Gibson Ry. & Mfg. Co., & if this sale is carried out the Government will have to deal with the new company. The proposed purchase price by the Government is said to be in the neighborhood of \$1,000,000. The Moncton, N.B., Transcript, a Government organ, says:—"The absorption of the C.E. Ry. by the I.C.R. is rather pressing in its importance." (Jan., pg. 4.)

Canada Southern.—A New York despatch says that although technical denials are issued regarding what is known as the New York Central deal, the denials do not go so far as to dispute the correctness of the recent statements that the Canada Southern property is soon to be merged into the N. Y. C. along lines similar to those followed in the Lake Shore & Michigan Central consolidation.

The C.P.R. Aylmer Branch from Hull, Que., to Aylmer, 75 miles, which has been under lease to the Hull Electric Co. for several years, & has been electrified by it, has been sold to that Co. for \$100,000. Application will be made to the Dominion Parliament for an act ratifying the sale.

Central Ontario.—On Feb. 1 the Bank of Ottawa obtained judgment by default against this Co. for \$308,193.39, amount due on coupons on debenture bonds held by the bank. (Jan., pg. 4.)

Central Vermont.—In the U. S. Circuit Court at Brattleboro, Vt., Jan. 30, Judge Wheeler ordered the sale at foreclosure of this railway. E. L. Waterman, of Brattleboro, is appointed master to make the sale. This is an important step toward the control of the C.V. system by a new company, incorporated by the Vermont Legislature, with a capital of \$3,000,000, & to issue bonds to the amount of \$12,000,000 more to take up the debts of the present C.V. Co., according to the agreement of the creditors at a meeting held in Boston last September. (Jan., pg. 4.)

Cumberland Ry. & Coal Co.—At the recent annual meeting of this Co. in Montreal the following officers were elected: President, R. Cowans; Vice-President, Hon. G. A. Drummond; General Manager, J. R. Cowans; Sec.-Treas., H. R. Drummond; other directors, D. Morrice, E. S. Clouston, W. J. Morrice, E. McDougall, W. J. Crossen.

Dominion Atlantic.—Receipts for 1898 \$547,533, against \$512,955.

Eastern Extension.—The Government of Nova Scotia has applied to the Dominion Government for a refund of the Provincial subsidy towards the building of this line, which is now a part of the I.C.R.

Iroindale, Bancroft & Ottawa.—The Hudson Improvement Co., of Jersey City, has issued a notice dated New York City, stating that it is entitled to the whole or a large por-

portion of the bonds of the I., B. & O. Ry. Co., & a first lien thereon, & also upon the whole property of the Ry. Co., under contracts made between the two companies & cautioning people against negotiating the same. A letter from this office to the Hudson Improvement Co. remains undelivered, the New York Postmaster stating the Co. is not known there & is not mentioned in the directory. (Jan., pg. 5.)

Manitoba & Northwestern.—A. M. Nanton, Winnipeg, & R. A. Smith, Toronto, have been appointed trustees for the debenture holders, vice G. Hague & W. M. Ramsay, Montreal.

Ogdensburg & Lake Champlain.—The Rutland Ry. Co. took possession of the O. & L. C. Ry., Feb. 2. It is said the price paid for the road was over \$4,000,000. P. W. Clement has assumed charge of the O. & L. C. as President.

Qu'Appelle, Long Lake & Saskatchewan.—With reference to this Co.'s 1st mortgage sterling bonds, it was recently announced that the Dominion Government subsidy for the 6 months ended Dec. 31, 1898, together with the net earnings of the Co. for the 6 months ended Nov. 30 would permit of a distribution of 1% in respect of interest due Feb. 1, 1899, & that payment of such interest would be made on & after that date at the offices of Morton, Chaplin & Co., London, Eng.

Quebec & Lake St. John net earnings for Nov., \$2,842 more than for corresponding month.

Thousand Island Ry.—J. Bell, of Belleville, Ont., Trustee, gives notice that a mortgage dated Feb. 20, 1894, made by this Co., & by him as trustee, has been deposited in the office of the Secretary of State, Ottawa.

Toronto, Hamilton & Buffalo.—The original directors & shareholders of this Co. are still in litigation for the enforcing of the terms of the agreement under which the road was

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Number of Farmers.. 27,000.

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WHEAT..... 27.86 bushels	WHEAT..... 14.33 bushels
OATS..... 19.73 "	OATS..... 28.25 "
BARLEY..... 36.69 "	BARLEY..... 24.80 "
FLAX..... 16.08 "	FLAX..... 12.30 "

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taken over by the present company. A writ has been issued in the name of D. Maconachie, of Welland, one of the original directors, & A. Nelson, an original shareholder, for \$35,000 cash, & \$100,000 in stock, which, it is claimed, the agreement calls for. The present officers of the T., H. & B., J. H. Young & Co., of Chicago, brokers, & F. C. Helm, contractor, are the defendants, a concurrent writ being issued to cover those domiciled in the U.S. The original suit was instituted some 4 years ago, but owing to complications arising from abortive attempts at settlement, the prosecution was not waged sufficiently, & it was dismissed by the Master in Chambers.

Grand Trunk Earnings, Expenses, &c.

On Feb. 10 the directors announced a dividend at the rate of 4% per annum on the guaranteed stock & of 3% per annum on the 1st preference stock, with £4,000 carried forward. The statement showed an increase of over £10,000 in the traffic returns. The announcement was received buoyantly on the London Stock Exchange & the stock rose from $\frac{5}{8}$ to $1\frac{1}{2}$. This is the 1st dividend on the 1st preference stock since 1890.

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys:

	1899	1898	Decrease	Increase
Jan.	\$1,950,281	\$1,916,332	...	\$33,949

The following figures are issued from the London, Eng., office:

RECEIPTS OF THE SYSTEM.

From Jan. 1 to 31, the receipts were:

	1899.	1898.	Increase.	Decrease.
Grand Trunk	£315,423	£318,730	.....	£3,307
Chicago & G.T.	71,993	60,618	11,375	.....
D., G. H. & M.	14,550	14,418	132	.....
Total	£401,976	£393,766	8,210	.....

DETAILS OF GRAND TRUNK RECEIPTS.

Aggregate July 1 to Dec. 31:

	1898.	1897.
Passengers, number	3,823,823	3,584,715
amount	£580,999	£615,997
Immigrants, number	7,026	5,395
amount	£3,669	£3,542
Mails, express, &c.	£105,883	£112,100
Freight, tons	1,735,540	1,591,178
amount	£1,383,144	£1,186,775
Miscellaneous receipts	63,491	30,388
Total receipts	£2,137,477	£2,248,805
Decrease	£111,328	.....

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases or decreases over 1897 from Jan. 1, 1898, are as under:

	Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan. \$1,672,372.04	\$1,156,744.48	\$515,627.59	\$142,284.49	+
Feb. 1,494,596.98	1,070,929.62	423,667.36	38,844.28	+
Mar. 2,079,479.06	1,326,245.55	753,233.51	233,020.67	+
April 1,058,461.88	4,241,371.19	717,000.69	84,073.35	+
May 2,252,999.16	1,326,336.85	926,662.31	51,092.47	+
June 2,138,110.04	1,320,714.67	817,395.37	68,731.93	+
July 2,051,613.27	1,320,674.48	730,688.79	183,670.08	+
Aug. 2,210,805.20	1,327,838.41	883,026.88	121,380.23	+
Sep. 2,390,385.29	1,303,871.63	1,092,513.66	32,622.62	+
Oct. 2,688,730.39	1,432,883.90	1,255,845.49	158,092.79	+
Nov. 2,524,497.06	1,443,988.20	1,080,508.86	109,223.74	+
Dec. 2,071,116.67	1,392,003.36	1,279,111.11	225,610.62	+
Total	\$26,138,977.13	\$15,663,605.51	\$10,475,371.62	\$171,595.73 +
Increase. - Decrease.	.....	.....	.....	.....

At a meeting of directors Feb. 6, the following statement was submitted as the result of 1898 business:

Gross earnings	\$26,138,977
Working expenses	15,663,605
Net earnings	\$10,475,372
Income from other sources	423,367
Total net income	\$10,898,738
Fixed charges, including interest on land bonds	9,774,324
Net revenue available for dividends	\$1,124,414

Out of this a dividend of 2% on the preference, & 2% on the common stock for the June half year was paid in Oct. last. At the meeting on Feb. 6, a further dividend of 2% on the preference & 2% on the common stock was declared, making 4% for the past year. After payment of dividends now declared, the surplus for the year carried forward is \$1,051,708.

Approximate earnings for January, 1899, were \$1,864,000, against \$1,673,000 in January 1898, an increase of \$191,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—The approximate earnings for Jan. were \$152,056, as compared with \$114,128 for the corresponding period, an increase of \$37,928.

Net earnings for 11 months to the end of Nov., 1898, \$551,299 compared with \$483,812.

MINERAL RANGE, HANCOCK & CALUMET.—The approximate earnings for Jan. were \$27,264, as compared with \$23,509 for the corresponding period, an increase of \$3,755.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—The approximate earnings for Jan. were \$240,589, as compared with \$259,782 for the corresponding period, a decrease of \$19,193.

Canadian Pacific Railway Land Sales.

	Acres.	Amount.
	1899	1898
Jan.	147,718	220,944
	\$46,411.35	\$7,200,483

Land Commissioner Hamilton has had prepared a statement showing the number of land sales made to settlers from the U.S. during 1898. He regards the showing made as being very satisfactory evidence of the activity displayed by government immigration officials & by agents of the Co. The following list shows the States from which different purchasers, 201 in number, originally came: Arkansas, 2; California, 5; South Dakota, 15; North Dakota, 43; Illinois, 12; Indiana, 1; Iowa, 11; Idaho, 5; Kansas, 12; Michigan, 31; Massachusetts, 5; Minnesota, 15; Montana, 2; Missouri, 8; Maine, 5; New Hampshire, 1; Nebraska, 12; New York, 6; Oregon, 18; Virginia, 3; Washington, 7; Wisconsin, 12. Of all those who purchased land from the Co. last year, one was in the Province before 1870, 75 before 1880, 523 before 1890, 677 before 1898, & 230 went to Manitoba last year.

Western Elevator Capacity.

The grain elevator accommodation in Canada west of Thunder Bay on Jan. 1 last was as follows:—

	Bushels.
C. P. R. Main line	10,654,000
" Pembina branch	2,411,500
" Souris	1,250,000
" Pipestone	249,000
" Southwestern branch	1,272,000
" Emerson	237,000
" Other branches	641,000
Total	16,714,500
M. & N.W. Ry.	1,284,500
Northern Pacific Ry.	1,295,000
Lake Manitoba Ry. & Canal Co.	230,000
Great Northwest Central Ry.	434,000
Total	19,985,000

On Jan., 1898, the total elevator capacity was 18,378,500; the net gain during the year was, therefore, 1,579,500.

W. Whyte, Manager of the C.P.R. Western Lines, spent some time in Montreal at the end of Jan. & beginning of Feb. arranging with the President & Vice-President for the appropriations for this year's betterments, extensions, etc., on the Western & Pacific divisions.

Surveys, Construction, Betterment, &c.

Canada Atlantic & Ottawa. Arnprior & Parry Sound Rys.—President Booth recently said 1,600 ft. more dockage will be built at Depot Harbor this year for the accommodation of grain vessels. He added that the improvements are not yet nearly completed.

Cassiar Central.—We are officially informed that a survey has been made from Glenora, which is the highest point that can be conveniently reached by large river steamers on the Stikine River. Glenora is about 150 miles from Wrangle, Alaska, & during ordinary stages of the river, & in fact during most of the open season, there is no great difficulty in reaching it by steamers 150 ft. long. This size of stern wheel steamer should have powerful engines, & thus equipped can carry something over 100 tons of freight per trip up stream. The point selected for the railway terminals is on the lower town site owned by the C.C. Ry. Co. From this point a survey has been made up the valley of the Stikine & across to the head of Dease Lake. The first part of the route rises as rapidly as possible along the side of the Stikine valley, & considerable detours are required to cross the Tahltan & Tooya Rivers. These rivers enter the Stikine through deep canyons, & to cross them at more favorable points it is necessary to ascend each river some miles. Until both of these points are crossed there is a fair amount of heavy work to be done. From Cariboo camp to Dease Lake the country to be traversed is much easier, & advantage can be taken of several large valleys. The route proposed passes above the present site of Telegraph Creek & near the old town site of Glenora. In general the first part of the road may be said to involve the usual difficulties met in such construction work in the foot hills of the Rockies. The total height, however, to be ascended is here not great. Telegraph Creek & Glenora are probably about 500 ft. above sea level. Dease Lake is about 2,600 ft. In addition to surveys, construction of camps, offices, warehouses, etc., for the Co., a force of prospectors were in the field last season, & the map & geological notes of the district have been made. The entire work of prospecting, including the geological survey, was in charge of E. D. Self, recently a consulting mining engineer in Johannesburg. The general management of all the Co.'s business in the Cassiar district was also in Mr. Self's charge. In terms of the Co.'s concession a number of claims have already been staked, & 2 mineral blocks have been designated. Preparations are now being made to carry on the work of exploration & railway construction. (Jan., pg. 11.)

Central Ontario.—We are officially informed that it is the intention of this Co. to extend its present line next season from Ormsby, 5 miles from the northern terminus at Coe Hill, to Bancroft, & thence northerly to a connection with the O. A. & P. S. Ry. near Barry's Bay. If this intention is carried out it will probably considerably interfere with the line which is talked of as an extension of the Pembroke Southern from Golden Lake southerly, & which is referred to elsewhere in this issue.

Edmonton District.—Two of the engineers despatched by the Dominion Government last summer to make a reconnaissance survey for a railway from Edmonton towards the Yukon, are engaged in the Department of Railways at Ottawa, preparing their reports. Mr. Dwyer had charge of the western division, Mr. Dupont of the eastern, & Mr. Dibble of the central division. The latter is wintering in the country. His territory extended from the Parsnip River to a point west, at which he was to meet Mr. Dwyer's party coming from Telegraph Creek, on the Stikine, towards the Rockies. Mr. Dupont surveyed the line from Edmonton west to the Parsnip

River. Until their reports have been made public it will of course be impossible to say what the success of the survey has been, but from what has been reported it is probable a fairly easy line has been found between Edmonton & the Parsnip River, & even some distance beyond that point. (Nov. '98, pg. 248).

Intercolonial. Connolly Bros., of Montreal, who have the contract for the wharfs, &c. at St. John, N.B., have taken there from Philadelphia, a dipper dredge 120 ft. long, 30½ ft. wide, & 10½ ft. deep. In clay it is said it can lift 3,000 yards in 10 hours.* Work is to be started at once. (Jan., pg. 11).

The employment of heavier engines necessitates the laying of heavier rails, & it is said 90 lbs. steel is to be put on all curves & bridges, replacing the present 57 lbs. rails, & that as soon as they can be procured 90 lbs. rails will be laid all over the line where there is heavy traffic. The last tenders invited by the Department of Railways called for 80 lbs. rails.

Lake Manitoba Ry. & Canal Co.—It is proposed to merge this line into a new company, the Canadian Northern Ry. Co., under which name it will be extended to Hudson's Bay. Speaking at Carberry, Man., recently, the Manitoba Minister of Public Works said he hoped that in the near future there would be found an outlet by way of Hudson's Bay, & so long as they were extending in that direction, making a colonization road as well, they would be assisting in the construction of the Hudson's Bay road in the hope that the difficulties in regard to navigation would be overcome, & they were going to go right on in that direction. (Jan., pg. 12).

The settlers in the Gilbert Plains district of Manitoba are desirous of having a branch built westward from Dauphin to serve their settlement.

Manitoba & Southeastern. In consequence of the decision to build this line for some distance through Minnesota, it will be necessary to procure authority therefrom from that state. (Jan., pg. 13).

Michigan Central Hotel.—There is a rumor that this Co. will build an hotel on its property at Niagara Falls, on the Canadian side, in the near future.

Midland of Nova Scotia.—This Co. has purchased about 5,800 tons of steel rails for the 60 miles now being built between Windsor & Truro.

The Co. has invited tenders for the construction of the substructure of the Shubenacadie bridge, including the crib-work on the western side, all the foundations, abutments, pedestals, piers, & all other works necessary to the completion of the works, preparatory to placing the superstructure, including the building in or preparing for all anchor bolts between stations 337.34 & 349.75 (local chainage). (Jan., pg. 13).

Northern Pacific.—The Souris River branch was built last year from a point on the Brandon branch 3 miles from Belmont, to a point 46½ miles west, & it is now being operated with a regular service to Elgin, 38 miles west of the junction. There are 3 trains a week, & a train is run to the end of the track from Elgin, whenever business will justify it, the portion of line west of Elgin being operated as a spur at present. It has not been announced what the intention is as to the extension of this line this year. (Jan., pg. 13).

Kootenay Ry. & Navigation Co. B. C. papers think work will be started in the spring on the extension of the Kaslo & Slocan line from the present terminus at Sandon to Slocan Lake. It is also said that the right-of-way is being secured. As stated in our Jan. issue, pg. 12, this Co. is, through subsidiary companies, building from Bonner's Ferry, Idaho, to Kootenay Lake, B.C. South of the

international line the work is being done by the Kootenai Valley Ry. Co., & north of the line by the Bedlington & Nelson Ry. Co. The latter Co. has applied to the Railway Committee of the Privy Council for running power over about 15 miles of the C.P.R. Crow's Nest Pass branch from near Creston to Kootenay Landing. The application, which will be heard Feb. 22, is made under the Crow's Nest Pass Ry. Subsidy Act of 1897, which provides that the Railway Committee may grant running powers over that railway & all its branches & connections, or any portions thereof, & all lines of railway owned or leased by or operated on account of the C.P.R. Co. in B.C. south of the Co.'s main line of railway, & the necessary use of its tracks, stations & station grounds, to any other railway company applying for such grant upon such terms as the committee may fix & according to the provisions of the Railway Act & of such other general acts relating to railways as are from time to time passed by Parliament, but nothing herein shall be held to imply that such running powers might not be so granted without the special provision herein contained. (Jan., pg. 12.)

Ontario & Rainy River.—The contractor for the first 20 miles has had about 150 men engaged on rock work since the severe weather set in. The 5 surveying parties are nearing one another, & it is expected that before the end of this month there will be a connected survey line through to Rainy Lake. The bridge over the Kaministiquia is still under consideration. The work generally has been made very difficult by the exceptionally severe cold. W. Mackenzie recently stated that he expected 150 miles of the line would be built this year, if additional aid is secured from the Dominion Government. (Jan., pg. 13.)

Ottawa & Gatineau Valley.—Press dispatches from Ottawa recently stated that this line would be extended this year from its present terminus at Gracefield, 60 miles from Ottawa, to Maniwaki, 28 miles. The General Superintendent advises us that at present he is unable to say when the work is to be gone on with.

It is said that in the spring the Co. will commence work on the approach to the central depot from the new interprovincial bridge. The line, which will be double track, will be constructed on the strip of land between Major's Hill Park & the canal, & every precaution will be taken to prevent the disfigurement of the park. The Co. expects to run trains into the central station as soon as the interprovincial bridge is built, & will not wait for the construction of the union station.

About 75 men are now employed on the interprovincial bridge, & but one more pier remains to be put up. The stone work will easily be completed in the summer & the iron work will be put up early in the fall. There will be a double railway track, a roadway for the electric cars, one for general traffic & a walk for pedestrians.

Ottawa & New York.—A Cornwall dispatch says this Co. does not intend to take any more chances with the foundations of the bridges at Cornwall. It is understood on good authority that, as a result of the investigations carried on in the south channel of the St. Lawrence, last fall, pier no. 3, the only one left standing in deep water after the collapse of the bridge, will be torn down & rebuilt as soon as the river is clear of ice in the spring. The construction company is determined that the bridge will not be handed over for traffic until everything is perfectly substantial & satisfactory. Of course this will cause considerable delay. No contracts have been let for either masonry or superstructure. The Co., however, will prepare a lot of stone for the foundations, which it will turn over to the contractors, or use itself if the tenders for the

work do not prove satisfactory. There are a couple of sections of the O. & N.Y. built through a very wet swamp, which will be reconstructed next spring. These sections, which comprise in all about 3,000 yards, are near Newington and between the Post Road & Black River. They will be strengthened by corduroy, for which purpose the Co. is now getting out logs. These logs will be 25 ft. long & will be laid crossways in the embankment. (Jan., pg. 13.)

Ottawa Union Station.—President Booth, of the Canada Atlantic system, has notified the Dominion Government of his desire to obtain possession of the militia stores building at the earliest possible moment in order to begin the erection of the central depot. It is said the plan for the station has been practically decided upon, & that it will be built of stone. It will be 4 stories in height, & will extend back to Sapper's Bridge. The entrance will be from a level with the street or bridge. The 2nd floor of the station, which will be on the level of the street, will contain a large general waiting room, capable of accommodating 1,000 people, with ladies' parlors adjoining, also restaurant & ticket offices. The train sheds & baggage room will be on the ground floor, & elevators will carry passengers to & from them to the waiting rooms. Six tracks will enter the train sheds. The Booth Companies' offices will be in the 3rd & 4th floors. A library for the employees of the road will be located on the 3rd floor. Already \$2,000 has been subscribed for the procuring of books, etc. The station will be after the design of the Chateau Frontenac, Quebec, & will likely be constructed of Nepean sandstone, of which the Parliament buildings were built.

In connection with the foregoing, it may be mentioned that there is a proposition on foot for the formation of a terminal station company, the shareholders of which would be the City of Ottawa, to the extent of \$50,000, which it is to contribute towards the erection of a union station, & the various railway companies.

The various companies are at present using the Canada Atlantic premises under an order of the Railway Committee of the Privy Council. The expense of operating & maintaining the station property is divided between the companies using it on a wheelage basis, the rental has not yet been determined.

Pontiac Pacific Jet.—At present this line extends from Aylmer to Waltham, Que., 71 miles, & secures connection with the C.P.R. at Hull by the latter's Aylmer branch, which since being leased to the Hull Electric Co. a couple of years ago, has been electrified & has now been sold to the Hull Co. The P.P.J. Co. has decided to extend its line from Aylmer to Hull, about 9 miles, & will build between the Hull-Aylmer electric line & the Ottawa River on the Quebec side. The contract has been let to the President of the P.P. Jct. Ry., H. J. Beemer, of Montreal. All the ties, rails & other material are on the ground, & work will start as soon as winter is over.

Rutland.—In our Dec. issue, pg. 261, we stated that a survey party was at work on the Canada Atlantic right-of-way at Swanton, Vt., & that the new line would connect with the C.A. either there or at Alburg Springs, Vt. Now that the Rutland Co. has purchased the Ogdensburg & Lake Champlain Ry. it is probable the lake shore will be followed to Rouse's Point & that connection will be made with the C.A. at or near Lacolle. (Jan., pg. 13.)

Toronto, Hamilton & Buffalo.—We were officially informed on Feb. 6 that the building of a spur line to the factories, &c., in the northeast part of Hamilton had not then been decided on. The City Council has agreed to give the Co. a rebate of \$1,000 a year on its taxes if the spur is built. It is not very certain that the line will be built if there is much

opposition to it from the G.T.R., whose tracks would have to be crossed, & from property owners asking too high a price for their property. (Jan., pg. 13.)

Quebec Bridge.—An item which has been going the rounds of the daily press to the effect that the Dominion Government has invited tenders for a bridge over the St. Lawrence at Quebec is incorrect. The tenders have been asked for by the Quebec Bridge Co., the time for receiving them being extended to Mar. 1. We understand several large bridge builders are preparing designs, & will submit tenders. (Jan., pg. 13.)

Canadian Pacific Betterments, etc.

Mattawamkeag to Princeton.—A press dispatch from St. John, N.B., recently said: "It is reported that the C.P.R. has a surveying party at work on the route from Mattawamkeag, Me., to Princeton, Me., to connect with the Washington County Ry. The C.P.R. has a 91 years' lease of the portion of the Maine Central between Mattawamkeag & Vanceboro, & it is understood a survey will also be made from Tomak station, in Washington Co., to Princeton, a distance of 21 miles, while the former route is about 60 miles. The C.P.R. has a wide-open eye on the possibilities of the transportation business from the west in connection with the grain elevators to be built at Eastport." We are officially informed that the C.P.R. management has no knowledge of any line from Mattawamkeag to Princeton.

St. John Terminals.—Ex-Mayor Robertson, of St. John, N.B., visited Montreal last month to ascertain the C.P.R. management's intentions in regard to the port. In a report to the City Council on his return he said Mr. Shaughnessy admitted that further facilities are required at Sand Point if the trade at St. John is to develop. Mr. Robertson pointed out to Mr. Shaughnessy that the C.P.R. was by its agreement morally & legally bound to provide facilities & to encourage trade. The reply was that the C.P.R. had already made large expenditures to that end & would continue them. This referred to the track building, the elevator, the improvement of the Short Line, the fact that it carried freight in competition with Portland, & had done much other work to help St. John. Mr. Robertson said he urged the construction of wharves down the bar, & Mr. Shaughnessy said when they considered it advisable they would provide the wharves. He left the impression that the Co. intended to do something. Mr. Shaughnessy intimated to him the opinion that St. John might well ask federal aid to assist in the work of providing accommodation for the trans-continental trade. Mr. Robertson then pointed out that 3 berths could be provided on the opposite side of the Sand Point slip. He thought the government would do the dredging, & asked if the C.P.R. would give a grant to help in the wharf building. Mr. Shaughnessy emphatically declined, but said if the business warranted it, they would lease the wharves, & if another elevator was required they would provide it. He pointed out that to satisfactorily handle the business the Co. would soon have to undertake the lowering of the grade on the Short Line.

Windsor St. Station, Montreal.—The Co. is buying land on the south side of the tracks between this station & Atwater Avenue, & the intention is to extend the terminal facilities. The strip, which is being purchased, averages about 100 ft. in width. This will allow of laying more tracks, & will tend to greatly benefit the service. This property is not considered particularly valuable; in fact, is good for little else than the uses to which it will be put. The passage of trains so near has made the property undesirable for residential purposes.

Grand River Bridge at Galt, Ont.—This bridge was built by the Credit Valley Ry. Co.

some 20 years ago. It consisted originally of 5 spans pin-connected iron deck trusses, each 150 ft. long on masonry piers, & wooden trestle approaches, in all 1,120 ft. long, & about 70 ft. high. The wooden approaches & the deck on the iron spans were renewed in 1891 by the C.P.R. In the spring of 1898 it was deemed advisable to rebuild the bridge on account of the increased weight of the rolling stock. The new bridge will consist of 5 spans steel pin-connected deck trusses, resting on the old masonry piers, 2 span steel plate deck girders at the west end, & 1 span steel plate girder at the east end; each girder being about 93 ft. long, making a total length of new bridge of about 1,130 ft., or about 90 ft. shorter than the old bridge. In connection with the renewal of the bridge it was decided to improve the grade by raising the track over the bridge 5 ft. The old piers will be built 10 ft. higher, & 2 new masonry abutments & 1 new pier have been constructed, 1 of the new trusses has been erected & the work of placing the plate girders is now going on. The work was commenced late last summer, & it is expected that it will be completed next summer. The cost is estimated at about \$70,000. The total cost of the new bridge, new station building & improving the grade, will amount to \$100,000. The work is being carried out under the direction of A. L. Hertzberg, Division Engineer.

Galt Station.—The station being built at Galt to replace the original structure is 80 ft. long & 30 ft. wide, & contains on the ground floor, general waiting room 28 ft. square, ladies' waiting room 16x20 ft., ticket office 16x15 ft., & baggage & express room 16x20 ft. There are women's & men's lavatories, & stairs to the basement where the hot water boiler & fuel cellar is placed, the flue for the former being arranged to ventilate the 2 lavatories on the ground floor. The inside finish will be in clear pine varnished, & rough plaster above the wainscot. The waiting room will be provided with seats, & the building will be lighted with electric light. The construction will be of stone up to the ground floor sill level, & above that of pressed brick, & the roof will be of slate. The architect is E. Maxwell, Montreal. The same plans are to be used for the new stations at Arnprior & Almonte on the Eastern Division.

Sault Ste. Marie Canal Bridge.—The alterations in the crossings of the canal by the tracks of the "Soo" Branch, necessitated by the removal of the pier in the channel, which has been such a serious obstacle to navigation, are making satisfactory progress. The 2 abutments for the new railway bridge are built, & the iron work will be placed in position before spring.

Western Division.—West of Fort William a very large amount of work will be done this year, continuing the work of previous years in the way of improvements. On the Wabigoon section just east of Hawk Lake, about $\frac{1}{2}$ mile of track will be built to reduce curvature. At Keewatin a 70 ft. $\frac{1}{2}$ thro' steel girder bridge will be built over the Lake of the Woods Milling Co.'s race. Just west of Cross Lake a 10 ft. masonry arch will be put in over a creek. At Whitemouth River 2 spans of 80 ft. thro' steel truss will be put in on masonry abutments & pier. A thro' steel truss, 100 ft. span, on masonry abutments, will be built over Brokenhead River. Between Pasqua & Moose Jaw a 15 ft. masonry arch will be built. Just west of Bowell, a 93 ft. wooden bridge will be replaced by a 2 ft. iron pipe & permanent fill. Just east of Cluny, 2 large wooden bridges, respectively 201 & 232 ft. long, by 51 & 58 ft. high, will be replaced by two 3 ft. iron pipes in each case & permanent fills. The 2 steel bridges at the 2nd crossing of the Bow River, about 7 miles west of Calgary, now rest on wooden abutments which will be replaced by stone. Similar work will be done at the 3rd crossing just

west of Mitford. At the crossing of the Kananasais, 3 miles west of Morley, a steel deck truss span of about 150 ft. will be put in to replace a lighter one now in use. At Devil's Head, near Anthracite, a considerable amount of crib work will be put in to protect the embankment & the bridge abutments. In addition to the works specially enumerated above, on the prairie sections, both main line & branches, a large number of wooden bridges will be replaced by iron or vitrified earthenware pipes & filled in, not only improving the track, but also reducing danger from fire. On the southwestern branch, near Treherne, where there is a wooden trestle 633 ft. long & 61 $\frac{1}{2}$ ft. high, the grade will be cut down & the material used to fill up the structure. The reduction of the grade will permit the hauling of much heavier loads between Holland & Winnipeg, & will enable a 17x12 cylinder locomotive to haul 8 more cars than at present.

East of Winnipeg the policy of building a considerable number of long sidings will again be followed so as to facilitate the prompt handling of the heavy east-bound grain traffic. As in previous years they will be so located as to form part of the double track which will be necessary between Fort William & Winnipeg in the near future. A number of sidings will also be put in on the prairie lines west of Winnipeg at points where grain shipments have considerably increased & where there is now only one side track to accommodate local shipments & the crossing of trains. If satisfactory arrangement can be made with Rat Portage Town Council it is probable a handsome station will be built there & that a considerable sum will be spent in remodelling the divisional yard. At Winnipeg there is urgent need of more tracks, especially at the passenger station, & these are likely to be put in. The Calgary divisional yards will be completed & coal pockets will be put in at Eagle River, Moose Jaw, Bassano & Maple Creek. A station will be built at Virden to replace the one destroyed by fire.

Between Fort William & Winnipeg the line is now all laid with 72 or 73 lbs. steel rails, except the last 15 miles west of Gonor. This portion will be done this year. A considerable amount of ballasting will be done between Fort William & Winnipeg & some on the prairie.

A steam launch is to be placed on Devil's Lake near Banff, & considerable improvements will be made there in the way of roads, paths, &c.

A bridge 1,700 ft. long is being erected over the tracks in Winnipeg yard about 10 blocks west of Main St. It is supported on 20 sets of steel pillars.

The Stonewall Branch extension from Stonewall to Foxton, 18 miles, completed last season, has passed the Government inspection. As will be seen by reference to pg. 34 the Co. has given notice of application for power to extend this line to the west shore of Lake Winnipeg between Gimli & Arnes, some 20 or 30 miles from the present terminus, but it is not expected that the line will be gone on with this year. (Dec. '98, pg. 264.)

The Pipestone Branch extension west of Reston was graded for about 30 miles last season, & track laid on 3 miles. Track laying will be continued in the spring, & it is probable that a further 45 or 50 miles will be built to Moose Mountain on the way to Regina. (Dec., '98, pg. 264.)

Pacific Division.—The work of removing the wooden bridges & replacing them by masonry arches where practical, & by steel bridges, will be continued on a very extensive scale. There will also be a large amount of improvement work in increased protection to track by dressing slopes & cuttings, building retaining walls, riprapping & cribwork wharfing along the toes of embankments where they are subject to be affected by water. There

will be considerable ballasting over the whole main line on this division, & considerable extension of sidings. Among the principal works may be mentioned the replacing of the 5 wooden bridges over the Kicking Horse River between Fairbairn & Golden by steel on masonry abutments. In the Black Canyon, about 3,000 ft. of the track will be raised. At Emory Creek the trestle approaches to the bridge will be filled. Eight trestles will be filled between Wharnock & Kanaka Creek. A large amount of ballasting will be done on the main line. About 50 miles of track in the mountains, principally on grades & curves, are laid with 72 & 73 lbs. steel, & it is the intention to complete the main line on this division with these weights, on account of the heavy engines now being used.

At the Lakes in the Clouds, near Laggan, a number of shelter houses are to be erected for the accommodation of tourists who may be overtaken by storms, & numerous paths are to be cut, as well as at Glacier. Mountain guides have been engaged in Switzerland, & will come out in the spring.

On the Columbia & Kootenay branch, between Nelson & East Robson, a considerable sum will be spent in straightening & otherwise improving the alignment.

Wharves & passenger platforms are to be built at East Robson & Nelson, a barge dock at Kaslo & permanent ways for steamers at Nelson.

A handsome station is to be built at New Westminster at once, to replace the one destroyed by fire. The plans are being prepared by E. Maxwell, Montreal. The track in front of the station will be ripped up to protect it from the Fraser River. A station & hotel is to be built at Sicamous, to replace the station recently burned, & a small station is to be built at Savonas. A large addition containing some 150 bed-rooms is to be made to the Hotel Vancouver, but the details have not yet been determined.

Vancouver Terminals.—The Vancouver station, described & illustrated in Nov. issue, pp. 235, will be completed next summer. Under the agreement between the Co. & the city other important improvements are being carried out. The wharves have been extended 500 ft. easterly & additional warehouses erected. In the near future the wharves will be extended 1,000 ft. still farther to the east to join the Co.'s Abbot St. wharf. All the Co.'s wharves are to be made permanent by sea walls in front & earth filling behind, which will extend to the shore, thus giving the Co. an esplanade in front of

the town about $\frac{3}{4}$ mile long by 400 ft. wide, on which it is intended to lay a network of sidings with an engine-house, &c.; so that ordinary trains, either passenger or freight, will not need to cross the town to the False Creek yard. The Co. has also agreed to give a flag station at the east end of the town, near the sugar refinery. Under the agreement, which gives the Co. exemption from taxation for a considerable period, on property actually used for railway purposes, the Co. undertakes to expend \$700,000 on terminal buildings, wharfage, &c., by the end of 1906. The terminal buildings will be completed in 1899, but the wharves & water-front improvements will probably not be fully constructed for several years, the work being done gradually as increasing trade requires it.

Trail to Rossland.—In connection with the standardizing of this line, track has been laid between Trail & the smelter, & the whole work to Rossland is expected to be completed by May.

New Westminster to Vancouver.—The surveys for this new route for the main line have been completed. From Vancouver a line was run from south of the sugar refinery to the head of False Creek, thence under the trestle bridge & southeast to Central Park. From New Westminster another party ran a line from the station down the North Arm & thence north to Central Park. It is understood that a good grade has been found. The distance will be about 10 miles. There is nothing definite as to when the line will be built, & parliamentary authority may have to be obtained. (Nov. '98, pg. 236.)

Crow's Nest Railway.—The construction offices have been moved from Macleod, Alta., to Montreal, where the business in connection with the building of the line from Lethbridge, Alta., to Kootenay Landing, B.C., is to be closed up.

A tri-weekly passenger service, both ways, has been established between Dunmore Jct., Assa., & Kootenay Landing. A considerable force is at work ballasting between Cranbrook & Kootenay Landing.

A considerable amount of westbound freight is already being carried to Kootenay Landing, & thence by transfer barge to Nelson.

All the stations between Macleod & Kootenay Landing are to be equipped with The Acton Burrows Co.'s enamelled iron station names, white letters on blue ground.

The Nelson Miner recently announced that the construction of the western section of the line from Kootenay Landing to Nelson would be commenced at an early date. We have

been unable to verify this, & do not think any decision has yet been come to as to whether work will be proceeded with this year or not. The agreement with the Government does not require the completion of the line till the end of 1900. A plan & profile of the line as located from the western end at Nelson, 21.74 miles has been deposited in the registry office at Victoria. The work on this section will be very heavy, as there is a large amount of rock to be gone through.

Columbia & Western.—On the line now building from West Robson to Midway, track has been laid from West Robson westerly 11 $\frac{1}{2}$ miles. Grading is practically completed to Cascade, except the big tunnel at the 22nd mile, which will take 6 or 7 months yet. A temporary track, by means of switchbacks, will be used over the mountain. Between Cascade & Upper Grand Forks there are about 3 miles of light work yet to be done, which can be completed in a month after frost is out of the ground. Between Upper Grand Forks & Eholt Summit, the latter point being 80 $\frac{1}{2}$ miles from West Robson, grading is well advanced, except about 2 $\frac{1}{2}$ miles near Fisherman's Creek, or Niagara, where the work is exceptionally heavy, & will probably take till the beginning of June to complete. Between Eholt Summit & Midway grading has only just been commenced, but the work generally is not very heavy, & can be completed in 3 or 4 months. Owing to the exceptionally severe winter, & the fact that all material for bridges between the present end of track & the big tunnel has to be brought up by rail, it is not expected very rapid progress will be made with tracklaying until after the track gets over the switchbacks above referred to. The severe weather has delayed work considerably.

P. A. O'Farrell writes in the Globe: "In view of the advent of the C. & W. Ry. into the Boundary country, it will be instructive to briefly sketch that district. Boundary is a misnomer. The country is the country drained by the Kettle River. On its right bank Rock Creek & Curlew Creek are its principal tributaries. McKinney Creek flows into Rock Creek, & Curlew Creek comes north to join Kettle River from the Republic district. On the left bank Boundary Creek, Fourth of July Creek, & the North Fork are the principal tributaries. Boundary Creek is, therefore, but the name of a small district of a great country. Eholt Creek is a branch of Boundary Creek. The new railway passes over from Arrow Lake to Christina Lake, & thence up Kettle River to Grand Forks. Thence it

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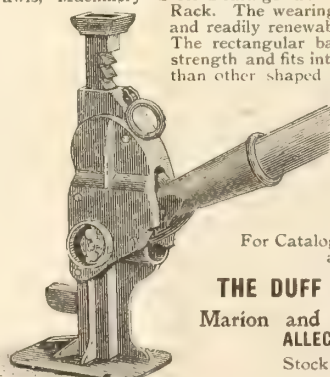
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Comfort," describing the Co.'s new tourist sleeping cars, 20 of which have recently been put in service. It states they are strongly constructed of the best material, & claims they are higher, wider & heavier than those in general use, & that the substantial structure reduces swinging to a medium. The special features of the new cars are wide vestibules (full width of car) latest car range,



TOURIST SLEEPER TOILET ROOM.

branches off by the North Fork to Ehol Creek, & thence to Greenwood City & down Boundary Creek to Midway, where it again strikes the Kettle River."

It is said that it has been decided to extend the line this year beyond Midway 15 miles, to Rock Creek, where some rich mines will be served, & that this work will also be done by Mann, Foley Bros. & Larsen.

Duluth, South Shore & Atlantic.—It is said surveys are being made for an extension of 25 miles between Baraga, Mich., & Rockland, on the C. M. & St. P. Ry.

commodation there. We are officially informed the report had no foundation.

Collingwood Dock.—The renewal of the sections of this dock destroyed by fire last fall is now in progress. The track piles have been driven, & work has been started on the freight shed, which will be 250x80 ft.—82 ft. longer than the one destroyed—with necessary offices, waiting & baggage rooms. The new dock will be 2 ft. lower than the old one, which will be found much more convenient for loading & unloading vessels.

Maitland River Bridge. The Railroad Gazette, New York, recently stated that the G.T.R. was taking tenders for erecting a superstructure of a steel bridge over a branch of the Maitland River, about 4 miles from Clinton, Ont., of seven spans, 23 ft. from bed of stream to floor, & 6 ft. roadway. The Chief Engineer, the Superintendent of the Middle Division, & the Master of Bridges & Buildings of the Middle Division, all inform us they have heard nothing of the matter, so it is evident the Railroad Gazette has been misinformed.

Sarnia & Port Huron Roundhouses. Work on the roundhouses at the tunnel is being pushed ahead with all possible vigor, & the indications are that the Sarnia structure will be completed in advance of the one building at the Port Huron tunnel station. At Sarnia 2,500 piles were driven in 100 days.

Canadian Pacific Tourist Cars.

The C. P. R. Passenger Department has issued an illustrated pamphlet "Travelling



TOURIST SLEEPER RANGE.

aisle is carpeted. In addition to steam heat from the engine, each car is equipped with a heater for emergency use. Detachable side leaf tables are provided for meals, &c. Each car is accompanied by a uniformed porter. Some of the illustrations from the pamphlet are reproduced on this page. The pamphlet, which is terse & forcible, was written by J.G. Brignall, of Assistant General Passenger Agent McPherson's Office, Toronto, & was printed most effectively by the Mail Job Printing Co., Toronto.

Cariboo-Omineca Chartered Co. The B. C. Legislature has passed a bill amending this Co.'s act of incorporation passed in 1897, by taking away the power to build & operate railways. This will not affect the Co.'s right to build the Cariboo Ry., of which it recently acquired the charter. (Jan., pg. 11.)



INTERIOR C.P.R. TOURIST SLEEPER.

Minneapolis, St. Paul & Sault Ste. Marie.—It is said surveys are being made with a view to an extension to Fargo, N.D.

Grand Trunk Betterments, etc.

Motive Power Offices.—The new offices on Congregation Street, Montreal, facing Wellington Street, are about completed & ready for occupation. They have been equipped with all the latest improvements, making them desirable for the clerks who have had to work in a very unsuitable building for some time past. The new building is built of red pressed brick, with light-colored sandstone trimmings.

Lakefield Branch.—Last month we published a rumor that this branch, which runs from Peterboro to Lakefield, 9 miles, will be extended n.e. about 35 miles to connect with a proposed extension of the Pembroke Southern at St. Ola, so as to materially shorten the distance between Toronto & Pembroke. General Manager Hays is absent from Montreal, & there is nothing known among the other officials there regarding this rumored extension.

Midland Elevator Accommodation. A recent press report stated that some of the G.T.R. officials had recently been at Midland in regard to increasing the grain elevator ac-



SECTION C.P.R. TOURIST SLEEPER.

Canadian Pacific Equipment.

Following are the general dimensions of the consolidation locomotives being built for the C.P.R. by the Baldwin Locomotive Works, Philadelphia:

CYLINDERS—	Diameter	20 in.
	Stroke	26 in.
ROCKER—	Valve	Balanced
	Diameter	62 in.
FIRE BOX—	Thickness of sheets	3/4 in. and 11-16 in.
	Working Pressure	180 lbs.
FUEL—	Coal	Soft Coal
	Material	Steel
TUBES—	Length	100 1/2 in.
	Width	42 1/2 in.
DRIVING WHEELS—	Depth, front	64 in.
	Depth, back	57 in.
ENGINE TRUCK WHEELS—	Thickness of sheets, sides	5-16 in.
	Thickness of sheets, back	7/8 in.
WHEEL BASE—	Thickness of sheets, crown	7/8 in.
	Thickness of sheets, tube	1/2 in.
WEIGHT—	Number	255
	Diameter	2 in.
TENDER—	Length	12 in. and 11-16 in.
	Diameter, outside	51 in.
JOURNALS—	Diameter of centre	45 in.
	Journals	8 1/2 x 10 in.
WHEEL BASE—	Diameter	30 in.
	Journals	5 x 8 in.
WEIGHT—	On truck	about 17,000 "
	Total engine	about 150,000 "
TENDER—	Diameter of wheels	33 in.
	Journals	5 in. x 9 in.
WEIGHT—	Tank capacity	4,000 gals.
	Service—Freight	

As a sample of the railway news published by the daily press, we may quote a Toronto dispatch, recently published, stating that the C.P.R. authorities have decided that they could build freight cars more cheaply than they could repair old cars, & for that reason

\$5 men had been discharged from the car repairing shops at Toronto Junction. This is enough to make the old cars' sides sore with laughing. As a matter of fact, the men were simply laid off on account of slackness of work.

The Canmore, a combined sleeper & 1st class car, has been put on the Crow's Nest line between Dunmore Jct. & Kootenay Landing. It has 6 double berths, the remaining space being seated.

An item is going the rounds of the press to the effect that when the Co. recently imported 15 locomotives from the U.S., the officials omitted to present the invoice detailing the royalties on them, which are assessable for customs duties, to the Customs Department, & that the Department is endeavoring to collect from the Co. not only the regular amount of duty on the royalty but, in addition, a similar amount for the failure to comply with the laws.

Superintendent Leonard denies a rumor that the shops are to be moved from Toronto Jct. to North Toronto.

Intercolonial Railway Equipment.

Mechanical Superintendent Joughins recently issued a circular to locomotive foremen, showing the miles run by 10-wheel express engine no. 125 on the Northern Division, from May to Nov., 1898, in order to illustrate what may be done in the way of getting a large mileage out of engines. The mileage was as follows: May, 5416; June, 6172; July, 6711; August, 7365; Sept., 6900; Oct., 7316; Nov., 6998.

Most of the 20 heavy freight locomotives ordered from the Baldwin Locomotive Works have arrived, & are giving great satisfaction.

Rhodes, Curry & Co., Amherst, N.S., recently delivered 100 platform cars equipped with air brakes.

Equipment Notes.

The Kent Northern Ry. recently purchased a locomotive from the I.C.R.

The report that the Ottawa & New York Ry. is in the market for 500 freight cars, is, we are officially informed, erroneous.

E. & J. Stehelin, proprietors of the Weymouth & New France pole railway in Digby County, N.S., have ordered another locomotive.

It is said the Sydney & Louisburg Ry. is about to add to its equipment 2 freight & 1 passenger locomotives, 3 passenger cars & fifty 50-ton steel freight cars.

The Master Car Builders' Association will convene at Old Point Comfort, Va., June 14. The American Railway Master Mechanics' Association will meet at the same place June 19.

The General Manager of the Canada Atlantic Ry. recently informed us that the Co. was contemplating building 1,000 box cars, & was getting up plans for same, but that details had not been settled.

It was recently reported that the establishment of locomotive works in Ottawa, Ont., had been decided on, & that the money would be furnished from Ottawa & Toronto. So far the rumor lacks confirmation.

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$3 to \$4 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

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L. A. HAMILTON, Land Commissioner,
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Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

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The Pembroke Southern Ry., between Pembroke & Golden Lake, Ont., has been operated since Jan. 1 with equipment loaned by the Ottawa, Arnprior & Parry Sound Ry. It is said the P. S. Co. is having equipment built.

Early in Feb. an order was given for the construction of 500 box cars to be constructed at once at the G.T.R. Co.'s shops at Montreal. This will mean that there will have to be considerable additions to the already large staff of car builders in the employ of the Co. The new cars will have a capacity of 60,000 lbs. Work is progressing satisfactorily in the Montreal shops on the passenger & freight locomotives, of which 25 are under order.

The Great Falls & Canada Ry., & the Alberta Ry. & Coal Co. have added some sleeping cars to the equipment of their route from Great Falls, Mont., to Lethbridge, Alta. The cars, which are narrow gauge, were built some years ago by the Pullman Co., & have recently been remodelled at the Denver & Rio Grande shops at Denver, Col. The whole interior is finished in ash, with green plush upholstery. There are 10 sections in each car, with lower berths only, making them much more comfortable than the regular standard sleepers.

Grand Trunk Shop Kinks.

A very ingenious way to machine the flanges of a dome saddle—that is, the surface bearing on the boiler shell—& also the caulking edge of the vertical flange, has been devised & is in successful operation at the G.T.R. shops, Montreal. In fact, two separate & widely differing mechanical ideas are involved in reaching the results noted above. How this is done is clearly shown in the accompanying illustrations.

Fig. 1 represents the saddle on a planer, while being treated for the boiler fit, by means of a tool bar having a radial movement transversely of the planer. This radial action is obtained by means of an auxiliary crossrail which is bolted to the housings, & which has at its center a swiveling clamp whose function is to hold the tool bar. It is plain that the distance from the center *A* of this clamp to the end of the cutting tool determines the radius of the curve cut by the tool, & its use in other directions is apparent. The lower end of the bar passes free, but without shake, through a block that also swivels, but takes the place of the tool clamp on the regular saddle of the machine, & furnishes support to the tool bar. The tool is fed over the concave

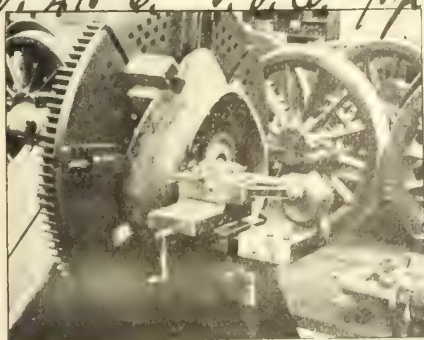


FIG. 2. FACING EDGES OF FLANGE.

surface of the job by the feed screw through the lower crossrail.

The same dome saddle is shown on the face plate of a lathe, in figs. 2 & 3, during the operation of facing up the caulking edge of a flange, which is seen to be concentric with the face trued up in fig. 1. To face such a surface it is evident that the cutting tool must have a reciprocating movement equal to the distance from the highest to the lowest point on the surface to be trued. Fig. 2 shows the

operating side of the lathe & the crank mechanism to obtain the back & forth tool movement, & fig. 3 shows the rear side with the system of gearing to drive the crank & tool. These shop kinks, which give proof of a resourceful acquaintance with mechanical principles, were evolved & put into practice by J. Millington, Foreman of the Montreal machine shop. The G.T.R. has long been noted for clever schemes in labor saving devices & special tools for handling work, & the latest efforts in that line do not appear to be materially behind the former ones in reaching results. —Locomotive Engineering.

Canadian Freight Association.

At a general meeting of the Association at Montreal, Jan. 12, the following were elected active members:—G. W. Robins, Lotbiniere & Megantic Ry.; W. R. Russell, Quebec, Montmorency & Charlevoix Ry.; G. H. Pugh, Atlantic & Lake Superior Ry.; E. G. Evans, Central Ry. of N.B.; J. Brignell, Central Ry. of N.S.; W. K. Sanderson, Maine Central Ry. (vice M. Prescott, deceased).

Chairman Earls reported that the new classification no. 11, already adopted, had been

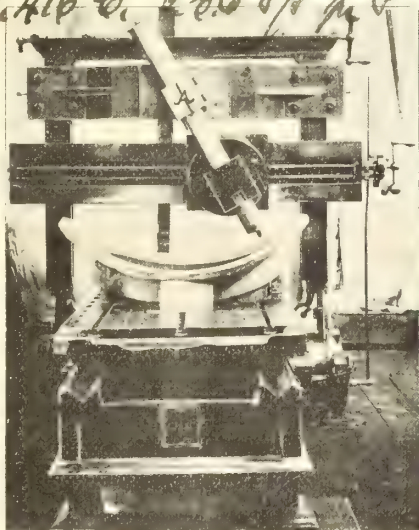


FIG. 1. PLANING DOME SADDLE.

submitted to the Governor-in-Council, but had not yet been approved. He also reported a number of additions & amendments to the new book, these amendments to be incorporated in the new classification if possible; if not, to be promulgated as a supplement by the Committee.

Reports were made by the Freight Inspection, Executive & Car Service committees.

The Sec.-Treas. reported having obtained from all the principal roads in the Association copies of their freight transportation forms, & found that they were not all uniform. The matter was referred to a special committee consisting of Messrs. Woollatt (convener), Bulling, Chittenden, Hardwell, Backus, Mcmillan, Collins & Cunningham, to report at next meeting.

The Sec.-Treas. stated he had written the roads which had been participating in the expenses of freight weighing, inspection, car service, etc., also to some other roads which had not yet participated, with a view to a more equitable assessment, & that with few exceptions they had concurred in the change. After discussion most of the objections were withdrawn, & the new plan was generally adopted. The opinion, however, was expressed that all roads in the Association, parties to the Canadian Joint Freight Classification, should contribute something to the general expenses, & the Sec. Treas. was instructed to

communicate with parties concerned with a view to bring that about if possible.

The President having explained that it was frequently impossible to get a fair majority of members of standing committees together when meetings were called, business being delayed thereby, G. H. Watson was appointed to the Freight Inspection Committee, vice M. Burton. W. Woollatt was appointed

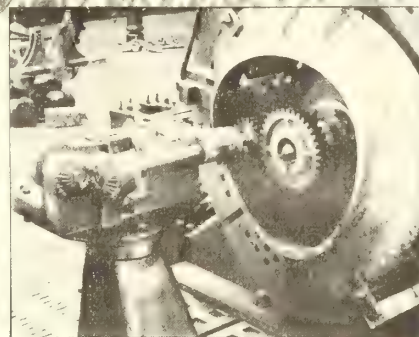


FIG. 3. HOW THE TOOL IS DRIVEN.

to the Car Service Committee, vice E. H. Edwards.

A meeting of the Freight Committee was held at Toronto Jan. 26, when special rates & arrangements 1517 to 1535 were agreed to.

Miscellaneous Freight Matters.

The C.P.R. recently carried 10,000 lbs. of chickens from Montreal to Vancouver, en route for the Yukon.

About 1,000,000 bushels of grain were handled at the C.P.R. elevator at Owen Sound, Ont., last season.

C.P.R. Elevator B. at Fort William, Ont., has been set aside for the storage of damp grain after it is dried.

Lumber trade is very brisk on the Booth lines, about 1,000 logs being shipped daily from Madawaska to Ottawa.

Large quantities of smelts are being shipped over the Canada Eastern Ry. from Loggieville, N.B., en route to New York.

President Muir, of the Winnipeg Grain Exchange, calculates that in the near future the Canadian North-West will export a hundred million bushels of wheat annually.

The White Pass & Yukon Ry. Co. has temporarily suspended its freight classification & made a flat rate of \$2.75 per 100 lbs. for all classes of goods from Skagway to the summit of White Pass.

C.P.R. returns of cattle shipments show that 40,000 head were shipped in 1898 from the North-West to Eastern Canada, 2,000 less than in 1897. Forty thousand stockers were forwarded, one-half to the U.S.

The str. Bruce is doing a good freight traffic between North Sydney, N.S., & Port aux Basques, Nfld., taking from 8 to 10 carloads each trip. It is said R. G. Reid will put on a special freight boat in the spring.

The G.T.R. is said to have just closed an extensive contract in connection with the Lehigh Valley to carry Swift & Armour's provisions from Chicago to the seaboard. The contract is said to be for about 7,000 carloads, which is equal to about 182,000,000 lbs.

The rates in the C.P.R. special local tariff on general merchandise between Pembroke, Ont., & eastern division stations as designated in the tariff of May 9, '98, will not apply on shipments, ex connecting lines. Unless authorized to the contrary full mileage tariff rates will govern.

A Montreal dispatch of Feb. 20 says: "Private advices received here to-night from L."

Scull S. & Co.

tion state that the G.T. & C.P. railways are considering a joint arrangement for a general advance in rates. The authorities of the two companies, when seen to-night, said they knew nothing about any such arrangement.

Formerly the arrangement with the C.P.R. for stopping Manitoba grain at North Bay for orders was that demurrage of \$2 a car was charged when detained over 24 hours waiting orders. The time has been extended to 48 hours, & when this has expired demurrage at the rate of \$1 a car will be charged, instead of \$2.

The following figures show how alive the people of British Columbia are to the possibilities of the fruit trade in the Pacific Province. In 1897, the C.P.R. carried 5,700 packages, or 75 tons. In 1898 55,000 packages were carried, or 386 tons. This is only a beginning, & in the near future the development of this industry will no doubt assume more marked features.

The Customs Department is completing arrangements for the transit of goods to the Yukon over the White Pass Railway in bond. Trains are now running from Skagway to nearly the Canadian border, & as soon as the line reaches Canadian territory a sealed car will be placed on the route to carry Canadian bonded shipments from Skagway across the disputed strip.

The G.T.R. has defeated the plan of some of the eastern U.S. roads to increase the minimum weights of carloads of provisions. These lines made an agreement, to go into effect Feb. 1, whereby carload weights were to be 30,000 lbs. instead of 24,000. The G.T., however, notified these lines that it proposed to fix the weight for provisions at 26,000 &, in the face of this, the other lines were compelled to do the same.

H. Corby, M.P., recently interviewed the G.T.R. Traffic Manager, urging that the Co. build a large grain elevator at Belleville, so that grain could be taken there from Midland, & sent on to Montreal in barges. Mr. Reeve informed him it was the policy of the road to develop the all-rail route from Midland to Montreal & Portland. The Co. did not intend at present to encourage proposals to transship at Toronto or Belleville.

The G.T. & C.P. railways have decided that in future anyone ordering a palace horse car must deposit \$10 before the car will be supplied. The reason is that parties would often order a palace horse car, & when it had been sent to the place ordered they would change their minds & not accept it. Under the new rule, when the car is accepted the deposit will be included in the freight

charges; when the car is refused the deposit will become forfeited.

The G.T.R. & C.P.R. have issued a circular putting into effect a new tariff on alcohol, high wines, pure spirits & whiskey shipped from all points in Ontario to Kootenay points. The rate will be \$1.80 per 100 lbs., with the minimum weight of a car load at 24,000 lbs. The same rate will be put into force on the I.C.R. The first named roads have also announced a new rate on the above articles from all points in Ontario to all points on the Pacific Coast, making the rate \$1 per 100 lbs.

The Municipal Council of Petite Cote, near Montreal, has granted power to E. Lefebvre & a syndicate to establish a stockyard within the limit of the municipality, to be connected with the C.P.R. The syndicate, which is composed largely of western cattle dealers, is to acquire 200 acres & expend \$100,000 on the land & buildings within a stipulated period. It is stated work will be commenced at once, & that efforts will be made to make it a joint stockyard. At present there are cattle sold at St. Henri, Point Ste. Charles, Hochelaga, the civic abattoirs & Bonsecours Market, Montreal.

A reduction in the rate on corn from Detroit to Hamilton & Toronto is announced by the C.P.R. The new rate is 8c. per 100 lbs. A new rate has gone into effect on beans in car lots, minimum weight, 30,000 lbs., to New York, Philadelphia & Baltimore, for export only. The rate is 19½ cents per 100 lbs. from the following points: Appin Jct., Arkwood, Belle River, Caradoc, Chatham, Elmstead, Hyde Park, Haycroft, Komoka, Kent Bridge, Longwood, Melrose, North Glencoe, North Newbury, North Bothwell, North Thamesville, Ringold, St. Joachim, Tilbury, Walker-ville Jct.

The charter of the Manitoba South-eastern Ry. provides for a maximum rate on saw logs & cordwood. On pine & spruce saw logs, for 150 miles, or from the point where the railway touches Rainy River, to Winnipeg, the rate must not exceed \$2.50 per 1,000 feet b.m. The rate on cordwood is fixed at 2½c. per 100 lbs. for 25 miles, or less, 3c. for 50 miles, 3½c. for 75 miles, 4c. for 100 miles, 4½c. for 200 miles or less. It is this special rate on saw logs which will permit the establishment of saw mills at Winnipeg, the logs to be taken by rail from the Lake of the Woods.

A reduction in the freight charges on Manitoba wheat from points in Manitoba to Ontario has been made by the Northern Pacific. The new rates apply from all points in Manitoba touched by the N.P. to stations on the G.T.R. west of & including Montreal, Ottawa,

Valleyfield & intermediate stations on the Canada Atlantic. From Emerson, Winnipeg, Portage la Prairie & Miami the rate per 100 lbs. is 36 1-2c., & from Wawanesa & Brandon it is 37 1-2c. A rate of 20c. per 100 lbs. from Duluth to the same points in Ontario has also gone into effect, which is the same as the Fort William & North Bay rate to Montreal.

A reduction in the tariff on flour & grain to Newfoundland is announced by the G.T.R., from all points in Ontario, & in Quebec, west of Montreal, & including points on the Lake Erie & Detroit River Ry. To get the benefit of the reduction the freight must be routed by way of North Sydney, & the str. Bruce, which makes connection with the Newfoundland Ry. at Pointe aux Basques. The reduction is 2½c. per 100 lbs. from the previous tariff that was in effect. From Toronto the old rate was 30½c., now it is 28½c. The G.T.R. has also put in a new rate on beans from points west of London & St. Thomas to Newfoundland of 32c. per 100 lbs., in car lots, minimum weight 30,000 lbs., to be routed via North Sydney & str. Bruce.

Freight traffic on the Canada Atlantic system increased remarkably during 1898. There passed through Ottawa to Montreal 12,000,000 bush. of grain for export. The through freight traffic of the line, east & west, shows a good increase, 72,000 tons of freight having been carried east, & 65,000 west. The local freight traffic has increased at a good rate, especially in live stock, dairy, & cereals. The movement of lumber has been about the same as in previous years, & shows little increase. An Ottawa dispatch reports President Booth as saying, he would make "Montreal one of the chief grain centres of America." From various sources come the reports that in carrying out his plan he is building 2 large steamers to carry Manitoba wheat from Fort William to Parry Sound, the U.S. vessels he employed last year being prohibited by the coasting laws from engaging in this trade. Last year Mr. Booth's route carried only 500,000 bush. of Canadian wheat which came through in bond by way of Duluth. At a Toronto Board of Trade meeting recently, it was stated the C.A.R. had quoted a through rate from Chicago to Montreal of 3½c. a bush., which is about ¼c. lower than the lowest rate of last year, which was one of unprecedentedly low rates.

General Superintendent McGuigan, on returning from a recent inspection of the Western Division of the G.T.R. said: The volume of freight now being carried breaks all records since the new management took charge. "We have," he said, "been handling on an average over 700 cars daily at Niagara Falls,

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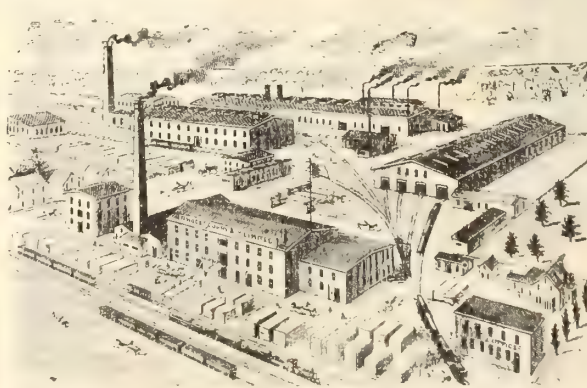
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both ways, & from 500 to 600 cars daily at Black Rock. About 80% at Black Rock is our own, & probably 65% at Niagara Falls, & the rest comes from the Wabash." He added that there was at present more stuff at some of the Atlantic ports than the steamers could handle. "We are handling," he continued, "from 25 to 40% more business at Niagara Falls than at any period since I have been connected with the G.T.R. For instance, at that point we handled 17,000 more cars during Nov. & Dec. than during the corresponding months of 1897, which fact shows most plainly that there is a general increase in trade." Mr. McGuigan also gave figures to prove that the export business at Portland is likewise very heavy this winter. At the present time, he says, the Co. has no less than 2,500 loaded cars at that port, awaiting shipment, & besides this there are from 1,200,000 to 1,400,000 bush. of grain in the Co.'s two elevators, & still stuff is constantly going forward. These exports consist of grain, merchandize of all kinds, & cotton."

Grades of Grain for Export.

The Trunk Line Association, New York, has given notice that only a certain number of grades of grain to be exported from Canada will be received at New York, Philadelphia, Baltimore or Boston, & that such grain will be received at the frontier junction point only when each car is accompanied by a proper certificate from a duly appointed inspector at the point of shipment or at the frontier, showing it to be one of the grades, specified below. The grades agreed upon by the railways, & the Boards of Trade of Winnipeg, Toronto, & Montreal are as follows:—

From Manitoba (7 grades), nos. 1 & 2 special Manitoba wheat, no. 1 hard wheat; no. 1 northern wheat, no. 2 northern wheat, no. 2 white oats, no. 2 mixed oats.

From Ontario & Quebec (8 grades), nos. 1 & 2 white winter wheat, nos. 1 & 2 red winter wheat, no. 2 spring wheat, no. 2 goose wheat, no. 2 white oats, no. 2 peas.

Passenger Traffic Matters.

The C.P.R. will have cinematograph exhibitions of Northwest views given in the British Isles this year by S. Coryn.

At a railway & steamship conference at Syracuse, N.Y., at the end of Jan., at which a number of Canadian representatives were present, very few alterations were made in the summer tourist rates, which remain practically the same as last season.

As a result of negotiations that have been in progress for several months, immigrant rates to Pacific coast points, from both Atlantic & St. Lawrence river ports, have been restored to tariff, & all disputes between the interested ones, both east & west, have been effectually settled.

The G. T. R. city ticket office in Toronto which has been at the southwest corner of King & Yonge streets for about 25 years will on March 1 be moved to the new Lawlor building on the northwest corner immediately opposite, where much better accommodation has been secured.

The Ottawa & New York railway, since the opening of its line from Ottawa to Cornwall, July 29 last to Dec 31, carried 25,391 passengers, a remarkably good showing considering that the road is a new one, & that the line is incomplete. The traffic has been almost wholly of a local nature, & is showing a gratifying increase.

A conference of railway & steamboat men was held in Ottawa, Jan. 24, to arrange rates for the current year. Representatives from all over the country were present. C. J.

Smith, of the Canada Atlantic, was appointed chairman, & J. Wells, of the C.P.R., secretary. It was decided to make the rates for the season the same as last year. The next meeting will be held in Hamilton.

The Wabash recently gave notice that it would withdraw from the Western Passenger Association, but would continue as a member of the Mileage Bureau & the Clergy Bureau, both of which are adjuncts of the Association. In referring to the action taken General Passenger Agent Crane, of the Wabash, stated that as the Chicago & Alton had not been a member of the Association for some months, the Association, as it now exists, is incomplete, & it should either be entirely reorganized or abandoned.

The trip across the continent by the C. P. R., which Miss Shaw, Colonial Editor of the London Times, took on her way to Dawson City from London, the whole journey being accomplished in the record time of 31 days, presents, to use her own words, "a dream of beauty which never can be forgotten. An incense of clover for 400 miles, then a labyrinth of lakes and woods, & noble waterways opening vistas of forests to right & left. A thousand miles of roses on the prairies, mellowing with their faint sweet scent the keen sweep of continental air, & afterwards the superb scenery of the Rockies, the Selkirks, the Gold & the Cascade ranges, through which the train leaps from pass to pass on its journey to the hop-gardens & orchards of the Pacific Coast." The Yukon River is by no means always to be associated with ice and snow. "When I passed down the river in July," said Miss Shaw, "pink willow herb was flowering in sheets upon the hillsides, & in combination with the frequent fir-woods recalled in general effect the scenery of the Scottish Highlands. The weather at mid-summer was much like that of England."

Although the tourist traffic to Muskoka was last year the largest the G. T. R. ever experienced, it seems probable that the travel next summer will be greater than ever. The Co. proposes to make the charms of Muskoka as well as other points along the system widely known through the large cities of the U. S., & with that idea in view, its special exhibition car, containing photographic views of leading places on the system, is being sent on a tour. The pictures, over two hundred in number, depict the scenic beauties of Georgian Bay, Lake of Bays, as well as the White Mountains & the Maine seaside resorts. There are a number of specimens also of stuffed brook trout & other trophies of rod & gun, so that altogether picturesque Canada will be well displayed. Handsome pamphlets will be distributed wherever the car visits. It is the intention to keep the car out till about the middle of June, & among the points to be touched at are Chicago, Memphis, New Orleans, Louisville, Indianapolis, Cincinnati, Columbus, Cleveland, Pittsburgh, Detroit, Buffalo, Rochester, Syracuse, Albany, New York, Philadelphia, Baltimore, Washington, Wilkesbarre & Scranton.

The C.P.R. will run the first of its spring settlers' excursions to the Northwest on March 7, and during March & April special excursions will be run out of Toronto every Tuesday, the special colonist cars leaving at 9 p.m. The fare from Sharbot Lake west to Winnipeg will be \$21. Most of those going west on the excursions have already taken up land there & are going out with their effects to settle on it. From the reports received by the Co. the western excursions this year will be heavier than ever. Enquiries are being daily received from all parts of Ontario from parties who are anxious to settle in the Northwest, the C.P.R. officials having received thousands of such enquiries. Up in the Huron & Bruce districts & in the northwest part of the province, the emigration to

the Northwest bids fair to be particularly heavy. Alberta & Saskatchewan are the districts in the west that seem to be particularly favored by the prospective settlers. There will be a settlers' train service to the west this year, inasmuch as all the business has to be routed over the northern division of the G.T.R., & all settlers' effects will go the same way. The U.S. lines this year, as a result of the settlement of the rate war, will not be in a position to compete for this western business at all. They cannot quote a \$21 rate into Winnipeg, so that the entire traffic will be divided between the C.P.R. & G.T.R.

C.P.R. Arrangements with I.C.R.

At the end of Jan. & beginning of Feb. a number of conferences were held in Montreal between the General Manager and other officials of the I.C.R., & the Vice-President of the C.P.R., in regard to the latter Co. running its trains over the I.C.R. between St. John, N.B., & Halifax. The Minister of Railways was present at one of the meetings. It is said the C.P.R. proposal is that it shall be allowed to run its engines & other rolling stock over the I.C.R. track between the two termini, as at present, but at an increased price for the privilege. This is more than the I.C.R. is willing to concede. Mr. Fetting's proposition is said to be that the C.P.R. engines & rolling stock shall no longer be allowed to run over the I.C.R. upon any terms whatever, in other words that the I.C.R. trains alone shall handle the traffic between Halifax and St. John. He, however, was willing that a C.P.R. sleeper should be attached to the Intercolonial trains from Halifax to St. John & vice versa. A settlement of the question has been deferred until after Mr. Shaughnessy's return from Europe.

Grand Trunk Telegraphers & Agents.

In our last issue, pg. 8, we gave the award of the arbitrators, but were then unable to give the order of reference under which the arbitration was held, & which is really necessary to a proper understanding of the award. It is as follows:—

ARTICLES OF AGREEMENT between the G. T. R. & Committee representing the telegraphers, covering arbitration of matters in dispute between them:—

1. Mr. Hays, for the G.T.R., & Mr. Powell, for the telegraphers, will name each to the other, within 10 days from this date, their respective arbitrator; the two so chosen to select a third.

2. Each party will pay the expense of its own arbitrator, & the expense of the third arbitrator shall be borne jointly between the two parties—each paying one-half.

3. That the arbitrators shall convene at Toronto Jan. 6, 1899, & proceed to the selection of a third arbitrator; the sessions to be daily & continuous, until such arbitrator is chosen.

4. That after the third arbitrator is chosen, the course of procedure shall be determined by the arbitrators, & that the sessions of the arbitrators shall be daily, until the matter is definitely settled.

5. That the decision of the arbitrators shall be binding on both sides commencing at a date to be fixed by the arbitrators, & continuing for a period of one year & thereafter from that date, subject to change upon a notice of 30 days from either party to the other desiring a change in the same.

6. That the present members of the Committee be allowed to return to the stations left by them before coming to Montreal, without prejudice, & resume their work at once, if desired.

7. That any reasonable number of witnesses desired by the telegraphers, who are employed

of the C.T.R. shall be relieved without unnecessary delay for such purpose, on request to the General Manager, & furnished transportation to the point of arbitration & return, provided that the cost incurred by such employees shall not be borne by the G.T.R.

8. That the past actions of the men, in what they believed to be the proper support of their Committee, will not militate against them in any way in the future.

9. That the following clause (no. 10) shall be submitted to the arbitrators for their decision, as to whether it is a proper matter for them to pass upon.

10. That in the event of the Committee being unable to agree with the Co., as to the reinstatement of E. O'Malley, Mechanic Falls; J. Leveson, Dorval; D. L. Shaw, London East; E. Ball, Newbury; D. Ray, Toronto, who have been discharged, as is now believed by the telegraphers, without sufficient cause or justification, that these, too, shall become a matter for arbitration, & the award of the arbitrators shall be final.

11. The matters in dispute between the parties hereto are rules nos. 20, 21, 22 & 26 of the schedule presented by the telegraphers, with the list of salaries paid at stations.

It will be remembered that in reference to clause 10 above the arbitrators decided that it was a proper matter for them to pass on, but that by agreement & settlement of the parties they had been relieved from doing so.

In referring to the award the official organ of the Order of Telegraphers says: "The officials have expressed themselves as satisfied to live up to the award in every way and the telegraphers will do the same. Men discharged on account of over staying leave of absence, etc., were reinstated in their positions. Thanks are due to Bro. Sargent for his efficient & faithful work on behalf of the telegraphers, and the fairness & liberality exhibited by Sir Wm. Meredith & B. B. Osler will be appreciated by telegraphers everywhere. Space forbids publishing the full text, as it is a lengthy document, suffice it to say that salaries were raised appreciably, a minimum salary agreed upon, over time allowed, extra pay for tending switch & semaphore lamps allowed, & many other things that go to make the life of a telegrapher more endurable. The G.T.R. should be recognized as fair & friendly to organized labor and our members should see that it gets its fair share of business."

In a paper read before the Royal Colonial Institute in London, Eng., recently, Miss Shaw, Colonial Editor of the Times, speaking of the Yukon, said she did not think the new Eldorado would speedily fizzle out, calling for note in years to come only as a region of unfulfilled expectations. Far from it, in Miss Shaw's view. For, as she proceeded to show, the transport problem, which is the key to the whole situation, is in a rapid process of solution.

MISCELLANEOUS RAILWAY NOTES.

The Brandon & Southwestern Ry. Co. has applied to the Railway Committee of the Privy Council for permission to cross with its proposed line the C.P.R. Southwestern Branch near Carrol, Man., & the C.P.R. Pembina Mountain Branch near Deloraine. The application will come up at Ottawa, Feb. 22. There is no news as to the prospects of construction of this line. (Jan., pg. 11.)

B.C. Railways.—That usually well informed paper, the Canadian Gazette, of London, Eng., says in a recent issue:—"The accounts of the British Columbia Government railway system for last year show a deficit of \$212,466." Will it surprise the Canadian Gazette to learn that the B.C. Government has no railway system?

Calgary & Edmonton net earnings for Dec., \$13,345.40, compared with \$23,013.89.

Canada Atlantic Ry. & Rutland Ry.—In a recent interview, President Booth speaking of the rumor that the Rutland was to be managed by the C. A. R. Co., said such was not the case. The C. A. R. Co. will have nothing to do with the road further than the handling of its freight for ten miles. About 2 years ago the Rutland R. R. Co. purchased the line between Rouse's Point & Ogdensburg. The terminus of the Rutland line was at the lower end of Lake Champlain, & the Co., wishing to get control of the trade between New York & Ogdensburg, decided to connect the lines by building a road across the Islands Grand & Hero in Lake Champlain & connecting the two roads at Alburgh. The C. A. R. Co. had a year previous to this move extended its line across the Richelieu River to Alburgh. Now, what the managers of the Rutland road propose doing is to run their line up the C. A. tracks as far as Lacolle Jct., 10 miles, & from there to St. John on the East Richelieu Valley road. From St. John they will run into Montreal on either the C. A. or the G. T. R. Mr. Booth thinks the line, by being a shorter route by some 15 miles from Montreal to New York, will affect the Canadian produce & lumber trade.

Green Lights for All-Clear.—At the last meeting of the American Railway Association, an officer of the New York, New Haven & Hartford stated that, in consequence of the accident at Whittenton Junction, a few months ago, in which the lantern on a gate was mistaken for a white semaphore light, the road would change its semaphore lamps so that the color indication for all-clear at night shall be green. We understand active preparations have been begun to carry out this change. —Railroad Gazette.

Intercolonial Business.—In a recent interview in Montreal, General Manager Pottinger said:—Business on the I.C.R. is booming. In fact I can not recall a period in the history of the road when it has been so good. We re-

cently received 20 freight locomotives from the Baldwin Locomotive works, Philadelphia, & orders for several hundred box & freight cars are being rapidly executed at Amherst, N.S., & elsewhere. The outlook is exceedingly bright for the coming season. A new feature in recent years is the large number of tourists attracted by the scenic beauty of our route. The I.C.R. is on a paying basis, & I have every reason to believe that it will show a surplus at the end of the fiscal year in June next.

International Traffic.—A Washington, D.C., dispatch says a statement has been prepared at the Treasury Department which shows that during 1898 the number of cars loaded with goods shipped through the U.S. from one point in Canada to another was 10,966, the contents of which weighed approximately 209,000 tons. The records of the department show that during 1897 (the figures for 1898 not being available), the number of cars loaded with U.S. goods shipped through to Canada from one point in the U.S. to another was 460,269, the contents of which weighed 5,637,173 tons. According to this statement the quantity of U.S. goods hauled by Canadian roads was about 27 times greater than the quantity of Canadian goods hauled by U.S. roads. We presume, however, that in this statement is included the traffic of lines in Canada like the Canada Southern, which is entirely owned in the U.S.

Just What We Propose To Do.—W. McWood, Superintendent Car Department, G.T.R., Montreal, in remitting his subscription for THE RAILWAY & SHIPPING WORLD, says: "I find your paper abounds in railway news & if you keep on improving as you have been doing since the commencement, you will, in my opinion, be quite equal to the best railway papers in the United States."

Lang's Valley, Man., Westerly.—J. A. Mather gives notice of application to Manitoba Legislature to incorporate a company to build a railway & telegraph line, commencing west of Lang's Valley, thence southwesterly to or near Deloraine, thence southwesterly to Township 1, Range 24, west of 1st Principal Meridian, thence to Waskada & western boundary of Manitoba.

Newfoundland, Northern & Western.—R. G. Reid has issued notice that lands along the line of railway will be granted for agricultural purposes free of cost, under the conditions, as to cultivation, prescribed in the Crown Lands Act. Formerly these lands were sold to settlers at 30c. an acre on the same terms as are granted Crown lands. Now Mr. Reid offers them free to bona fide settlers, so that any one can obtain 160 acres free of all charges. The settler may also avail himself of an act passed last year, which offers a bonus of \$20 an acre, payable to the extent of 3 acres, for clearing land, which then belongs to the settler. Mr. Reid has contracted with the New-

Spokane Falls & Northern System. Nelson and Ft. Sheppard R'y Co. Red Mountain R'y Co.

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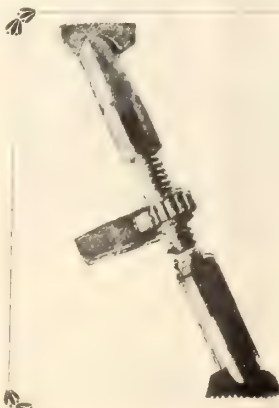
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foundland Government to build & run 7 steamers, one to ply direct between St. John's & Labrador, the others on the large bays, to connect with the railway at various points. By this coastwise steam service every fishing village & town will participate in the benefits of the railway, & all will be connected with St. John's.

Northern Pacific & Manitoba Ry. Co.—Notice is given of application to Dominion Parliament for an act to amend chap. 58 of 52 Victoria respecting the incorporation of the Co.; to extend the time for completing the lines & extensions authorized by that act, & by the acts therein recited & confirmed, with the right to construct the same in sections, & for other purposes.

Northern Pacific, Winnipeg Terminal.—This building which comprised the Manitoba Hotel, the station & the divisional offices of the railway, was totally destroyed by fire on the night of Feb. 7. The building was erected in 1891. The hotel portion, 7 stories high, had a frontage of 216 ft. on Main st., & 212 ft. on Water st., & had accommodation for over 300 guests. The divisional offices extended along Water st. south of the hotel & there was a large train shed in rear of the hotel. The building, furniture, etc., was valued at about \$600,000, & it is said the Co. did not carry any insurance. Guests lost effects valued at nearly \$100,000. Nothing definite can be learned of the intention of the Co. as to rebuilding the hotel. The station & offices are likely to be rebuilt on the old plan.

Ottawa and New York.—H. W. Gays has been appointed General Manager of this Co., & of the New York & Ottawa R.R. Co., with headquarters at Ottawa. Mr. Gays has left the General Managership of the Chicago, Peoria & St. Louis Ry., with headquarters at St. Louis, Mo., to accept the Ottawa position. C. B. Hibbard will confine himself to the duties of President in future, handing over the General Managership to Mr. Gays.

Portage la Prairie Westerly.—M. B. Jackson gives notice of application to Manitoba Legislature to incorporate a company to build a line from or near Portage la Prairie westerly north of the main line of the C.P.R. to the western boundary of Manitoba, with branch lines to or near Neepawa or Gladstone, & to or near Brandon or Carberry, & northwesterly or southwesterly to the western boundary of Manitoba.

Qu'Appelle, Long Lake & Saskatchewan net earnings for Dec., \$1,482.75, compared with \$2,094.37.

Quebec Central traffic receipts for Jan., \$27,129.61, compared with \$24,303.82 for Jan., 1898.

Richmond, Nicholasville, Irvine & Beattyville Ry.—The sale of this line to G. P. Magann, of Toronto, & others, on Oct. 6 last for \$160,000, has been set aside, Judge Barr's decision to that effect having been upheld by the U. S. Circuit Court of Appeals.

Rockland, Ont., to Prescott.—Press reports say J. S. Ross & others, of Winchester, are promoting a scheme for the construction of a line from Rockland, Ont., south about 42 miles via Winchester & Moorewood, to Prescott.

The Shelden Forwarding Co., Ltd.—R. Mackay, J. Beattie, H. Paton, D. Macmaster, Montreal, & C. MacKenzie, Toronto, have given notice of application under the Dominion Companies Act for incorporation under this title, with a capital of \$700,000.

Yukon Routes.—L. Coste, Chief Engineer, Dominion Public Works Department, who is now in Europe, was recently interviewed for the Canadian Gazette in London, which says: "Mr. Coste went out to the Yukon country last March by the Stikine-Teslin route. His mission was to inquire more particularly into

the navigability of the rivers which for some time yet must necessarily form the principal means of access to the Yukon owing to the non-construction of the railway from Stikine River to Teslin Lake. Mr. Coste does not, however, hold that the route he took is the best. 'The best available route,' he believes, 'is via Skagway & the White Pass to Lake Bennett, & thence by the Lewes & Yukon rivers to Dawson City.'"

General Manager Hays, of the G.T.R., & Mrs. Hays, arrived at Nice Feb. 12. They will visit London at an early date.

The Electric Lighting of Trains.

By Robert A. Ross, E. E.

Electric train-lighting is occupying the attention of the larger railway companies on this continent at present to a large extent, & in a number of cases has been adopted for the better class of train service. In Europe the development has been much more rapid & on many lines it has or is in process of displacing the oil & gas formerly in universal use. The reason for the change is not far to seek. The public demands the utmost luxury when traveling, & having been educated to the advantages of electric lighting at home is quick to appreciate the same advantages on the railways where at the present time it is counted a luxury, but will soon become a necessity. The public recognizes the fact that as the electric lamp is free from flame there is no risk of fire & no vitiated atmosphere to breathe & it has an illuminant & not a mere gloom disperser as with oil & gas. Its ready adaptability to being placed where wanted makes possible the use of reading lights in the seats & in other positions where any other form of illuminant would be impossible.

The railway companies are not slow to appreciate these advantages, but naturally wish to be assured that electrical illumination will not be more costly & less reliable than other methods. As regards the cost, from recent experiences of different companies it appears that it is at least as cheap as gas & more expensive than oil. That this inferiority in point of cost as compared with oil will not hinder its introduction is evident, for oil has superseded candles although more costly, & even if electric lighting were more expensive than gas its acknowledged superiority would render its use advisable. As regards reliability, which is certainly equally important with cost, the apparatus used in all systems of electric lighting is practically identical with that used for the illumination of buildings & should be as reliable in operation.

Storage batteries at the present time are thoroughly commercial, as are the dynamos & generating apparatus. In the case of axle driving some complication in the regulating apparatus may exist, & it is particularly at this point that a careful selection of apparatus is



NORTHERN PACIFIC HOTEL AND STATION, WINNIPEG, BURNED FEB. 7, 1899.

essential. The several systems in practical operation may be divided into two general classes, the first where each car on the system is independent & capable of taking care of itself, & the second where each car is dependent upon some method of charging located either upon the train or at certain points along the line. The first class necessitates the use of an axle-driven dynamo under each car with sufficient storage battery capacity to carry the lights over the periods when the train is not in motion or running too slowly to enable the dynamo to light the car. Generally speaking the operation of this equipment is as follows: When the train is at rest or running under 15 to 20 miles an hour the battery operates the lights, when the speed mentioned is reached the dynamo having attained the proper voltage is automatically connected to the lights & battery through the operation of a governor or electro magnetic mechanism, & the battery is charged & the lights operated from the dynamo. To regulate the voltage which would increase in proportion to the increase of speed of the train if not controlled, two general methods are adopted, either by keeping the speed of the dynamo constant or by regulating its field strength. The first is attained where the machine is belt-driven by allowing the belt to slip, the amount of slip being governed by some form of belt-tightening arrangement. This, while apparently unmechanical at first sight, works well in practice & has the merit of extreme simplicity. Where the dynamo is rigidly geared to the axle the system of the regulation of the field strength to vary in inverse proportion to the speed is adopted, which may be done either by an automatically controlled resistance in the shunt field, by changing the resistance of the magnetic circuit of the field magnet, or by a system of differential field winding. By the above system each car is a separate & self-contained unit & may be attached to any train on any line. Under the second class, where each car is not a separate unit but is dependent upon outside assistance, there are two general systems, the first where the car equipment consists of storage batteries alone, which are charged at suitable stations along the line, & second, where either an engine & dynamo unit driven by steam from the locomotive boiler or a separate boiler in the baggage car, or an axle driven unit for the entire train is located in the baggage car. Where the simple storage system is used each car is dependent upon obtaining charged batteries at regu-

at intervals, & its travel is limited by this consideration. Where the baggage car equipment is used, the train is a unit, & except for short intervals determined by the capacity of the battery installed on each car the unit must be maintained intact, & the entire train must be wired, at least for the main conductors for through connection to the last coach. In the case of through trains, where the amount of disconnection is small during long runs, the batteries might be dispensed with & dependence placed upon the generating unit in the baggage car, or a single set of cells used in the baggage car or last car of the train to carry the lighting over the periods of disconnection of the engine or baggage car.

As regards the initial cost of these several systems the writer, after a careful investigation of what has actually been done and what can be done at prevailing prices, has come to the conclusion that the order of cost is about as follows, beginning with the cheapest: 1. Engine & dynamo unit in baggage car without batteries. 2. Engine & dynamo unit in baggage car with batteries under each car. 3. Single axle unit in baggage car with cells under each car. 4. Battery equipments under each car with charging stations at intervals. 5. Separate axle units & batteries under each car.

The last two are not far apart in initial cost per car. It may be pointed out, however, that allowance has been made for charging stations on the understanding that they are not used for other work, but in many cases the companies have lighting plants already established which are available for charging, which would diminish the cost of the charging station plan considerably. As regards reliability any of these systems to be commercially successful must be capable of being placed in the hands of the train crew, the supervision of experts being only available at large terminal points, & the expert supervision necessary should not be great even when available, & this will be secured by the use of the system which requires the least apparatus on the cars. This condition is best met by the charging station system, where the batteries are inspected after each run, & the charging apparatus is under competent supervision. The chances of failure are greatest on the systems employing the axle units for charging, but even in this case, from the reports of several companies, the failures are few. Regarding the comparative cost of operation of the various systems, it is impossible to speak generally, as each is dependent upon the local conditions on the particular railway system under consideration. It may, however, be pointed out that the interest & depreciation accounts, if properly allowed for, will be the largest item in the cost, & the investment in the original installation will to a large extent govern the annual cost per car for its operation. This

acts against the charging station scheme because of the large number of batteries used, & on them the depreciation is larger than on the rest of the apparatus.

The voltage employed where batteries are used should be kept as low as possible with due regard to the wiring losses, to take advantage of high efficiency lamps, & to reduce the weight & cost of the batteries as much as possible. In practice the voltages range from 24 to 60, & in many cases 2.5 watt lamps are adopted; the decreased life of these being compensated for by the smaller size of battery & charging apparatus. Where axle units are used the problem to be met approximates in a small way to that of street railway motors, which are operating under the floor of a moving car, & subject to the shock & disturbance of the motion, but the amount of attention which they will receive while operating is less than in the case of the motor.

To sum up the relative advantages of the several systems in a general way, we may say that the system employing a steam unit in the baggage car without batteries is the cheapest, & is very simple in operation, but when the locomotive is uncoupled the lights are extinguished, for which reason batteries under each car are a necessity unless the train is never broken. The batteries need, however, be but small. A single axle unit in the baggage car is in a good position for operation without chance of failure, but requires somewhat larger batteries on each car than the steam unit system to carry the lights while the train is stopped or running slowly. Each of the above systems requires that the train be wired throughout from car to car. The advantage of the separate axle unit under each car is that each is independent & no through wiring is necessary, but the initial cost is higher, & the necessary supervision greater than those previously mentioned. The charging station plan is simpler in operation, but its initial cost is high, & its operating costs probably higher than any of the others for the same conditions. It may be pointed out that where any road is contemplating the use of electric light, the natural course is to proceed cautiously & invest as little as possible until success has been demonstrated, & for this reason the separate axle unit has an advantage, as only those cars upon which the system is to be tried need be fitted up, while with the other systems expense has to be incurred for wiring all cars or establishing charging stations.

These are merely general views, & should not be applied indiscriminately to all cases, as the local conditions of each road will modify the above conclusions profoundly, each case requiring a careful study of existing conditions to ensure that the best system is adopted to meet the requirements. Under the varied conditions of traffic each of the above systems has its place, & with the possible condi-

tions met by such varied systems it is not too much to hope that the train of the immediate future will be the electrically lighted. — Canadian Engineer.

The Late Hugh Ryan.

Hugh Ryan, who died in Toronto Feb. 13, was born in County Limerick, Ireland, in 1832, & came to Canada with his parents in 1841. In 1850 he began railway work on the St. Lawrence & Atlantic Ry., which subsequently became the first link in the G. T. Ry. Ever since the construction of the St. L. & A. R. Mr. Ryan was engaged, with the exception of about three years, in the construction of public works. In 1856 H. & J. Ryan took the contract for a portion of the Brockville & Ottawa line, from Smith's Falls to Perth. They also took part of the same road from Arnprior to Bonnechere, which is now part of the main line of the C.P.R. Contracts in Michigan followed; then for a time Mr. Ryan was carrying out contracts in Illinois on a road which now forms part of the Chicago & Alton system. Afterwards he pursued his railway building in Kentucky. He went to Nova Scotia in 1867, & with Mr. Brooks built the heaviest portion of the Pictou Railway along the Salmon River. The same firm built a large part of the European & North American line through part of New Brunswick, & the Pope line, from Lennoxville, Que., towards the boundary, now a part of the C.P.R. short line. Next Mr. Ryan was engaged in building section 20 of the I.C.R., including the heavy bridges across the Michichi River. In 1876 Purcell & Ryan took the contract for the C.P.R. from Fort William west to Eagle River, 227 miles. After this Mr. Ryan had the management of the building of the line from Toronto to Perth for the Ontario & Quebec Ry. syndicate. Next, in company with M. J. Haney, he started to build the Red River Valley Ry. from Winnipeg, which was completed by the Northern Pacific. Then Hugh Ryan & Co. took the contract for the building of the Sault Ste. Marie Canal, & six years were spent on that.



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CANADA LIFE ASSURANCE COMPANY.

The Record of Another Successful Year.

There was a large number of shareholders present at the annual meeting of the Canada Life in Hamilton, Feb. 14. At the close of the Company's 52nd year, the directors have to submit their annual report along with the usual statements of the year's receipts & payments, & the assets & liabilities, as at the 31st Dec. last.

During 1898 the applications for assurances were 2,989 in number for the sum of \$6,152,764.75. Of these 181 were declined, for \$368,600, the lives not being deemed desirable for the Company's acceptance, & 159 for \$310,845 not being completed, the actual issue of the year was 2,649 policies for \$5,473,319.75. This amount is an advance upon the business of the past 2 years, & as it is doubtless an indication of the increased prosperity of the country, it may also be mentioned that the new assurances of the current year at this date are in excess of those of recent years.

The total business in force at the 31st Dec. last, was \$75,256,241.35 of assurances under 34,733 policies, upon 25,464 lives. The amount paid to policyholders, or their representatives, for policies which became claims by death during the year was \$881,808.88, & for endowment policies which had matured, \$120,693.67. In addition to these sums there were paid on policies by way of profits \$194,353.53, & for surrendered policies, \$107,376.59, making the total payment to policyholders \$1,304,232.67.

The reserve necessary on account of all the Company's policy risks, & all other liabilities & capital stock, as shown by the general abstract, with the addition of \$225,000, set aside as a special voluntary provision towards the higher reserve basis to which the lower rates of interest now obtainable makes it prudent to look forward, & adding \$30,000 to the contingent account, there is left a surplus over all liabilities, amounting to \$1,818,747.89.

During the past year the Company sustained a very great loss by the death of Col. Sir Casimir S. Gzowski, K.C.M.G., who had been on the Board of Directors for 25 years. His wise counsel & earnest readiness to at all times promote the best interests of the Company were invaluable to it, & his courteous & gracious bearing towards his colleagues, warmly endeared him to them.

FINANCIAL ABSTRACT FOR YEAR 1898.

(On basis of Government Returns.)

Premium Income (Net).....	\$ 2,167,488 72
Interest, rents, etc.....	868,960 72
	<u>\$3,036,449 44</u>
Paid policy-holders'.....	\$ 1,208,370 43
Expenses, taxes, etc.....	488,891 79
Balance.....	<u>3,355,774 22</u>
	<u>\$3,355,774 22</u>
ASSETS, JAN. 1st, 1899.	
Ledger assets.....	\$10,225,000 01
Other assets.....	<u>813,157 32</u>
Total assets.....	<u>\$20,038,157 33</u>
LIABILITIES:	
Assurance Reserve Fund (4 per cent.).....	\$ 8,122,960 00
Special Reserve towards higher stand- ard.....	1,000,000 00
and.....	<u>735,844 44</u>
All other liabilities.....	<u>895,295 89</u>
Surplus over all liabilities.....	<u>\$1,818,747 89</u>
	<u>\$20,038,157 33</u>

Assurances in force, Dec. 31, 1898, 34,733.

*Exclusive of \$88,960 received for Reassurances.

The President, Mr. A. G. Ramsay, in moving the adoption of the report, said:

"The annual report by the Directors & the accompanying statements tell the story of the

Company's fifty-second year. It is the twenty-fourth year in which I have had the honor as President of submitting a report to you, & it is with the same satisfaction & confidence as I have happily had upon all these occasions, & indeed during all the forty years of my connection with the Company, that I am able to point to the success & the sound position which the Company occupies. In again congratulating you, I would call your attention to some of the figures to which the report alludes. The new business during the year was in excess of that of the previous year, & looking to the increased number of companies, all eagerly competing for business, some of them purchasing it at a greater cost than we have thought prudent or safe, or beneficial to the true interests of those already assured, such a result speaks well for the public confidence which the Company enjoys. Our new business having been obtained without undue expense, & with a scrupulous care not to mislead applicants, will prove of a more enduring character, & of more real profit & advantage, than would a larger business otherwise secured, upon systems which our Company has not thought desirable.

"In speaking about new business, I would like to give you a few remarks from a very excellent paper read the other day before the Actuarial Society of Glasgow. The author says that while all know that the health of a man will be impaired by too much food, especially if it be rich & costly, there are few who understand that it is possible to injure a life office by giving it too much new business, no matter at what cost it may have been obtained. He pointed out that it is not by any means surprising that a big new business is so highly prized, & its advantages so greatly exaggerated, for it is the big new business that raises the fees of Directors, that raises the salaries of the Presidents, Managers, & Officials, & causes the annual rejoicing on the day of the annual meeting. Reserves may be inadequate, funds badly invested, expenses of management may be ruinous, & bonuses may be infinitesimal, but, if there is a large new business to report, everybody is congratulated on being connected with such a highly-prosperous concern. The big new business is like charity in covering a multitude of sins, but a big new business is not so much a matter of merit as a matter of price.

"There are already indications that companies which have been unduly expanded & differently conducted from the Canada Life, not following the conservative & economical principles by which it has been guided, are suffering the effects of their different course, & can only avoid its consequences by not holding that full reserve which we do for the protection & safety of our policyholders; & while I am alluding to these effects of undue expansion & undue expenditure, I may point you to the fact that the great companies whose business is of the largest amount, & whose enormous growth makes them apparently of the most progressive & prosperous character, are just those who have been the most conspicuous in the decline of the profits or surplus which they have been able to give their policyholders. During the past ten years the profits of these very progressive companies have been so reduced that the greatest & largest of them is now paying its policyholders, by way of profits, less than one-half the percentage to premiums they were paying ten years ago.

"The ratio of our Company's expenses to its income is of a moderate amount. It was last year 13.61 per cent., & I would, without alluding to any other company in particular, invite those who are interested in doing so to compare that with the corresponding ratio of any other company doing business in Canada. Mere magnitude of business without regard to its cost is a distinct & direct injury & injustice to our older policyholders, whose advantage

& security should be our first care. As the report states, our assurances in force, which were ten years ago forty-seven million dollars, are now seventy-five million dollars. The payments for profits, claims by deaths, & for endowments maturing last year, were, it will be seen, \$1,196,856.08, & as an evidence of the Directors' care & sagacity in the selection of the lives assured, I may mention that the year's mortality was largely under what was anticipated & provided for. The sum added to the assets of the Company during the year was larger than had ever before resulted from any year's operations. The new premiums of the year's new business were \$200,919.42, & I may explain that the total year's premiums would have exceeded the large amount shown by the accounts, but that so many of our policyholders having very prudently in past years taken their policies on the system of premiums ceasing after a limited number of years, they have now completed their payments, & their policies are free from future premiums to the Company. The Directors have each year for some time back called your attention to the decline in the rate of interest obtainable upon satisfactory investments, & I am sorry to have to repeat that that decline still continues to be experienced by this & all other investing companies & it has to be added that, in our opinion, & in that of every one who has given consideration to the question, there is no prospect of any permanent improvement in that respect, but rather the reverse. Under such circumstances and looking to the fact that a Life Assurance Company's obligations are based upon an assumption of interest to be obtained during very long periods, extending up to, say, fifty years in the future, it is a matter of prudent regard for the solidity & safety of the Company & its policyholders that we should prepare to still further strengthen our reserves upon policies. With that view, it will be observed by the accounts, that a sum of \$225,000 has been set aside as a special fund towards a higher valuation standard. The wisdom & prudence of this course will, I am sure, commend itself to you & all interested in the Company."

Mr. F. W. Gates, Vice-President, seconded the adoption of the report, which was unanimously carried.

Messrs. Campbell Ferrie, J. H. Plummer, & W. F. Findlay were appointed scrutineers of the meeting.

On motion, a vote of thanks to the President & Directors for their attention to the interests of the Company during the year was unanimously carried, & briefly responded to by President Ramsay. Mr. Adam Brown moved the thanks of the shareholders be tendered to the agents, officers, medical & legal advisers of the Company, to whose exertions in the interests of the Company its remarkable success is in a great measure due. This was unanimously carried.

A full discussion took place upon the proposed removal of the Head Office of the Company to Toronto, & it was moved by Hon. Geo. A. Cox, seconded by Z. A. Lash, Q.C., that in the opinion of this meeting it would be in the interests of the Canada Life Assurance Company that its chief place of business should hereafter be in the city of Toronto, & that the Board of Directors be & are hereby requested to take such action as may be deemed necessary to carry out the object of this resolution. An amendment to this resolution having been defeated by a vote of 1,353 shares against, & 954 for, the original motion of Messrs. Cox and Lash was carried upon the same vote. At an earlier stage of the meeting a deputation of citizens was heard, Mr. Samuel Barker stating their reasons against the proposed removal of the Company.

The following Directors were elected to fill the places of those retiring:—Messrs. A. G. Ramsay, Adam Brown, William Gibson, M.P.,

J. W. Flavell, John Hoskin, Q.C., Z. A. Lusk, Q.C.

At a subsequent meeting of the Directors, Mr. A. G. Ramsay & Mr. F. W. Gates were unanimously re-elected President & Vice-President, respectively.

C.P.R. Operating Notes.

On the Crow's Nest Pass Ry. the change from mountain to Pacific standard time will be made at Cranbrook, B.C.

Now that regular mixed trains have been established on the Rat Portage & Wabigoon sections of the Western Division for the handling of local business, the practice of carrying passengers on freight trains will be discontinued unless on special orders from the Manager or his Assistant.

The Assistant to the Manager of the Western lines has issued the following circular: "This Co.'s expenditure for the purchase of temporary & repairs of permanent grain doors still continues abnormally large. The attention of agents is called to the fact that they are required to exercise great care to prevent the removal of temporary grain doors or damage to permanent ones, & to report all cases where cars which have been equipped with permanent grain doors have any portion of the equipment missing or broken. Conductors of freight trains will report any missing side, end, or ice box doors on cars in their trains to their Superintendent by first mail, stating number of train, date, car number, initials, & where car lifted from. Agents will make same report about all cars set out at their stations. Missing doors must be sent to the nearest car repairing point so that they may be reapplied to cars as opportunity offers. Sectionmen must see that all doors found lying along the track between stations are picked up & taken into stations for shipment to car repairing points."

The Manager of the Eastern lines has issued the following circular: "The use of cold water to cool hot boxes undoubtedly has an injurious effect on axles, & therefore this practice, now very generally followed, must be discontinued except when necessary to avoid delay to an important passenger train, & then the conductor must report the fact to the car inspector at the next terminal so that

the axle may be either removed or marked for scrap to be removed at first opportunity."

The Manager of the Eastern lines has issued the following circular: "If on account of severe weather or other unavoidable cause, it is found impossible to keep the rear car or cars on a passenger train at the proper temperature by steam heat from the locomotive, Baker heaters should then at once be started & kept going while necessary to maintain the proper temperature in such car or cars, the steam heat during such time being shut off from them. It will be the duty of the train conductors to see that this is done & that proper temperature is always maintained in passenger cars."

There have been many rumors about faster transcontinental service, but nothing appears to be settled, & it is likely the matter will remain in abeyance until Vice-President Shaughnessy makes his annual trip to the Pacific Coast in April. One proposal is to run a special train, to be called "The Imperial Limited," twice a week each way, making the run between Montreal & Vancouver in about 90 hours. Another idea is to relieve the Pacific & Atlantic expresses west of Winnipeg of all local traffic between Winnipeg & Medicine Hat, & to serve that territory by a second daily train each way, which would also run over the Crow's Nest Line between Dunmore Jct. & Kootenay Landing.

It is reported that trouble is brewing between the Co. & its locomotive engineers in consequence of the expected criticisms from headquarters about their methods of utilizing fuel, but not even an echo of this coming trouble has yet reached headquarters. From a railway point of view it is difficult to see what ground the engineers have for complaint. It is no doubt true that for some time past circulars have been issued from headquarters in Montreal explaining to the engineers the steps they ought to take to get the best results from coal. They were frankly told that they were not getting as good results from the use of their coal as they might, but there was no intention on the part of the management that the inference should be drawn that they were not treating the Co. fairly. They have been called upon to make explanations where it was believed that they had been extravagant in the use of coal, but it is explain-

ed by the management that it is necessary that the most rigid economy should be exercised in the use of fuel, which is the greatest single item of expenditure that the railways have to meet. It is said that a committee of engineers will be appointed to interview the management on this question, & it is exceedingly probable that the management will be glad to have the opportunity of meeting the men & placing the position clearly before them.

The Canadian Ex. Co. has extended its service over the Ottawa & New York, the Tilsonburg, Lake Erie & Pacific, the Detroit & River St. Clair, & the Pembroke Southern railways.

W. Stitt, Chief Clerk of the C.P.R. Passenger Department at Winnipeg, who is at Los Angeles, Cal., at present, is improving very much in health, & it is hoped he will be able to resume his duties towards spring.

SHIPPING MATTERS.

Notices to Mariners.

The Dominion Department of Marine has issued the following notices:

No. 3, Jan. 24, Ontario.—1. Weller's Bay range lights. 2. Removal of the wreck of the Monitor in St. Mary's River.

No. 4, Jan. 26, Nova Scotia.—Change in position of Brooklyn pier light.

No. 5, Feb. 10, Nova Scotia.—Louisburg buoys adrift.

No. 6, Feb. 18, British Columbia.—Change in character of Fiddle Reef light.

No. 7, Feb. 20, Ontario.—1. No light at Port Bruce. 2. Michipicoten Island fog bell discontinued.

General Shipping Notes.

Goderich, Kincardine, & other ports on the south-east shore of Lake Huron are trying to secure a steamship line for that route. Since the wreck of the Cambria and the withdrawal of the Carmona the Windsor-Soo route is vacant.

W. H. Moore, solicitor, Toronto, gives notice of application to Dominion Parliament for an Act incorporating a company to con-

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struct & operate steam & other vessels between Canadian or other ports, & with other powers.

The Quebec Board of Trade has petitioned the Dominion Government to carry out Sir Wm. Van Horne's proposal for a first-class trans-Atlantic steamship service, urging that it will pay the country even if it should cost \$1,000,000 a year.

A significant circumstance in connection with the question of shipping from Canadian ports is that the Allan S.S. Co. has placed orders for 5 steamers—one of 8,800 tons & 14 knots, two of 10,000 tons & 15 knots, & two cargo steamers of 8,000 tons & 12 knots.

The shipping season of 1899 at Montreal promises to be a record-breaker. R. Reford & Co., who have for many years controlled some of the leading freight steamship agencies there, have added the Lord line of steamers which will trade with Cardiff. There is a probability of Reford & Co. establishing a Dublin service, but as yet it is indefinite.

Up to the middle of Feb. steamers had this season carried away from St. John, N.B., cargoes to the aggregate value of about \$3,500,000. The quantity of grain is not as large as was expected, but nearly 1,500,000 bushels have been shipped. The importation of wheat has been larger than last winter to this date. The total value of shipments is much greater than for the same period last season.

Great interest has been manifested in England in Sir Wm. Van Horne's Quebec speech on the fast steamship service. The papers commenting on it emphasize the strategic importance to the Empire of the C.P.R. route to the far East. If the Atlantic journey be reduced by a 22-knot service to, say 6 days, & the Quebec-Vancouver journey to, say 3 days, & the Vancouver-Hong Kong journey to 18 days, or 12 days, leaving out stoppages, it would be possible to go from Euston to Hong Kong in 22 days, & most of the way through British possessions; whereas the journey via the Suez canal, which is liable to be blocked in time of war, now takes about 40 days.

British Columbia Shipping Matters.

A. L. Brownlee's 100-ft. stern wheeler on Dog Lake has been burned.

The Union S.S. Co.'s str. Comox is being overhauled at Victoria, after which she will again go on the Vancouver-Shoal Bay run.

The Canadian-Australian line is carrying large cargoes from Vancouver, Canadian agricultural implements being the heaviest shipments.

The Big Bend Transportation Co., Ltd., has been incorporated under the B.C. Companies Act, capital \$125,250; headquarters, Revelstoke.

The Northern Lakes & Rivers Navigation Co., Ltd., has been incorporated, under the B.C. Companies Act, with headquarters at Victoria. Capital \$50,000.

There are rumors that both the Peninsular & Oriental S.S. Co. & the North German Lloyd will put on steamships between the Pacific coast & Japan & China.

The B. C. Marine Ry. Co. has installed an electric light plant on its ways at Esquimalt. A similar plant will be installed on the Vancouver ways, on which work is being pushed.

The str. Mananeuse, which has been the cause of a lot of litigation recently, is to be run under the agency of R. Ward & Co.; she will probably make the northern trip from Victoria about every 10 days.

The C.P.R. Co. is about to build at Nelson a 3rd transfer barge, with 15 cars capacity, to be used between Kootenay Landing & Nelson. Another is to be built at Nakusp for use between East & West Robson.

It is said Cap. McPhaiden, one of the directors of the Union S.S. Co., & Manager Darling have gone to Portland & San Francisco to purchase another steamer to run between Vancouver & Shoal Bay. The new vessel will, it is expected, cost from \$50,000 to \$60,000.

It is said an order for 160,000,000 ft. of lumber has been placed with mills at Vancouver for the Chinese railway. Additional mills will be erected to increase the output. Australia has also ordered more lumber than B.C. can supply. This means great activity in shipping.

The C.P.R. Co.'s str. Athenian has been overhauled at Hong Kong, being made into a large freight carrier. The forward part of her passenger accommodation has been taken out & that part of the ship given over to increase the room for freight. The Tartar will probably be treated in the same way.

The Yukon trade very favorably affected the shipbuilding industry of Victoria during the past year. Of the 22 steamers built in

1898 in B.C. 12 with a tonnage of 4,944 tons were built in Victoria. The majority of these were river steamers for the Northern rivers. In repairing the Mananeuse, \$34,000 were expended. The Islander, Tees, Charmer, & a number of other vessels had very extensive alterations made in them. During 1898 5,458 vessels entered & cleared from the port of Victoria against 5,023 in 1897.

The C.P.N. Co.'s str. Tees, hitherto used almost entirely for freight, has been repaired & largely altered, so as to fit her for passenger traffic also. A new deck has been put on, & cabins have been constructed on this & below, which will provide accommodation for 70 1st & 60 2nd-class passengers without encroaching on the space hitherto reserved for freight. Previously only 28 passengers could be carried, & the accommodation for these was indifferent, owing to there being no thorough system of heating the vessel. This has been overcome by the installation of a donkey engine & of steam-heaters throughout the vessel. The kitchens have been removed below. Another feature is the clear deck amidships, a promenade deck being provided aft & another on the bridge. Among other improvements is a thorough overhauling of the boiler-room, the complete repair of the ship's bottom in dry dock, & the accommodation provided for the carriage of horses, either between decks or in the lower hold.

The narrows between Upper and Lower Arrow Lakes are being improved by the Dominion Department of Public Works. This is one of the most important waterways of the Kootenay district, providing a stretch of navigation, 125 miles long, on which the C.P.R. steamers ply at the rate of 18 miles an hour. These narrows are the only point at which navigation is at all obstructed, & a force is engaged building wing dams, so as to confine the water to one main channel. This work was begun a year ago, & the result was that, during the last period of low water, steamboat traffic was not once delayed, as it had always been before. Work is also being done on the Upper Duncan River, where snags, rocks & other obstructions extend for 18 miles. When this channel is improved, navigation will be opened into the Lardo-Duncan country, which is one of the most promising of the Upper Country mining districts. At present, prospectors & miners have great difficulty in passing the accumulations of driftwood, even with small

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boats, but very soon there will be a clear stretch of navigable water for 40 miles from Kaslo. Work has been commenced improving the channel of Kootenay River, between Fort Steele & Wardner, where the river is crossed by the Crow's Nest Pass Ry. When this work is completed there will be easy access, by water, to the railway for the people in & about Fort Steele. On the Columbia River, above Revelstoke, obstructions are being removed from the canyons between Revelstoke & La Porte, to facilitate the navigation of the stretch of the Columbia, leading into the Big Bend Country, this being the only present means of communication.

Maritime Provinces Shipping.

C. R. Burgess, Wolfville, N.S., & others have been incorporated as The Ship Kings County Co., Ltd.; capital, \$32,000.

C. F. Libby has been appointed Manager of the International Steamship Co. at Portland, Me., vice J. B. Coyle, deceased.

The government str. Stanley arrived at Georgetown, Feb. 18, after being delayed 16 days in ice between there & Pictou, N.S.

The Dominion Coal Co. has chartered a number of steamers to carry coal from Louisbourg to Halifax & Boston during the winter.

At the recent annual meeting of the Yarmouth Marine Ry. Co. the business of the year was reported satisfactory, a dividend was declared, & the directors were re-elected.

It is said the business done by the Yarmouth Steamship Co. in 1898 exceeded that of the previous year, & that the management is perfectly satisfied with what has been accomplished.

About the middle of Jan. the SS. Yarmouth, of the Yarmouth Steamship Co.'s fleet, was chartered by the Plant Steamship Co. for 3 months, & is now on that Co.'s route between Tampa & Havana.

The repairs being put upon the D.A.R. str. Prince Rupert will, it is expected, be completed by Mar. 1. She will then proceed to Halifax to go into dry dock. As soon as she goes on the Digby route again the Prince Edward will be overhauled.

Another steamship has been ordered by the Plant line, to run between Boston & Halifax. She is to be a twin-screw ship, 400 ft. long & with a contract speed of 18 knots. It is expected her passenger accommodations will be the most complete of any steamer ever built on this side, with the exception of the St. Paul & St. Louis.

A company is being formed in North Sydney to purchase a large steamer for freight and passengers to run between there & Montreal during summer. If the Co. succeed in raising the necessary amount a steamer will be immediately purchased to run between North Sydney & Montreal during summer, and South in winter.

Some time ago a news item went the rounds of the press to the effect that owners of Nova Scotia schooners engaged in the Porto Rican trade had decided to transfer their register to the U.S. as a means of competing on equal footing with U.S. craft. A recent Treasury ruling at Washington says that a U.S. register cannot be obtained by Canadian craft except under special legislation by Congress, & that the owning of the vessels by U.S. citizens does not alter the case. U.S. register will be given to no vessel which has not been built in U.S. waters.

A committee of the Fredericton Board of Trade has had a conference with President Baird of the Star Line Co. on the up-river steamboat service, about which there has been much complaint. Mr. Baird said the irregular service was due to the str. Aberdeen being unable to make more trips between Fredericton & Woodstock because of shallow water. If the Provincial Government will give a small additional subsidy the Co. will next season put on a steel steamer of light draft that will be able to maintain a continuous service throughout the summer. The Board of Trade will back the Co. in petitioning the legislature for an increase on the present subsidy, which is \$900.

The winter str. Stanley, owned by the Dominion Government, which runs between Pictou, N.S., & Georgetown, P.E.I., was built in 1888. Her gross tonnage is 914 tons. In the 10 years she has been running the highest no. of trips made in a season was 89—in 1891-2, & the lowest 47—in 1897-8. The greatest no. of packages of freight carried was 94,519—in 1893-4, & the lowest 21,620—in 1891-2. The greatest no. of passengers was 2,317—in 1890-1, & the lowest 1,240—in 1897-8. The earliest date of starting running was Dec. 1, in 4 different years—'91, '92, '94 & '95; & the latest Dec. 25—in '97. The earliest date of ending was Apr. 9, '89, & the latest May 9, '94. The highest gross earnings were \$15,339.04—in 1890-1, & the lowest \$6,476.60—in 1891-2. The greatest no. of days stuck in ice was 85—in '88, & the lowest 10 days—in '89.

Ontario & the Great Lakes.

Capt. Trowell, of the str. Ocean, is again able to move round without crutches.

On Feb. 14, the Niagara River was frozen over from Lewiston to Youngstown, the first time in 20 years.

The Donnelly Salvage & Wrecking Co. has purchased the str. Eurydice for wrecking work. She was formerly the str. Hastings.

Mr. Lumas, of Cincinnati, Ohio, is having a 50 ft. steam yacht built at Kingston, Ont., for use on Muskoka Lake, where he has an island.

It is said F. A. Knapp, of Prescott, the inventor of the roller boat, has found financial backing in Chicago, & that a large roller boat will be built from his design.

Two large steamers, Canadian bottoms, will be built for the Canada Atlantic Ry. system, to carry grain from Duluth & Fort William to Depot Harbor, Ont.

W. G. Denesha, of Morrisburg, is having built at Kingston, for use on canal contracts, a tug 60 ft. long, engine high pressure 14x16 with return flue marine boiler. Cost \$3,500.

The str. Flora is being rebuilt and refitted at Sandwich for the Cleveland-Rondeau route. About \$25,000 is being spent on her by the L. E. & D. R. Ry. Co. The engines of the revenue cutter Andrew Johnson will be placed in the Flora.

The L. E. & D. R. Ry.'s car ferry Shenango no. 1 stuck in the ice near Clear Creek, Lake Erie, early in Feb. Up to Feb. 23 she was still there, but no danger to her is anticipated. Efforts to release her by dynamiting the ice proved unsuccessful.

The Great Northern Transit Co.'s steamer to replace the burned Pacific, is to be built at Collingwood. She will be 190 ft. long, 32 ft. beam & 11 ft. deep, & will cost between \$60,000 & \$70,000. The Co. will buy a steamer to replace the burned Northern Belle on the North Shore route.

The steamers of the American line, consisting of the New York, Empire State & America, are undergoing a general overhauling, & improvements & alterations are being made to the boilers & wheels, which is expected to materially increase their speed. More state-rooms are being added to the New York & Empire State.

At the recent annual meeting of the Niagara Navigation Co., the General Manager's report, which was very satisfactory, was unanimously adopted. The following board was elected: President, Sir Frank Smith; General Manager, John Foy; other directors, W. Hendrie, E. B. Osler, J. J. Foy, R. H. McBride, B. Cumberland.

The steamer being built at Pictou, & in which the engines & boilers of the str. Empress of India are being placed, is to be called the Argyle. There has been a great deal of speculation as to her route. The latest report is that she is to run between Toronto & the Thousand Islands as a Western connection for the American Line.

Hamilton City Council has decided to petition for these improvements: The dredging of the channel at the piers from 20 ft. at the lake end, to 15 ft. at the bay end; the piers extended easterly into Lake Ontario until 20 ft. of water is reached; the south pier extended 300 ft. in a southwest direction, & a good distinguishing range light at or near the west end of the south pier.

The str. Empress of India having gone off the Toronto-Port Dalhousie run, the Lakeside Navigation Co. will put on the str. Greyhound in addition to the str. Lakeside. Both boats are being overhauled at St. Catharines. It is said the Lakeside Co. will put another boat

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on the Toronto-Oakville run. Capt. J. Tow-ers, formerly captain of the str. Ocean, will have charge of the Greyhound.

At the annual meeting of the Canadian Marine Engineers' Association, the following officers were elected: Hon. President, O. P. St. John; President, H. Parker; 1st Vice-President, A. J. Woodward; Secretary, S. A. Mills; Treasurer, H. Brownley; Inside Guard, H. Bowler; Auditors, D. L. Foley & E. J. O'Dell; Council, T. Good, W. Horwood, R. Binch, P. J. Carr & J. E. Kane.

The Polson Iron Works, Toronto, is building a composite steam cutter for G. Gooderham, of that city, to act as tender to his yacht Oriole. She will be 36 ft. long, 9 ft. beam, 3 ft. deep, with verticle engine 6"x7" & Clyde boiler 45"x66" long & 150 lbs. pressure. She will have steel frame & be planked with clear B.C. pine. She will be powerful enough to tow the Oriole if necessary. She was designed & is being built under the superintendence of W. E. Redway, naval architect, Toronto, & will cost about \$1,500.

The Polson Iron Works, Toronto, is building a handsome steel passenger steamer for the Richelieu River Navigation Co. of St. John's, Que., to be called the Majestic. She is 112 ft. long, 22½ ft. beam & 6 ft. deep, having vertical compound jet condensing engines, 14"x28", with 18" stroke, large Fitzgibbon boiler containing 1,400 ft. heating surface, with 150 lbs. pressure. She will be fitted with electric light throughout, including a powerful search light, & is to be finished by June 21 next. The guaranteed speed is to be 15 knots. The cost is in the neighborhood of \$20,000.

Province of Quebec Shipping.

The Canada Atlantic Transit Co. is organizing a barge line in connection with the Coteau Landing elevator, & is building floating elevators to transfer the grain at Montreal.

The widening & deepening of the ship channel between Montreal & Quebec, the increase of pilots, & the abolition of the contract system of buoys is being urged on the Dominion Government by the Montreal Board of Trade.

Notice is given of application to Dominion Parliament for an act amending the act incorporating the Quebec Steamship Co. by granting power to the Co. to buy & sell fruit & other goods & merchandise, & to carry on the business of general merchants, & for other purposes.

In response to a request of the Montreal Board of Trade for the establishment of an Admiralty Court in that city, the Minister of Justice proposes to establish a deputy registrar there whose emoluments will be derived from the fees in the cases, & Judge Routhier will attend to the actions themselves.

D. M. Robertson has been appointed captain of the Ottawa River Navigation Co.'s str. Empress, to succeed the late Capt. Bowie. Capt. Robertson was for several seasons purser of the str. Empress, & in 1897 was purser of the str. Sovereign. During the years he served as purser for the Co. he studied medicine at McGill University, & in 1898 obtained the degree of M.D., passing with honors. At present he is attached to the staff of the Royal Victoria Hospital, Montreal.

The Ottawa River Navigation Co. is having a wooden propeller built at Toronto by M. Simpson, to ply on the Ottawa River. Her dimensions are: Length, 100 ft.; beam, 21 ft.; depth, 7 ft. She will be fitted with fore and aft jet-condensing engines, cylinders 10x20 in., with 16 in. stroke; usual feed donkey-engine pumps; boilers, 120 in. long, 66 in. diameter; steam pressure, 160 to the sq. in. The contract speed is to be 14 knots. The machinery is being built by the Polson

Engine Works. The boat is to be completed by May 1, & will run between Ottawa & Thurso daily. Her passenger capacity will be 300.

Yukon & Northern Navigation Matters.

Capt. J. Irving, of Victoria, B.C., is about to build a steamer on Lake Bennett.

Capt. R. A. Talbot is building 3 steamers at Seattle for the Alaska trade, to cost about \$20,000 each. They are to be flat bottomed, 120 ft. long, 23 ft. beam, 12 in. draft light and 3½ ft. loaded, each to accommodate 400 passengers and 200 tons freight.

The Gold Mining Steamship Co., with headquarters at Victoria, B.C., is going to have built there 2 stern wheel steamers, 130 ft. long, 28 feet wide and 4 ft. deep. One is to be ready by May 1 and is to be sent to St. Michaels for service on the Yukon, the other will be sent north in sections and is to be ready to leave Lake Bennett when navigation opens.

It is reported that marine insurance underwriters have become alarmed over the plans of steamship companies to cut down the time on the run to Alaskan points and are seriously considering the question of calling a halt. The rates on vessels in that service during the last two years have been from 2 to 5 higher than on other coastwise vessels. Last year, when the great rush to the north was on and boats of all descriptions were pressed into the service, the premiums paid in some instances were fabulously high. Even the Pacific Coast S. S. Co., which has been running steamships to Alaska for 40 years and whose vessels have been constructed with full knowledge on the part of the owners of the necessities for ships in that service, had to pay largely increased rate.

At a meeting in Seattle, Jan. 16, of representatives of all companies operating steamers between British Columbia & Puget Sound ports & southwestern Alaskan ports the following rates were fixed:

Passengers.	1st Class.	2nd Class.
To Wrangel & points south	\$17	\$10
To Juneau	20	12
To Skaguay and Dyce	25	15
Wrangel to Skaguay.	10	

General merchandise—to Wrangel, \$8; to Juneau, \$9; to Skaguay and Dyce, \$10.

Horses & cattle, in lots of less than 3, to all Alaskan points, \$22.50 each; in lots of more than 3, \$20 each. Dogs, to all points, \$5.

Dressed meat, 2½ times the rate on merchandise. Live hogs, 4 times the merchandise rate. Sheep, merchandise rate, estimated at 500 lbs. each.

Lumber, per thousand ft., to Skaguay & Dyce, \$9; to Juneau, \$8; to Wrangel, \$7.

Hay, per ton—to Skaguay & Dyce, \$15; to Juneau, \$11.50; to Wrangel, \$10. The last rate may be slightly varied.

All the foregoing rates are now in force.

A budget of news from the frozen-in Yukon river steamers has been received from the lower river. Parts of the Sovereign's machinery became broken & others were worn out. Some of the parts could not be replaced, but could be repaired provided they were taken to a foundry. Mate Tritton was allotted the task of bringing out the heavy pieces, & lately reached Skaguay. He started from Circle City, with a dog team, in a blizzard, for the perilous trip to Skaguay. For 18 days he struggled over the frozen surface of the lower Yukon to reach Dawson. The river below Dawson is entirely different from the river above. The upper Yukon is frozen smoothly & makes a good sledding track. The lower river congealed in bunches and is as rough as the top of a miniature mountain range. Over this ice Tritton struggled with his heavy load. The fact that he was but 2 days longer on the trip from Dawson to Skag-

way than from Circle to Dawson shows what he had to contend with. The Sovereign has been pulled up on the bank at Circle City & the Victoria is between her and the river. The Tacoma, of the Empire line fleet, is almost as good as wrecked. She is in a very open position in the middle of the Yukon, 12 miles below Circle. The ice is piled up high around her. The Seattle, of the same fleet, has very little chance of getting free. She is some distance above Circle and to a certain extent protected by an island. The impression is that, at least, 20 steamers will be broken up when the ice moves.

The Canadian Development Co., with headquarters at Victoria, B.C., commenced operations last year & constructed 3 large steamers, the Victorian, Canadian & Columbian, which are now in winter quarters on the upper Yukon river. These steamers are 150 ft. long by 33 ft. beam, & have a speed of 15 miles an hour, & each is fitted with 14 water-tight compartments. Electric lights are fitted throughout. Each steamer has berths for 250 passengers, & a freight capacity of 200 tons weight. After arrival at Dawson in Aug., 1898, the Columbian & Canadian were placed upon the route between Dawson City & the White Horse rapids, & made several trips. The Co. is reconstructing & fitting with powerful boilers & machinery the Anglian, a somewhat smaller steamer, which will be placed in condition for the carriage of passengers and freight. In course of completion at Dawson City are 2 fast & powerful steel steamers of medium size & modern design, which were constructed in England, & will be used in connection with the larger steamers. To handle the through traffic from the temporary terminus of the White Pass Ry. at the head of Lake Bennett to the White Horse rapids, where connection is made with the steamers to & from Dawson City, the Co. has under construction in the East a fast packet steamer for the lake work. This boat is being built of steel, with a length of 115 ft. & 24 ft. beam. She will have 3 fore-and-aft and 7 transverse water-tight compartments. The boiler is of the Yarrow water-tube type, & the engines are of great power, giving the boat an ordinary working speed of 15 miles an hour. She will be fitted with electric lights, including search-lights, & will be equipped for the accommodation of passengers. She will be completed at an early date, & put into service immediately upon the opening of navigation. The Co. has made arrangements for warehouse & wharfage facilities at Dawson City & other important Yukon points, & has secured fuel for the entire season. A New York despatch says the Canadian Development Co. has bought the steamships Werra & Fulda, & will put them on the Alaska route. Sometime since it was stated these vessels had been sold to the Canadian Steamship Co., to run between Milford Haven and Paspébiac, Que.

Richelieu & Ontario Navigation Co.

The following report was submitted at the annual meeting, Feb. 11: Your Directors submit herewith a statement of the Co.'s business for 1898:

	1898.	1897.
The gross receipts were	\$7,814.77	\$688,000.00
Operating expenses	590,459.44	577,185.44
Fixed charges	25,176.81	20,415.77
Net profit	\$1,178.52	\$90,398.79

Two semi-annual dividends of 3%, each amounting together to \$104,400, were paid, leaving \$7,627.55 to be carried to surplus. The earnings show a continued increase, notwithstanding that the 2 large railway companies made a reduction of 50% in their passenger rates throughout the entire season, & that owing to the Spanish-American war, the tourist traffic was very light up to the

end of July, & that there were greater delays in usual navigation in the canals. The increase in operating expenses is mainly due to the large extra improvements made in a number of the steamers. The business of the hotel at Tadousac has been very satisfactory. The hotel has been operated on a liberal scale with a view to increase travel. In consequence of its continued inability to accommodate the guests offering, another enlargement of the building was made in Oct. & Nov. last, the grounds about the hotel improved, & golf links added to the other amusements. A complete electric light plant will be added. The directors regret that the new steamer Toronto was not ready for service on the Western route in Aug. last, as expected. She will be in commission on the opening of next season. It is the intention to equip the entire service between Toronto & Montreal with new steamers of the largest size practicable, & to enlarge the steamers on the other principal routes, as the increasing business requires. Parliament will be asked, at its next session, for power to increase the Co.'s capital for that purpose. It is also the intention to place 2 steamers on the Hamilton route during the ensuing season, & a daily service on the Saguenay route. In conformity with the deed of trust securing the Co.'s Bonds, issued in 1895, 40 bonds of £100 each, amounting to \$19,466.66, have been withdrawn & cancelled, making a total to date of \$55,479.98 out of the original issue of \$571,883.33. The Co.'s steamers & the property have been kept in a first-class & improving condition. The directors are pleased to report that their relations with the railways, on both sides of their line of navigation, are of the most cordial character.

FINANCIAL STATEMENT YEAR ENDED DEC. 31, 1898.

ASSETS.	
Steamers, real estate, buildings, wharves, etc.	\$2,369,842.99
Coal, stores, provisions, etc.	96,683.61
Accounts receivable.....	63,091.84
Cash in bank.....	7,520.36
	\$2,537,138.80
LIABILITIES.	
Capital stock.....	\$1,740,000.00
Bonds 5% sterling.....	\$571,833.33
Less cancelled.....	\$55,479.98
In treasury.....	15,086.68
	70,566.66
Accounts payable.....	501,266.67
Unclaimed dividends.....	56,300.58
Accrued interest on bonds.....	219.00
Surplus.....	8,605.88
	230,686.67
	\$2,537,138.80
INCOME ACCOUNT.	
Two dividends 3% each, paid May 2 & Nov. 2, 1898.....	\$104,400.00
Carried to surplus Dec. 31, 1898.....	7,627.55
Net income over & above expenses, fixed charges & interest, for year ended Dec. 31, 1898.....	\$112,027.55

After the adoption of a by-law regarding the issuance of stock certificates, President Forget asked the approval of the action of the directors as regards the application to the Legislature to amend the charter & give the right to issue additional stock & also to give power to take up the management of hotels. This was granted.

The following directors were elected: Senator Forget, W. Wainwright, R. Forget, Col. F. C. Henshaw, W. Hanson, J. K. Osborne, H. McKenzie, C. O. Paradis, E. B. Garneau,

J. Lewis & Major Pellatt, the latter replacing J. Swift, of Kingston.

I. McL. Spackman wished to know the basis of cost of the Co.'s vessels. Was the cost as shown in the statement based on the original cost of the fleet? Was it based on the price the vessels would bring to-day? or was there a present estimated value placed upon the fleet? These were questions which in his mind had much to do with the present price of the stock in comparison with other stocks in the market. It was often said on the Street that the Co.'s steamers were placed at altogether too high a valuation, & this story, which had persistently gone around for years, had done much toward preventing the stock from climbing upward at a rate which the shareholders thought was warranted by the earnings.

Senator Forget said that some years ago when he took hold of the Co. a board of experts was appointed, & it was their estimate which had been followed in making out the valuations of the different steamers of the line.

Lt.-Col. Henshaw said he was well aware that this had been a source of annoyance for years. At the time that Senator Forget became the President of the Co., J. Cantin, of Montreal, & G. Davis, of Quebec, & one other disinterested man were appointed a board of experts to give a proper valuation to the steamers, & he considered that the present valuation was very low indeed.

The General Manager said the str. Quebec was valued on the books at \$175,000, & the str. Montreal was valued at \$130,000. The contract price of the new str. Toronto was \$240,000, & the extras would amount to another \$30,000. The earning power of the old steamers, combined with their first-class condition, placed them in a very enviable position as compared with the new steamer.

W. McNally asked what the prospects were for the American Line this year. W. Wainwright said that the Richelieu was on the best of terms with the New York Central, but as regarded the American Line he could give no information.

Senator Forget was re-elected President, & W. Wainwright, Vice-President.

"Investor" writes from Montreal to the Monetary Times as follows:—"At the annual meeting of the R. & O. N. Co., held here this week, the President of the Co. is reported to have stated, in answer to an inquiry from a shareholder, as to the value of the Co.'s property, that the Co.'s vessels were worth more than they cost; that a good steel hull would last for 100 years; that the steamers of the R. & O. Co. increased in value every year; he was certain that most of them were worth one-third more than their estimated value, & at any rate could not be replaced for what they had cost. Lieut.-Col. Henshaw is said to have stated that the steamers were worth twice what they had cost; he thought the President undervalued them. General Manager Gildersleeve gave the cost of the 3 most expensive of the Co.'s boats, concluding with the new Toronto, just being completed, at a cost of \$270,000. 'That will show you what steamers cost,' said Lieut.-Col. Henshaw, in the published reports of the meeting, 'and we have 25 of them.'

"Now, on behalf of the investing public, I would like to ask, are these numbers to be understood as showing that the directors of the

R. & O. N. Co. are writing the words of a new comic opera to take the place of H.M.S. Pinafore, or do they thus place themselves on record as responsible men in control of the finances of a great company? Can Senator Forget repeat his statements with a straight face, & assure us that the Algerian for instance, so often re-built, is worth what she cost the Co. And if steel hulls have a life of 100 years, why has the Cunarder Adriatic, built in 1871, been condemned to the scrap heap during the past few days. As to replacing those boats at cost price, I agree with the President that it is impossible, because any board of directors, letting contracts for such boats at such prices would be immediately subject to examination, de lunatico inquirendo by their next of kin. The evidence offered in the dialogue between Mr. Gildersleeve & Mr. Henshaw is rather conclusive. To reduce the matter to a more concise statement, if the 3 best boats are worth \$575,000, what is the value of the worst one? The answer may be any amount the reader feels competent to decide upon. What a Klondyke the ark would have been, if it had only been registered in the R. & O. fleet, & kept in commission."

It is said the str. Toronto will commence running between Toronto & Prescott June 1. The running of the Co.'s lake steamers will differ somewhat from last season. Stops will not be made at Bowmanville, Port Hope & Cobourg, & a U.S. city of large size will be touched at instead. With the present business revival & the abundance of money, together with the new steamer, the directors state they expect the gross receipts to turn the million mark in the season of 1899.

ELECTRIC RAILWAYS.

Halifax Electric Tramway Company.

At the third annual meeting, Feb. 13, the following report was presented:—The business of the Company for the year ended Dec. 31, 1898, shows a net profit, after the payment of all fixed charges, of \$54,784.54 as against \$49,808.77 of 1897. From the profits of this year 4 quarterly dividends of 1½% have been paid, leaving \$6,784.54 to be carried forward to profit & loss account. The gross earnings were \$197,830.46, an increase over 1897 of \$4,450.78. There was an increase in operating expenses of 5.35% for the first 6 months of 1898 over that of the corresponding 6 months of 1897, & a decrease in operating expenses for the last 6 months of 1.45%. The increase in the operating expenses for the first 6 months of 1898 was due to the cost of removal of unusually large quantities of snow. The power & electric light plants have received careful attention, & are in a condition of high efficiency. The rolling stock has been increased by the addition of 2 open & 2 box cars. The construction work in the power house commenced in 1897 has been completed during the past year, & in addition a rotary transformer has been added to increase the available power for railroad purposes. Double track & turnouts have been laid on Barrington, South Park, Pleasant & Hollis Sts., in consequence of which the Co. has been enabled to operate 18,591 more car miles, & thus render better service. The property adjoining the power house, containing 21,420 sq. ft. of land,

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of every description.

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has been acquired, & a substantial car house, with a capacity for storing 20 cars, has been erected thereon, the basement of which has been fitted up & furnishes accommodations for store house & stables. In order to meet public demand, workmen's tickets, 10 for 25c. between 6 & 8 a.m. were issued during May, & although this did not have the effect of increasing our revenue, yet the increased traffic counterbalanced the reduction in tariff. After careful consideration to further popularize the service & to increase the business the directors decided to issue tickets at a reduced rate of 6 for 25c., & 25 for \$1 from Dec. 1. Experience has demonstrated the wisdom of this decision, as there were 23,042 more passengers carried in Dec., 1898 than during Dec., 1897, & the returns for Jan., 1899, show an increase of 29,468 passengers over Jan., 1898. The total number of passengers carried during 1898 was 2,419,268, showing an increase of 84,308 over 1897. Convenient & suitable offices have been erected adjoining the power house, & now the entire staff of the Co. is accommodated at the works.

STATISTICAL STATEMENT.

	1898.	1897.
Passenger, railroad and miscellaneous receipts	\$120,368.17	\$117,845.00
Increase '98 over '97, 2.39%	2,723.17	
Lighting and power and sundry receipts	77,262.29	75,534.68
Increase '98 over '97, 2.15%	1,727.61	
Operating expenses and interest	113,081.92	112,570.91
Increase '98 over '97, 0.5%	511.01	
OPERATING EXPENSES—		
Per cent. of total earnings	59.06%	57.11%
“ “ “ first		
6 months	66.65	61.30
Increase '98, first 6 months	5.35	
Per cent. of total earnings last		
6 months	51.47%	52.92%
Decrease '98, last 6 months	1.45%	
Passengers	2,419,368	2,334,900
Average receipts per passenger	4.93	4.99
Cars run per day—average	13	13
Car mileage	593,608	575,017
Incandescent lamps instal. Dec. 31	14,225	11,497
Arc lamps, “	299	299
Horse-power of Motors, “	216	139
Meters installed, “	680	506

FINANCIAL STATEMENT.

ASSETS.

Property	\$1,385,145.87
Construction account	50,747.89
Accounts receivable	17,002.19
Supplies on hand	8,138.22
Suspense accounts	5,241.63
Deposit with City	500.00
Cash on hand	34,591.47
	<u>\$1,501,367.27</u>

LIABILITIES.

Capital stock	\$ 800,000.00
Five per cent. bonds	600,000.00
Accounts payable	21,344.32
Suspense accounts	1,927.23
Securities for light accounts	52.58
Tickets outstanding	295.15
Bond interest	15,000.00
Quarterly dividend due Jan. 1, '99	12,000.00
Surplus account, Dec. 31, '98	50,747.89
	<u>\$1,501,367.27</u>

INCOME ACCOUNT.

Operating expenses	\$ 113,081.92
Coupons	30,000.00
Four dividends	48,000.00
Surplus	6,748.54
	<u>\$ 197,830.46</u>

Passenger receipts	\$ 119,468.17
Light and power earnings	74,094.32
Sundry railway earnings	1,100.00
Sundry receipts	421.64
Interest and discount	1,881.33
	<u>\$ 197,830.46</u>

Toronto Railway Litigation.

Interesting questions have recently been litigated between the City of Toronto & the Toronto Ry. Co., in the efforts to compel the Co. to equip its cars with rear end vestibules. The Ontario Act of 1894 authorizes municipal councils to require proper & sufficient vestibules to be placed upon the cars of electric railway companies during Nov., Dec.,

Jan., Feb. & Mar. to protect the motorman & persons in charge of the cars from exposure to the cold, rain, snow & sleet while engaged in operating the cars. The Toronto Ry. system is operated by single motor cars, which have but one vestibule, at the end occupied by the motorman. In Nov. last the City of Toronto laid an information before the Police Magistrate, charging the Ry. Co. with a breach of by-law in not having a rear end vestibule. Proceedings before police magistrates against corporations had not been common, & it was held in the case of indictable offences that the Magistrate had no power to summon corporations. The Toronto Ry. Co. endeavored to prohibit the Magistrate from hearing the complaint against it, & the case dragged its way through the courts until Jan. 24, when it was heard before Police Magistrate Denison. J. S. Fullerton, Q.C., & W. C. Chisholm, appeared for the City, & J. Bicknell for the Ry. Co. The principal questions involved are: (1) Is a conductor a person intended to be protected by the Act? (2) Is the conductor engaged in operating the car? (3) Is it necessary that a vestibule should be placed upon the cars to protect conductors? (4) Is the Toronto Ry. Co. subject to the jurisdiction of the Provincial Legislature or the Dominion Parliament as to vestibules? Several conductors were called, & their evidence showed that vestibules were unnecessary. The Police Magistrate expressed the opinion that the Act did not require vestibules to protect the conductors, but thought it safer to allow the case to go to a higher court. This could only be done by inflicting a nominal fine upon the Co., & he therefore fined it nominally \$5. Notice of appeal has been served for the General Sessions, which commence Mar. 7.

The appeal by the Toronto Ry. Co. to the Court of Appeal, to be allowed to put in new evidence to reduce the assessment of its plant in Ward 1, as in the other wards in the city, has been disallowed. Since the completion of Ward 1 assessment, & before those of the other wards, decisions were made by courts in Toronto & in Hamilton, adjudging that street railway plants should not be assessed as belonging to a going concern, but simply on the basis of the market value of the material intrinsically. On this basis the rest of the assessment of the Toronto Ry. was made, & great reductions resulted. Ward 1, however, still remained at the old figure, & the Co. has been endeavoring for some time to put it on the same footing for 1898. The Court of Appeal, in its judgment, says that no case has been made out, & that the new evidence should have been put in to the court below when the assessment appeal was first made. In Wards 2, 3, 4, 5 & 6 the Co.'s assessment was reduced to \$900 a mile, which made a total reduction of \$450,000.

Methods of Increasing Traffic.

By W. Banks, of the Toronto Railway Co.

Electric railways, like the steam roads, have found that traffic will not come by merely opening the road, so it has been found necessary to have a staff to cater for traffic. At present the Toronto Ry. Co., with more than 80 miles of tracks, has only one park under its absolute control, but the beauty of that one park, its fine location on the prettiest and healthiest part of Lake Ontario, makes it one of the most attractive & pleasant of summer resorts. It is known as Munro Park, & is a very short distance outside the eastern city limits. By arrangements with the owners, the Co. has access to Victoria Park, Long Branch, & other pleasure resorts, while the whole of the many extensive & beautiful city parks are all located on the routes of the company.

The summer traffic is limited to May, June,

July, Aug. & Sep., but fully five-sixths of it to June, July & Aug. Owing to the necessary improvements in Munro Park not being quite finished, the T. Ry. Co. was compelled to confine its entertainments last summer to band concerts & minor attractions. All of these, however, were very profitable, & the Co. is preparing for a busy season this year. This city has an extensive water front & beautiful island summer resort within the city limits, & it is anticipated that at no distant date boat trolleys will be placed in operation along the water front by our Co. to carry passengers to & from & around the island.

Admission to our park & pavilions being free, we have to look to the passenger traffic for a return of our expenditure on entertainments in the park & in the grounds to which we have access. Our attractions will be of a very high class, & there will not be a single performance to which the most refined cannot come. We also endeavor to avoid entertainments deserving close attention for any length of time, our desire being to amuse the groups of picnickers, none of whom care to sit for even half an hour closely watching a performance. We propose also trying the experiment of giving financial aid to any first-class entertainment to be given on grounds close to our car routes, & to issue round trip tickets to include admission to such entertainments. Where we give financial backing our own staff will sell tickets & control the finances. We have, of course, absolutely no control over the city parks, but we reap some benefit from traffic caused by a series of band concerts in these parks, for which the city council pays. The municipality is not always the best caterer for the public, so we are anxious to see a higher class of concerts, & the convenience of the public better provided for by the erection of more pavilions & greater facilities for obtaining necessary refreshments, cooling drinks, etc. All these details may appear commonplace to many managers, but on them a very great deal of our traffic depends.

The private car & moonlight excursion traffic grows in popularity, & we have done a good deal to foster and encourage it; our circulars have been sent to every clergyman, Sunday-school superintendent, secretary of church society, & to all the secret, fraternal, national & labor organizations in the city & within an area of 10 miles around. Our charter compels us to carry passengers from any part of the city to any other part at a single fare; fixes the fare at 5c., & also fixes the prices of tickets bought in quantities, & requires us to give workmen's tickets at the rate of 8 for 25c., available during certain hours in the morning & evening. We have not, therefore, much room for special cheap excursion rates, yet we have devised means for this description of traffic, & small or large parties can have a percentage on a certain class of tickets, while we ourselves run three nights per week cheap excursions to Long Branch.

Many of our storekeepers give street car tickets as bonuses to their customers, & find it a most successful plan for securing business. When a customer knows that car fare from & to any part of the city can be had at a store, the distance from such store is no drawback, but, especially in fine weather, is an added inducement to patronizing that place. The storekeepers get no discount on the tickets they buy for this purpose.

Almost all plans for increasing traffic successfully tried by other managers are now, or shortly will be, in vogue on the T. R. Co.'s lines, except reduced prices for lunch, & we are endeavoring to perfect plans for sharing in the steam railway & steamboat traffic. We have all around our city, villages, towns & cities, from which we propose to arrange for excursions by boat or rail, as the case may be. The tickets for such excursions will, of course, include our charges for special cars to meet

parties at the wharves or depots, convey them to our park & back in the evening, including a trip around the city. There are immense possibilities in this traffic, which will, of course, require a good deal of hard work & attention to make it a success. We also propose arranging with those railways in the U.S. which have through booking rates to Toronto to keep us posted on all excursions announced for this city, so that we can arrange for special trips. Many of these excursionists are often in the city for only a few hours, & would gladly avail themselves of our cheap, pleasant & speedy mode of seeing the sights. We are putting ourselves in communication with excursion agents everywhere, with a view to developing this traffic.

Many star singers, actors, lecturers & public entertainers visit Toronto, & the railways frequently run excursions from neighboring towns on the occasion of such visits. The traffic thus brought in, we also desire to handle, & make arrangements for special cars, & for the attaching of our passenger coupons to entertainment tickets, railway tickets, entitling the holder to ride on our cars to & from the depots or steamers. We are always prepared to deal liberally with good circuses & big shows of any kind.

One of the drawbacks supposed to exist in Canada to electric railway excursion traffic is the alleged long & severe winter, popularly associated in the U.S. & Great Britain with this Dominion. No greater mistake ever existed than that about the Canadian winter. Of course, if a person go north as far as the Hudson's Bay regions he will enjoy a long, bracing winter, but here we seldom see snow until Dec., & scarcely ever have a heavy fall until after Christmas, & by the middle of Mar. there is very little of the snow left. The "oldest inhabitant" has stories of long winters, but these have evidently disappeared since the introduction of railways. It is a rare event for the street car traffic of this city to be seriously interfered with for more than an hour or two any winter. To us, however, the winter brings no cessation in our work of catering for traffic. Theatrical performances, concerts, skating carnivals, hockey matches, ice-

boat racing, curling, sleighing, snow-shoe racing, & all other winter sports, are utilized for our benefit. A series of matches for valuable prizes has been arranged for this winter, always on grounds or in rinks on our routes. We contemplate giving some winter in our park realistic plays, showing Nansen's famous journey in search of the pole, the Peary expedition, and from England we may bring some genuine Franklin relics, to be shown in a series of performances illustrating the last voyage of that famous explorer. We also hope to secure the presence in the city of the most noted skaters and snow-shoe racers of the world, & intend to give in our grounds "The Bells," the play made famous by Irving, making the sleigh ride a great feature. Then there are the possibilities of the ice palace, with the many attendant attractions it would give opportunities to present.

The intense love of everything British, which characterizes our people here, is a valuable asset of the electric railway, for in the winter it will enable us to present to the present generation realistic exhibitions of the Crimean campaign, securing for the purpose the co-operation of the three volunteer regiments of the city as well as that of the permanent force. This will insure an interest in the performance of more than 2,500 men, & the same rule applies to all performances of a military nature. The British spirit of our people induced us to try & get Piper Findlater, of Dargai fame, to visit Canada under our direction. Should he come here with several of his comrades of the famous Gordon Highlanders we can put the show in enclosed grounds, & give a round-trip ticket from any part of the city, including a reserved seat on the grand stand, for 25c., & we have no fear that the numbers attending will be less than 25,000 daily. We can sell round-trip tickets with numbered reserve seat coupons attached at our offices throughout the city until 2½ hours before each performance, after that a special man on each car on the main routes will sell the tickets. This will leave our regular staff free to deal with the ordinary traffic. A similar plan can be pursued in other cases where large crowds may be expected.

This is an outline of the leading features of the plans adopted or in contemplation for the encouragement of traffic on this road. There are many other ideas constantly cropping up, but from this it will be seen that we do not propose laying out expensive racing grounds or bicycle tracks. My opinion is that we should bend our own energies to securing each first-class attraction as soon as it is in evidence, leaving private parties to speculate in grounds for sports. Of course, wherever such grounds are convenient for our cars we are always ready to assist in making such sports successful.

We may give our U.S. visitors a treat on an early date by showing on the lake in front of our park exactly how Santiago was captured. We will have the work done under the direction of a naval officer of known ability. This reminds me that the location of Munro Park enables us to present land and water fêtes with equal success. We are able to turn the water front into a fine amphitheater, from which 10,000 to 20,000 people can witness "Pinafore," "Billie Taylor," or other performances of a naval character, and the stage will be a floating pontoon. We can reverse that order, & place our audiences on the pontoon, with our stage at the water's edge.

Of course, all descriptions of canoe, boat & yacht racing has our attention, with water polo, etc. With a first-class shore for bathing purposes, we will derive revenue by providing the best accommodation for bathers at nominal charges.

I have left myself little space to speak of plans for carrying into the city farm, dairy & garden produce to storage warehouses under our own control. All this, however, is receiving attention. I am not at all afraid of the horseless carriage—auto-car, or by whatever name the much-discussed vehicle may be known. It seems to me that the vehicle can only be a success when used in connection with electric cars. There are in all large cities streets on which tracks will never be laid, although the routes thereon would be profitable, & there are others on which it will not pay to lay tracks, but from which a good deal of traffic can be obtained. If the auto-

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The Bradstreet Company is the OLDEST and, financially, the STRONGEST organization of its kind—working in one interest and under one management—with wider ramifications, with more capital invested in the business, and it expends more money every year for the collection and dissemination of information than any similar institution in the world.

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MANITOBA,
TERRITORIES.**

**STOVEL'S
POCKET
DIRECTORY.**

Canadian Pacific Railway Company.

Dividends for the half year ended December 31st, 1898, have been declared as follows:

On the Preference Stock two per cent.

On the Common Stock two per cent.

Warrants for the Common Stock dividend will be mailed on or about April 1st to Shareholders of record at the closing of the books in New York and London respectively.

The Preference Stock dividend will be paid on Saturday, April 1st, to Shareholders of record at the closing of the books at the Company's London Office, 1 Queen Victoria Street, London, E.C.

The Common Stock transfer books will close in London at 3 p.m. on Tuesday, February 28th, and in Montreal and New York on Friday, March 10th. The Preference Stock books will close at 3 p.m. on Friday, March 10th.

All books will be re-opened on Thursday, 6th April.

By order of the Board,

CHARLES DRINKWATER,

Montreal, February 6th, 1899.

Secretary.

Notice to Shareholders.

The Eighteenth Annual Meeting of the Shareholders of this Company for the election of Directors and the transaction of business generally, will be held on Wednesday the fifth day of April next at the principal office of the Company at Montreal, at twelve o'clock noon.

The Common Stock transfer books will close in London at 3 p.m. on Tuesday, February 28th, and in Montreal and New York on Friday, March 10th. The Preference Stock books will close at 3 p.m. on Friday, March 10th.

All books will be reopened on Thursday, April 6th.

By order of the Board,

CHARLES DRINKWATER,

Secretary.

Montreal, 6th February, 1899.

car can be cheaply & neatly constructed & easily managed, I would use it on such routes as those referred to as traffic feeders for the cars, & I would be prepared to convey one or more persons by these vehicles to church or weddings, or any other place or service, more speedily, cleanly & promptly than the liverymen now do such work.

In concluding, I am satisfied that the possibilities of electric railway traffic are practically inexhaustible, & that when the traffic & entertainment managers of these roads hold their next convention it will be the convention of men standing at the beginning of a great & successful movement, such as few other undertakings can expect to attain.—Street Railway Journal.

The Lewiston Suspension Bridge.

The suspension bridge which is being built across the Niagara River just above Queenston, Ont., & Lewiston, N.Y., is on the site of the old suspension bridge built in 1851 & 1852, which was destroyed by a gale in Feb., 1864. Many will remember having seen the cables swinging from the towers any time in the last 35 years. The new bridge is building for the Queenston Heights Bridge Co. of Canada & the Lewiston Connecting Bridge Co. of New York state. It is being built primarily to carry an electric railway, which will make it possible to complete a belt line around the Gorge. The principal dimensions of the new bridge are: Span from tower to tower, 1,040 ft.; span of stiffening truss, 800 ft.; width, center to center of trusses, 28 ft.; width of roadway, 25 ft. The bridge will carry a single track for electric cars, with a roadway on either side. No footwalks are provided, inasmuch as there will be very little travel of that sort over the bridge. The flanking span on the New York side will be 34 ft. 6 in. long, & that on the Canadian side 19 ft. 6 in. The towers on the New York side are 26 ft. high, & those on the Canadian side 18 ft. On the New York side the towers were placed 28 ft. back from the edge of the bluff, & on the Canadian side 15 ft. Much of the tone of the old towers was used in the foundations of the new ones. The inscription stones in those towers were saved & placed in the new towers.

There will be 4 cables, each made of 14 2½ in. steel wire ropes. These ropes are from the cables of the upper suspension bridge at Niagara Falls. These cables were so long that it has been possible to cut them in two & use them for the new bridge, but to get sufficient length about 75 ft. at each end of each cable will be made up of eye-bars. The versed sine of the cables will be 87 ft., & they will be anchored in the solid rock about 150 ft. back from the edge of the bluff.

From the dimensions given it will be seen that the truss stops 120 ft. short of the tower at either end, & here the traffic will pass from the fixed flanking spans on to the suspended structure. At each of these points a rocker bent is introduced, supported on a shoe below & going up to the cables above. This bent is hinged at the shoe, the end of the truss & the cables.

The clear height of the bridge above high water will be 65 ft. The cables will weigh 200 tons, & about 800 tons of metal will be used in the superstructure. The bridge will be designed to handle the heaviest trolley cars & to carry a uniformly distributed load of 40 lbs. to the sq. ft.

There will be considerable incidental masonry in connection with the work. Face walls have been built along the approaches to save the shale from weathering. On the New York side the face wall is about 19 ft. high at the highest point & runs down to 2 ft. Its length is 800 ft. Other walls will be built on the east end of the New York approach for a distance of 150 ft. & over all these a growth of vines will be encouraged. Railroad Gazette.

British Columbia Electric Railway Co.

Earnings and expenses for December:

GROSS EARNINGS.	1897.	1897-8.	INCREASE.
Railway—Vancouver	\$4,375	\$5,806	\$1,431
Victoria	6,068	7,419	1,351
Westminster	1,814	3,824	2,010
Lighting—Vancouver	6,068	13,265	7,197
Victoria	5,559	7,268	1,709
Total gross earnings	\$20,875	\$41,042	\$20,167
Working expenses	\$20,615	\$23,980	\$3,365
Net profits	\$2,260	\$17,062	\$14,802
Aggregate Gross Earnings from April 1 to Dec. 31	\$200,316	\$307,829	\$107,513
Aggregate Net Profit from April 1 to Dec. 31	\$27,382	\$126,487	\$99,105

The aggregate gross earnings and net profit for 1896-97 are from April 15 only.

Maritime Province Lines.

Dartmouth.—The town council is asking power from the Nova Scotia Legislature to issue \$150,000 of bonds for the purpose of operating an electric street railway in the town & vicinity. A bill will also be submitted empowering the issuing of bonds for \$50,000 to establish an electric light plant for lighting the streets and public buildings.

The Halifax Electric Tramway Co. has increased its capacity to a large extent. It has increased its track & overhead equipment by completing single track loops, double tracking sections & putting in several new turnouts. It has increased its rolling stock by adding 2 box cars, with all latest improvements, such as electric heaters, electric headlights, etc.; 2 open bulkhead cars, 2 box trailers & 1 snow sweeper. These cars were all built by Rhodes, Curry & Co., at Amherst, N.S. During the year just closed the Co. purchased adjoining property & erected an additional brick car shed, 60 by 100 ft., in the basement of which are the Co.'s stables. The offices have been enlarged by a brick addition, & in the station a large quantity of new machinery has been put in, including the latest alternating machines, rotary transformers & tandem compound engines. Mechanical stokers are being installed. During the past year alternating incandescent arc lights have been introduced throughout the city. The Co. has over 14,000 incandescent lamps installed, over 300 arc lamps & 100 alternating arc lamps. There are also a great many motors for manufacturing & elevator purposes. The number of regular employees is about 150, although this number is largely increased from time to time as the work demands.

Moncton St. Ry.—B. F. Pearson, a director, & F. Huntress, Manager of the Halifax Electric Tramway Co., recently visited Moncton, a local paper stating that their visit was in connection with a proposition to take over the Moncton line. Mr. Huntress recently advised us that they were requested to make a report on the Moncton line & to see if some arrangement could be made to extend it & to put it on a better footing, but that nothing had resulted when he wrote.

Yarmouth, N.S.—The street railway is said to be making considerable improvements in its cars & to have ordered several up-to-date motor cars.

Lines in Ontario.

Belleville Traction Co. The extensions & improvements proposed to be made by this Co. last year were not carried out, as the issue of \$70,000 5% 20 year 1st mortgage bonds was not successful. The Co. hopes to be in a position to go on this year with the work, which will include an extension of the line

from Front St. west to the cemetery, and to a park adjoining it. (May, '98, pg. 80.)

Cornwall Electric Street Ry. Co. Under a judgment recently given by Chief Justice Armour, in the action of the trustees for the bondholders, the Sun Life Assurance Co., of Montreal, against this Co., the road has passed into the possession of the bondholders, for the present at all events, & is being operated by them. The claim of the Sun Life against the Co. was for bonds of the par value of \$100,000 with interest. They are 1st mortgage 5% 20 year bonds. The whole issue was taken by the Sun Life, & the trustees proceeded owing to the interest being in default. According to the statement of the Ry. Company issued in Sep., 1898, the total assets amounted to \$234,956.10. This, however, is believed to be somewhat in excess of the real value. The capital stock of the Co. issued & taken up amounted to \$117,000, out of an authorized capital of \$150,000. A large share of this stock is held in Montreal, & a good portion of it is said to be in the broker's offices. The officers of the Sun Life state that the judgment of the court will cut out all shareholders & unsecured creditors, & that they will have no claim whatever upon the Co. This means that the stock will not be worth more than the value of the paper upon which it is engraved.

One of the leading shareholders of the Ry. Co. ridicules the idea of the unsecured creditors being left out in the cold, & states that it is not by any means certain that the shareholders will be cut off, as the judgment lately handed down by Judge Armour, & under which the Sun Life claims it can squeeze out the present stockholders of the Co., & the various creditors, was merely a decision as to whether the Co. had the legal right to have the mortgage deed specially designate whether or not it covered the property acquired since the time of its execution. The shareholders claim that the decision is a very vague one, & in fact, implies a doubt as to whether the defendants in the case were legally privileged to carry on such action or not, & further states that the judgment is anything but decisive. For this reason some of the stockholders decided to appeal from the decision. It is claimed by the directors of the Ry. Co. that a short time ago, wishing to make further extensions in Cornwall, & to complete an amalgamation with the Gas & Electric Light Companies, which would place the road on a dividend payment basis, an arrangement was drawn up with the holders of the bonds to provide further funds for these extensions, & it would likely have been put into effect had not the mortgagors stipulated that they could not be responsible for the unsecured creditors of the Co. Among the latter were some of the principal stockholders, who had stood by the road in its infancy, & whom the Co. considered should be protected. The bondholders objected to this, with the result that several of the principal creditors brought action against the Ry. Co., & instituted a seizure on some of the Co.'s rolling stock & other properties acquired after the execution of the mortgage. It was then decided to test the validity of the legal action, as to the proper interpretation of the mortgage deed. This action, it is contended, can have no effect whatever on that which has been instituted on the Ry. Co. by its creditors, which comes up some time in March.

Mr. Talbot, of the Sun Life office in Montreal, is in charge of the road for the present. It has 7 miles of track & an equipment of 6 motor cars, 2 trailers, 1 freight locomotive & 1 sweeper. The line was built in 1886.

Galt, Preston and Hespeler. At the 7th annual meeting, Jan. 31, the following were elected:—President, H. McCulloch; Vice-President, M. Todd; Sec.-Treas., W. H. Lutz; other directors, J. W. Leonard, J. C.

Moore, E. Clare & D. Spiers. The report showed last year to be ahead of the previous one in both freight & passenger business & the prospects indicate a further increase this year.

The Hamilton, Chedoke & Ancaster Electric St. Ry. Co. will apply for an amended charter, giving it power to build to Brantford, to change the name to the Hamilton, Ancaster & Brantford Ry. Co., & to increase the capital stock from \$100,000 to \$300,000.

Hamilton, Grimsby & Beamsville.—A deputation from Vineland recently asked the Co. to extend its line to that place, which is 5 miles from Beamsville. The directors have decided they will not consider any proposition to extend the line to Vineland unless the Co. gets right of way to St. Catharines, & the St. Catharines people build a bridge over the canal.

Hamilton Street Ry. At the recent annual meeting the following directors were elected: E. Martin, President; J. A. Bruce, Vice-President; W. Gibson, B. E. Charlton, I. Beer, W. J. Harris & F. W. Fearman.

London St. Ry.—Total gross earnings for 1898, \$113,811.73 against \$101,365.94 in 1897. Passengers carried in '98, 2,841,568; miles travelled, 1,074,302; gross earnings per capita of population, \$2.95. The old board of directors has been elected. H. A. Everett is President, T. H. Smallman is Vice-President, replacing E. W. Moore.

The Co. is suing the city for \$20,000 in connection with the recent strike. The claim is "for inciting riots, causing damage to the plaintiffs, & for neglect of duty & for breach of duty."

The appeal of the Co. to have its property assessed as personal, has been allowed by the Court of Appeal. The City contended that the plant of the Co. was realty, & as such should be assessed. The case went through the lower courts, ending with a decision in favor of the City. This the Court of Appeal judgment reversed, & decided the poles, rails, wires, etc., should be assessed as personalty.

The Co. was recently mulcted at the Assizes in three amounts, of \$800, \$600 & \$2,500 by reason of claims for injuries.

G. Whitaker, of Toronto, has been appointed Assistant Superintendent.

Metropolitan St. Ry.—A special committee of York County Council recently reported having come to an agreement with the Council of Aurora regarding the extension of the road from Richmond Hill to the latter place. The gauge is to be 4 ft. 8½ in., & the road to be built to the satisfaction of the County Engineer.

At a recent meeting of a committee of Toronto City Council City Engineer Rust explained that at present the gauges of the Toronto Ry. Co. & the Metropolitan were the same, about 4 ft. 11 ins., but that a change to 4 ft. 8½ ins. had been suggested on the northern line. He had heard that the explanation of this lay in the desire of the C.P.R. to carry its

freight cars down the line, so as to compete with the G.T.R. It would make it awkward if the Metropolitan made the change.

A. H. St. Germain is agitating for a cancellation of the 15 years' extension of franchise given the Metropolitan Co. over a year ago by York County Council, on the ground that the Co.'s undertakings have not been performed.

Nepigon Electric Ry. Co.—T. A. Gorham, Port Arthur, gives notice of application to Ontario Legislature to incorporate a company under this name, to build a line from Nepigon station, on the C.P.R., to the shores of Lake Nepigon, with branch lines not exceeding 12 miles in length.

Ottawa Electric Ry.—The illustration on page 61 shows a car which gladdened the hearts of thousands of children in Ottawa on Christmas eve. The idea of the Santa Claus car originated with W. V. Soper, of Ahearn & Soper, who, under the nom de plume of Santa Claus, had letters in the local daily papers for several days before Christmas. These letters were dated from various points between the North Pole & Ottawa, & announced that on the afternoon & evening of the day before Christmas Santa Claus, attended by a suite of brownies, would go through the streets of the city upon the top of an electric car, & would distribute oranges to the children as he passed. The last letter gave a time table of the hours at which the car would reach various points on its route. The jolly saint, blowing a tally-ho horn, & surrounded by brownies, passed through the streets on the afternoon & evening of Dec. 24, & very large crowds turned out to see him. The car was decorated on each side with appropriate Christmas mottoes, framed in evergreens & incandescent lights; on the front dashboard was the date, 1898, & on the rear 1899; the windows were filled up with toys & boxes in bright colored wrappings. During the trip about five thousand oranges were thrown out to the children. The car was in no sense an advertisement, but was solely for the purpose of giving an afternoon's amusement to the youngsters of Ottawa. It was a most liberal & commendable treat.

Parry Sound.—The local Board of Trade has recommended the construction of an electric railway between Parry Sound & Depot Harbor. The cost is estimated at \$25,000. (Dec., '98. pg. 272.)

The St. Catharines & Niagara Central Ry.—The notice of application to Dominion Parliament, detailed in our Dec. issue, pg. 273, has been withdrawn & another one substituted which states that application will be made for an act incorporating a company having power to acquire from the purchasers thereof the railway heretofore owned by the St. C. & N.C.R. Co. & to operate it, & with power to extend it to Hamilton & Toronto & to a point on the Niagara River, with a branch to a point on Lake Ontario, & with the usual powers conferred upon railway companies. This road, which was closed for traffic some months

ago, the Dominion Government Engineer having reported it unsafe, was sold under foreclosure proceedings to M. Neelon, of St. Catharines for \$35,000, subject to certain prior liens, amounting to about \$15,000, on land that was taken over by the road & never paid for. The purchaser paid \$3,500 down, but the period for the payment of the balance of the money has been extended by the Master-in-Ordinary several times to permit of the completion of negotiations for the transfer of the property to Haines Bros., of New York City, & others. The road now runs from Niagara Jct. on the M.C.R. to St. Catharines, 12 miles. Since the sale to Mr. Neelon it has been temporarily repaired, & is again being operated by steam. It is the intention of the new owners to electrify it, & it will probably be extended 3½ miles to Port Dalhousie, to connect with the boats. S. B. Colvin, of Glen Falls, N.Y., Treasurer of New York State, & J. A. Powers, banker, Albany, N.Y., are said to be interested with Haines Bros. in the scheme.

The St. Thomas St. Ry. Co. is advertising for a manager, "a man with business experience & knowledge of electricity preferred; must be a hustler."

Smith's Falls, Rideau & Southern Ry.—We are officially informed that \$75,000 of the capital stock of this Co. having been subscribed & 20% paid in, the permanent organization was proceeded with at a recent meeting of shareholders. The following are the officers: President, J. M. Clark; Vice-President, M. Ryan; and other directors, J. R. Lovell, R. J. Brodie, A. Patterson; Sec.-Treas., R.A. Bennett. The affairs of the Co. were reported to be in a very satisfactory manner, & bright hopes are entertained for the future, the early commencement of the work of construction being looked for. The idea is to construct a street railway for the town of Smith's Falls, to handle passengers & also transport freight to & from the various mills & manufactories of the town & the C.P.R. The manufacturing industries of the town being in a very flourishing condition, will readily take advantage of the improved facilities for transporting their goods by electricity instead of horse power, & thus lessen the cost of production. So soon as the line has become established in the town, it is the intention to extend it in the direction of the Rideau Lakes, & thus open up a section of country at present without railway facilities, & also bring within easy reach the famous lakes of the Rideau, which for "lovely scenery & delightful sport fishing" cannot be excelled, & which only requires satisfactory means of access to make them a favorite resort during the summer months.

Toronto Suburban St. Ry.—Notice is given of application to Ontario Legislature for an Act confirming agreements between the Co. & the Village of Weston, the Township of York, the Town of Toronto Junction, & other municipalities.

Toronto Railway.—Gross earnings for Jan., \$95,690.12, compared with \$86,562.36 in Jan., 1898; increase \$9,127.76.

To the Land of Sunshine.

Take the Sunshine Route from Chicago to Los Angeles, San Francisco and other points in California, and escape the rigors of winter in the East and North.

Pullman Tourist Cars for first and second class passengers leave Chicago every Saturday at 2 o'clock p.m. via the Chicago, Milwaukee and St. Paul Railway to Kansas City, thence to California via the Atchison, Topeka and Santa Fe Railway—a real Sunshine Route.


This is the earliest afternoon train leaving Chicago for the West after arrival of morning trains from the East, thus avoiding tedious delay.

The Sunshine Route is essentially the best and most patronized through car-line for men, women and children. Every attention paid to the needs of passengers en route.

Send for a Sunshine Route time-table folder. It costs

nothing. Address A. J. Taylor, Canadian Passenger Agent, 8 King Street E., Toronto, Ont.

BURN



E. B. EDDY'S

MATCHES

Notice is hereby given that The British Yukon Mining, Trading & Transportation Company will apply to the Parliament of Canada, at the next session thereof, for an Act authorizing the said company to construct & operate a line of railway from a point at or near Fort Selkirk to a point at or near Dawson City; thence westerly to the one hundred & forty-first Meridian; also to construct & operate lines of railway from a point at or near Cariboo Crossing or from or near Tagish Houses to Teslin Lake or River & to Allyn, & with the consent of the Governor in Council, to construct & operate branch lines in the Yukon District not exceeding fifty miles in length; to change the name of the company to "The British Yukon Railway Company," & to divide the undertaking of the company into sections, & to borrow money separately upon each of said sections, or on any two or more of them combined; also to confirm the proceedings taken upon the organization of the company; & to further amend the Act incorporating the company.

CHRYSLER & BETHUNE.

OTTAWA, 10th November, 1898.

A conference on radial electric railway accommodation for Toronto was held recently between a special committee of the city council and Manager Keating, of the Toronto Ry. He said he had looked into the question, & had made enquiries as to the probable receipts of radial railways. To the east a line has been surveyed & examined as far as Highland Creek, & as far west as Etobicoke Creek a line had been laid out. He was not prepared definitely to commit the Co. to carry out these projects, but he believed it would be in the interest of the Co. to do so. The matter had been brought before the board, & would be further considered. When the market plans were published he had gone to the City Hall to see that provision was made for these railways. The idea was to carry fruit, eggs, butter, poultry & basket packages generally. What traffic could be got was a matter of speculation. It probably would not pay the first year, but he was convinced it would in the

Quebec Lines.

The Hull Electric Co. has bought for \$100,000 the C.P.R. Co.'s Hull-Aylmer branch, which it has had under lease for some time past, & which it has electrified.

Montreal Island Belt Line Ry.—This Co.'s line from Bout de l'Isle is being utilized to haul 300 to 400 carloads of ice from the Ottawa River to Montreal.

J. Rowley, Supt. of the Co., has been appointed manager of the Bout de l'Isle hotel, which has been taken over by the Co.

The Co. is applying for power to extend its present line of 13 miles for 40 miles.

Montreal St. Ry.—The gross earnings are as follows:—

	1898-9.	1897-8.	Increase
Oct.....	\$133,419.69	\$116,093.09	\$17,326.60
Nov.....	125,125.10	110,608.98	14,516.12
Dec.....	127,678.00	113,029.33	14,648.67
Jan.....	125,276.04	110,155.96	15,120.08

The Co. declared a dividend of 2½% for the

Eighteen months ago the Co. gave notice to the Postmaster-General that the agreement for carrying the letter carriers for the lump sum of \$200 a month would be terminated on Dec. 31, 1898. The Co. kept a record of the fares represented by the travelling of the letter carriers during both winter & summer months, & found they aggregated from \$1,000 to \$1,500 a month, and concluded that \$200 a month was too little compensation. The Postmaster-General is reported to have said that the Department was indifferent as to whether the contract was terminated or not, as he thought the carriers rode too much anyway, & a satisfactory agreement was not reached.

Sherbrooke St. Ry.—It is reported that this line has been sold to F. Thompson & Co., bankers & financial agents of that city, & that they have also acquired the Brompton Falls water power which will enable them to extend the line & increase the number of cars, which



OTTAWA ELECTRIC RAILWAY SANTA CLAUS CAR.

long run, & he advocated the work before the board. The work of construction did not present very serious difficulties. There were two rather large gorges to the east, one at Highland Creek & another at the Rouge, that would have to be spanned by iron trestle work. In the west, the crossing at Etobicoke Creek, the boundary between York & Peel counties, was the principal difficulty. It would be necessary to get the consent of the councils of both counties to this crossing, & in June last he began correspondence to that end. He had recently seen the York Council, & anticipated no serious difficulty in arranging terms. Authority would probably be obtained to extend the abutments of the present bridge, & add a special span to the superstructure for the passage of the cars.

The Co. has notified the City Council that it does not acknowledge liability to grant transfers from day to night cars.

quarter ended Dec. 31 last, payable after Feb. 1.

The Co. will apply to Quebec Legislature for power to increase its stock from time to time, & to authorize the extension of its lines to any point within 10 miles of Montreal.

The 2-mile extension on Rachel St. & up the Papineau Road to the C.P.R. crossing has been completed.

The Co. having decided to concentrate its car building & repair shops at Hochelaga, recently gave rise to a report that \$500,000 would be expended there in new works, & that not only would cars for the Montreal line be built there, but also cars for the Toronto, London, Winnipeg & St. John, N.B., lines. We are informed there is no truth in this. Some additional buildings are to be put up to permit of a concentration of work, but their cost will not exceed \$100,000, & the shops, &c., will be for the use of the Montreal line, & not to build for the other lines above mentioned.

could not be done with the present water power. This railway was opened about a year ago, & the earnings have been very satisfactory, exceeding the expectations of the Co. There are now 6 miles of road in operation, & it is probable that the line will be extended to North Hatley & other outside points.

The B.C. Electrical Supply Co., for the incorporation of which application is being made to the B.C. Legislature, asks for very extended powers, including the construction & operating of tramways, street railways & telephone systems.

Winnipeg Electric St. Ry.—The City Council has notified the Co. to build a line on Sherbrooke St. from Portage Avenue to Notre Dame Avenue, work to be commenced by May 15 next, & to be finished within a year thereafter. The Council wants the Co. to equip its cars with fenders.

ASSESSMENT SYSTEM.



THE BEST FRATERNAL BENEFIT SOCIETY IN THE WORLD.
THE SPLENDID RECORD OF THE I. O. F.

The Magnificent Benefits Paid.

Benefits paid last Year (1897).....	\$ 992,225 60
Benefits paid last Five Years	3,401,515 92
Benefits paid last Ten Years	4,395,353 72
Benefits paid from organisation to 31st Dec., 1897.....	5,103,867 70

The Growth of the Membership.

Membership 1st July, 1881.....	369	Date of Reorganization.....	
Membership 31st December, 1881.....	1,119	Increase in Six Months.....	650
Membership 31st December, 1886.....	5,804	Increase in First Five Years.....	4,785
Membership 31st December, 1891.....	32,393	Increase in Second Five Years.....	26,499
Membership 31st December, 1896.....	102,838	Increase in Third Five Years.....	70,535
Membership 31st December, 1897.....	124,685	Increase during Year 1897.....	21,847

The Expansion of the Surplus.

Surplus 1st July, 1881.....	\$ 0	Date of Reorganization.....	
Surplus 31st Dec., 1881.....	4,568 55	Increase in Six Months.....	\$ 4,568 55
Surplus 31st Dec., 1886.....	53,981 28	Increase in 1st Five Years.....	49,412 73
Surplus 31st Dec., 1891.....	1,87,708 20	Increase in 2nd Five Years.....	354,816 92
Surplus 31st Dec., 1896.....	2,015,484 38	Increase in 3rd Five Years.....	1,606,686 18
Surplus 31st Dec., 1897.....	2,558,832 78	Increase during Year 1897.....	543,348 40

The Members and Their Assurance.

At 31st December Each Year.

Year.	Total Membership.	Insurance Carried.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,110,000	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	1,276,000	2,967 93	2 61	11.00
1883	2,210	2,490,000	10,857 65	4 91	4.73
1884	2,558	2,923,000	23,081 85	9 01	4.23
1885	3,642	4,283,000	29,802 42	8 18	7.76
1886	5,804	6,761,000	53,981 28	9 30	4.85
1887	7,811	9,120,000	81,384 41	10 44	5.78
1888	11,800	13,711,000	117,821 96	9 98	6.43
1889	17,349	20,078,000	188,130 36	10 84	5.85
1890	21,604	28,498,000	283,967 20	11 51	5.18
1891	32,303	39,395,000	408,798 20	12 65	6.40
1892	43,024	53,243,000	580,597 85	13 49	6.25
1893	51,484	67,281,000	838,857 89	15 76	5.47
1894	70,055	86,500,500	1,187,225 11	16 94	5.47
1895	86,521	108,027,500	1,560,373 46	18 03	5.07
1896	102,838	128,791,000	2,015,484 38	19 60	5.30
1897	121,685	154,510,000	2,558,832 78	20 52	5.36

For Further Information Respecting this Great Fraternal Benefit Society, Apply to

Oronhyatekha, M.D., S.C.R., Toronto, Ont.

James Marshall, 24 Charing Cross, London, Eng.

John A. McGillivray, Q.C., S.S., Toronto, Ont.

A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.

Or Any Officer or Member of the Order.

TELEGRAPHS & CABLES.

Canadian Pacific Ry. Co.'s Telegraphs.

This department, on behalf of the Commercial Cable Co., announces that on and after Mar. 1 the rates to Holland & Belgium will be the same as the rates to Great Britain, France & Germany, viz: 25c. a word. The Holland rate will be reduced by 7c. a word, & the Belgium rate by 5c. a word.

The Pacific Cable Scheme.

Sir Sandford Fleming's recent letter to Colonial Secretary Chamberlain regarding the establishment of an Imperial cable system, of which the trans-Pacific line between Canada & Australia would form one of the main links, has aroused considerable interest in Great Britain & has been widely & favorably commented on by the press. The London Daily Telegraph says of it:—

"Not from commercial, still less from financial, but from patriotic considerations the announcement which has been made by the Ottawa correspondent of the Times as to the Pacific cable scheme is of supreme interest & importance. The project, in popular language, is to lay down an "all-British cable from the Pacific Coast of the Dominion of Canada, say from Vancouver, across the Pacific to the Australian Colonies." Thereby Canada & Australasia would be put in communication by means of a cable which touched no foreign territory, & would join at Nova Scotia with the Atlantic cables, which come direct to Great Britain. In this way there would be practically secured independent telegraphic communication with the outlying parts of the Empire. The political advantage of this is obvious, but apart from the inherent merits of the Pacific scheme its completion would secure the probability of Great Britain speedily possessing a cable system which no foreign country could control, girdling the globe & connecting our Colonies, dependencies, coaling stations & naval bases.

"The beneficence of the Pacific scheme has been conceded, but hitherto its realization has been impeded by various difficulties. It may be stated at once that there is no notion that the Pacific cable should supersede the present Eastern routes. Its advocates only claim that it should be an alternative route, & they argue that, as the companies who are now doing the work are highly subsidized, it would be impossible for a new and independent organization to compete with them unless they were correspondingly aided by the countries benefited. For some years the question, who should bear the cost, and in what proportion it should be contributed by the interested communities, has been a matter of discussion & negotiation. It has been generally accepted as a fair basis of settlement that the money should be found by the three countries which would be connected by the scheme—Great Britain, Canada & Australasia. The Imperial Government has always been ready to bear its share of the cost, as has also the Canadian Government, but hitherto the proportion to be relatively contributed has not been settled. As to Australasia there have been greater difficulties to surmount, because any arrangement suggested had to be ratified by the Governments of the different Colonies—a process which has necessarily taken a good deal of time. It is now announced that Australasia has fallen into line, & has undertaken to provide four-ninths of the cost of this cable, while the Imperial Government & Canada have agreed to find, in equal proportions, the remaining five-ninths. Should this news be confirmed, there is a strong prospect of the Pacific cable being constructed with the utmost possible despatch.

"The idea is that the line should not be worked by a subsidized company, but should

be a Government-owned cable, managed by the three Governments who have found the capital. The cable is, indeed, a part of the scheme of Sir Sandford Fleming, of Ottawa, who is the pioneer of the agitation for a round-the-world system of cables under British control, & who has recently written to Mr. Chamberlain a long letter, giving at length the arguments in favour of his proposal. In regard to the Pacific line, it is contended that if Great Britain & the Governments associated with it were to retain the ownership of the cable, they could borrow the money required for its construction on such easy terms that they could adopt a very moderate scale of charges for the transmission of messages. A cheap system of telegraphic communication in such a case means closer union between the countries which it connects, the development of their mutual commerce, & the conferring of many social advantages.

Referred as an expert to T. Skinner, Chairman of the Halifax & Bermuda Cable Co., & of the Direct West India Cable Co., & a director of the Commercial Cable Co., a representative of the Daily Telegraph was assured that the Pacific scheme was a matter of great importance, especially in connection with an all-round-the-world British cable system. The experience of any one Government owning cables was, he pointed out, almost nil, and unless a country had the command at both ends & at all the places touched by it, a cable in time of war would be useless. If the all-round-the-world British scheme was realized, the cables would only touch the different parts of the Empire connecting them all by a system of which they would be joint owners & with which no foreign country could interfere, unless, of course, as the result of a successful invasion, or by cutting the cable at sea. Mr. Skinner explained that his object had been to aid this linking together by a telegraphic chain the different parts of the British Empire. "The British Government," he said, "subsidized the Halifax & Bermuda Co. to extend the telegraphic communication from the Atlantic end at Nova Scotia to Bermuda, which is an important harbour for the British North American fleet, & it was the object of several years' agitation to demonstrate to the Government that the Co. should be assisted to get on to Jamaica, & so to place that island & the West Indies generally in direct communication with the mother country. All that we put before the Government was demonstrated at the time of the Venezuela crisis by the fact that when that crisis arose Great Britain was not able to communicate with Jamaica & the other parts of the West Indies, except through the United States. After that experience the Government & Parliament gave us a subsidy to lay a cable from Halifax to Jamaica. That cable was laid in 6 months, & it was just completed in time to enable the Spanish Government during its war with the U. S. to be in communication with Cuba & its other dependencies without its messages being subjected to the surveillance of the U. S. Government."

Telegraph Connection with Atlin.

J. W. Bridges, who has been up the Northern Pacific coast looking into the question of building a telegraph line to Atlin, said in a recent interview:—"So far as I have been able to see, there will be numerous difficulties to overcome. The country is exceedingly rugged & broken, & there are several lakes to cross which will necessitate the use of submarine cables. Some of these lakes, I understand, are both deep & broad, all of which increases the cost of construction. While ordinarily a fair estimate could be made as to the cost per mile for construction, in this case it would require a careful investigation of every foot of the ground to be covered, streams, lakes, depth of water, etc., before

anything like approximate figures of cost could be given. Then, also, the cost of maintaining a line, winter & summer, must be considered, especially in winter. The snows in your mountains are deep, & avalanches & slides are not uncommon at exposed points, so that a line constructed along the side of a mountain, which it appears to me will be necessary in order to get there for repairs, will be liable to injuries every winter.

"The parties that I represent propose a capital of \$50,000 to begin with. This will insure the construction of lines to Atlin & other camps; also an extension south to Juneau. While going up from Juneau, I attempted to follow the appearance of the coast along which a line should be constructed, but owing to the snowstorm I was unable to do as well as I had hoped to. I saw enough, however, to enable me to form an idea of the task of such an undertaking. There are many openings, canyons, creeks, etc., to cross; & the most practical plan, perhaps, will be to follow the shore line as close as possible, which will put the line in easy reach of the linemen in case of a break. The matter of a line from Juneau south to connect with the line at Victoria or some other point, has not yet been taken up, & will not be until we have the line into Juneau, which of itself will be a great step taken towards reaching the outer world."

--Victoria Colonist.

Canadian, B.C. & Dawson City Telegraph Co.—The Secretary of this Co., in London, Eng., informs us that the construction of the proposed lines will be in charge of E. G. Woodford, late State Mining Engineer, Transvaal. In regard to some criticisms on the Co's. prospectus made in a letter from us, the Secretary says:—"The estimate of 200 telegrams a day was arrived at by the directors after mature consideration, & they are well within the mark. The prospectus, as you say, did not contain any estimate of the proposed line. That would not be necessary, inasmuch as the directors had already concluded a contract with a responsible firm of contractors to construct the line."

We regret being unable to agree with the Secretary. In our opinion, the cost of construction should have been given in the prospectus, more especially as a contract had been let.

Halifax & Bermudas Cable Co.—The report for the year ended June last, presented at the recent annual meeting, says: "Since the last report the Co. contracted with the British Treasury to lay a cable to connect Bermuda with Jamaica, via Turk's Islands, & the Direct West India Cable Co. was formed to undertake the work. The contract was signed Aug. 2, 1897, & the cable was open for traffic Jan. 31, 1898. This extension greatly improves the position of your Co. by giving it through traffic. The receipts in the past year were £10,154, as compared with £3,742 in 1896-7. This increase is due to the opening of the Jamaica cable, & to the interruption of other routes during the Spanish-American war. The net result is a profit of £6,655, as compared with £951, an increase of £5,703. It is proposed to make a distribution of profits for the year by declaring a dividend of 5%, amounting to £2,500, leaving £4,155 to be carried forward. Offers for the sale of debentures to the trustees were invited in Dec. & June last, & £4,989 was paid for £5,100 of debentures, which amount has been written off capital expenditure."

On H. P. Dwight's Retirement recently from the Ontario Game Commission, of which he had been a member since its inception, the Commissioners unanimously passed the following resolution: "That the Commissioners desire to place on record their appreciation of the valuable services that have been rendered by Mr. Dwight as a member of this board, & at the same time to express the sin-

cere regard which their uniformly pleasant relations with him have inspired & the deep regret which they feel upon the occasion of his retirement.

TELEPHONE MATTERS.

The Bell Telephone Co.

Full particulars of the hearing of this Co.'s appeal against the assessment of its plant in Toronto were given in our Jan. issue, pg. 31. The Board of County Judges made a sweeping reduction, as will be seen by the following figures showing the assessment as made by the city & as reduced by the judges:—

	Before appeal.	After appeal.
Poles, wires & conduits	\$377,992	\$53,900
Temperance Street switchboard	177,174	12,000
Yonge Avenue & Parkdale switchboards	59,733	3,900
Land & buildings	32,750	32,750
Total	\$638,649	\$102,550

The figures on the land & buildings were not disturbed, an arrangement having been arrived at between the parties. The governing decision was the much-discussed decision of the Court of Appeal in City of Hamilton v. Bell Telephone Co., by which the attachments of the Co. were assessed as scrap metal, instead of as a part of a growing concern. The basis of judgment of the Court of Appeal is understood to be a clause in the statute which provides that the property of such concerns shall be assessed separately in each ward, from which the court concluded the wires or poles of the Co. in one ward would be valueless except for their raw material. It is said the Toronto City Council will make an effort to secure an amendment to the law from the Ontario Legislature.

The Co. has decided to place more of its wires in Hamilton, Ont., underground. At present the underground system runs from the headquarters along Hughson St. to King William St., thence over to John St., on Main St. from Hughson to Macnab St., & from the Co.'s offices along Hughson south to Jackson

St., altogether about ½ mile. The idea is to extend this system south to Hannah St., east to Wellington St., & west to Bay or Hess Sts. The extension may possibly also include a duct northward to Merrick St.

The Megantic Telephone Co., Thetford Mines, Que., has been dissolved.

The Victoria & Inverness Telephone Co., of which A. H. Sutherland, Baddeck, N.S., is Sec.-Treas., is arranging to build lines in Inverness & Victoria Counties, Cape Breton, the proposal being to connect Northeast Margaree, Middle River, Big Baddeck, Baddeck, Nyanza, & Whycocomagh with Orangedale on the I.C.R. Professor Bell, who has a summer house at Baddeck, Cape Breton, is said to be interested in the undertaking.

The British Columbia Telephones, Ltd., has been authorized to carry on business in B.C. The head office of the Co. is at Huddersfield, Eng. The capital is £100,000, divided into 3,000 preference shares of £10 each, & 7,000 ordinary shares of £10 each. The head office in B.C. is at Vancouver, W. Farrell, representative in B.C. of the Yorkshire Guarantee & Securities Corporation, being attorney for the Co.

The British Columbia Legislature has appointed a committee to enquire into the number of hours the female employees at the central office of the Victoria & Esquimalt Telephone Co. in Victoria are employed each day, the number of days that constitute a week's work, & the remuneration paid each employee, together with any information connected with the working of the system that may be deemed necessary by the committee; with power to send for persons & papers, & examine witnesses under oath. In moving for the committee Mr. Smith, of Nanaimo, said that complaints had been made to him by some of the employees of the Co., & as it was a chartered company the house had a right to obtain the information.

A New York despatch says the remarkable possibilities in the utilization of the long distance telephone were strikingly demonstrated on Feb. 4 by a novel plan carried out by the

alumni of the Massachusetts Institute of Technology. Simultaneously the local alumni societies in New York, Boston, Philadelphia, Chicago & St. Louis, sat down to their annual banquets, & one toastmaster presided over the scattered festivities. The banquet halls in the five cities were put upon one grand circuit of a long distance telephone, whereby each heard the speeches delivered in all the others. At each plate was placed a tiny oblong telephone receiver, & immediately after the punch was served, the diners, by holding the little instruments to their ears, listened to after-dinner speeches hundreds of miles away.

Express Companies Items.

The Dominion Ex. Co. has issued a new list of officers & mileage table.

The Alaska Pacific Ex. Co. will, General Manager Hall informs us, continue its service over the White Pass & Yukon Ry., although the latter has organized the White Pass & Yukon Express Co.

The New York Sun complains about the systematic opening of parcels sent by mail. This kind of tampering with both parcel & letter post matter is practised to an extent not generally suspected. It drives much & will drive more mail business to the express companies.

The B.C. Ex. Co. carried gold to the value of \$216,040.30 out of Cariboo in 1898. The total output for Cariboo for the year was over \$250,000. It is estimated that about \$50,000 was brought down by Chinese & other individual miners, which was not included in the figures above.

The Dominion Ex. Co. gives notice that the restrictions which heretofore limited the amount of special collections, notes, drafts, accounts or bills, to \$100 have been removed. Collections in any amount may be received to be returned at the special rates, between all points on this Co.'s lines & the lines of Canadian Express Co. in Canada & the U.S. To & from points on American Express Co.'s lines in Canada the present limit of \$100 will apply.

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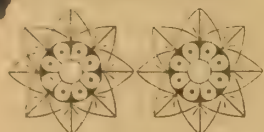
Accident Insurance Canadian Ry. Accident Ins. Co. Ottawa, Ont. Travelers' Insurance Co. Montreal.	Foghorns Rice Lewis & Son. Toronto.	Rope Rice Lewis & Son. Toronto.
Aerated Waters E. L. Drewry. Winnipeg.	Forgings Rhodes, Curry & Co. Amherst, N.S.	Semaphore Arms Acton Burrows Co. Toronto.
Air Brakes & Fittings Westinghouse Mfg. Co. Hamilton, Ont.	Gates Page Wire Fence Co. Walkerville, Ont.	Shafting Rice Lewis & Son. Toronto.
Ales E. L. Drewry. Winnipeg.	Grease Eureka Min. Wool & Asbestos Co. Toronto. W. C. Wilson & Co. Toronto.	Shipbuilders' Supplies Rice Lewis & Son. Toronto.
Aluminum Rice Lewis & Son. Toronto.	Half Tones Acton Burrows Co. Toronto.	Ship Carpenters' Tools Rice Lewis & Son. Toronto.
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Bellows Rice Lewis & Son. Toronto.	Iron Signs Acton Burrows Co. Toronto.	Snow Ploughs Rhodes, Curry & Co. Amherst, N.S.
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Boilers Polson Iron Works. Toronto.	Locomotives Baldwin Locomotive Works. Philadelphia.	Steamboat Signs Acton Burrows Co. Toronto.
Boiler Tubes Rice Lewis & Son. Toronto.	Lubricators Rice Lewis & Son. Toronto.	Steam Whistles Rice Lewis & Son. Toronto.
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Buckets Rice Lewis & Son. Toronto.	Mohair Lister & Co. Manningham, Eng.	Telegraph Office Signs Acton Burrows Co. Toronto.
Bunting Rice Lewis & Son. Toronto.	Numbers Acton Burrows Co. Toronto.	Telegraph Spoons Rice Lewis & Son. Toronto.
Cars Rhodes, Curry & Co. Amherst, N.S.	Oakum Rice Lewis & Son. Toronto.	Telephone Office Signs Acton Burrows Co. Toronto.
Car Wheels Rhodes, Curry & Co. Amherst, N.S.	Oils Eureka Min. Wool & Asbestos Co. Toronto. Galena Oil Co. Franklin, Pa. W. C. Wilson & Co. Toronto.	Tie Plates F. E. Came. Montreal.
Castings Rhodes, Curry & Co. Amherst, N.S.	Office Signs Acton Burrows Co. Toronto.	Toilet Paper Rice Lewis & Son. Toronto.
Chains Rice Lewis & Son. Toronto.	Packing Eureka Min. Wool & Asbestos Co. Toronto. W. C. Wilson & Co. Toronto.	Tools Rice Lewis & Son. Toronto.
Cuts Acton Burrows Co. Toronto.	Pipe Rice Lewis & Son. Toronto.	Track Jacks Duff Manufacturing Co. Allegheny, Pa.
Door Signs Acton Burrows Co. Toronto.	Pipe Covering Eureka Min. Wool & Asbestos Co. Toronto. Mica Boiler Covering Co. Toronto. W. C. Wilson & Co. Toronto.	Track Tools Rice Lewis & Son. Toronto.
Electric Car Route Signs Acton Burrows Co. Toronto.	Plushes Lister & Co. Manningham, Eng.	Trucks Rice Lewis & Son. Toronto.
Electric Car Trucks Baldwin Locomotive Works. Philadelphia	Porter E. L. Drewry. Winnipeg.	Uniform Caps W. H. Coddington. Hamilton, Ont.
Enameled Iron Signs Acton Burrows Co. Toronto. Rice Lewis & Son. Toronto.	Portland Cement Rice Lewis & Son. Toronto.	Valves Rice Lewis & Son. Toronto.
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The G.T.R. General Passenger Agent.

W. E. Davis was born in Niagara county, N.Y., 1850. He began work as office boy in the Hannibal & St. Joseph R.R., now a part of the Burlington System, at the age of 18, & his early railway education was obtained on Western roads. He came to what is now part of the Grand Trunk Ry. System (Chicago & Lake Huron R.R., now Chicago & Grand Trunk) Aug., 1877, in charge of the passenger business of that Co., which later on included the Detroit, Grand Haven & Milwaukee Ry., Toledo, Saginaw & Muskegon Ry., & Cincinnati, Saginaw & Mackinaw R.R.; & at the time of the consolidation of all the G.T. lines under the present management, he was removed from Chicago to Montreal April 1, 1896.

Missanabie to James Bay.

A measure is before the Ontario Legislature to change the name of the Sault Ste. Marie & Hudson's Bay Ry. Co. to the Ontario & Hudson's Bay & Western Railways & Navigation Co., to extend the time for construction, to authorize the Co. to build a waggon road as a stage route for a portion of its route in advance of railway construction, & to permit the Co. to amalgamate with other companies chartered to extend commercial transit from Ontario to points on the Mackenzie & Yukon basins. R. Kilgour, of Toronto, & other promoters of the Co., recently waited on the Ontario Government to ask aid. By means of several large maps they traced the route of the proposed railway & its proposed connections from Missanabie, on the main line of the C. P. R., by way of the Moose River Valley to the Hudson's Bay, thence by 1,500 miles of deep-water navigation across Hudson's Bay & up Chesterfield Inlet, thence by inland navigation through Great Slave Lake & Mackenzie River & its tributaries to the Yukon & Cassiar districts. Two short portages on the route would require short stretches of railway, not more than probably 60 miles in length, & possibly a third railway might be required to cross an unknown & unexplored tract of country, which, however, is believed to be watered by a navigable river. This route, it was asserted, is 800 miles shorter than that via the C.P.R. to the Pacific coast. The line from Missanabie to Hudson's Bay, it was represented, is by far the shortest of any which can be built connecting with the C.P.R., & it passes through good agricultural land, which presents no great engineering difficulties or more than usually expensive construction. The length of railway to be built is about 240 miles, & by following the valley of the Moose River easy grades could be obtained, which would enable the Co. to build the road for considerably less than by any

other route. It was represented that the construction of the railway would give to Ontario a seaport which would open up to her markets & make tributary all the rich mineral, forest, river & ocean wealth of that vast district. The whitefish, salmon, cod & whale fisheries of Hudson's Bay are, it was urged, the richest in the world, but unfortunately at present the cod & whale fisheries are in the hands of U.S. fishermen. The construction of the railway would afford facilities to control this trade. Lignite has also been found in the district through which the line runs, & on an island in Hudson's Bay is known to exist.

The Co. finds some difficulty in locating the



W. E. DAVIS

line, owing to the want of a waggon road through the district. It is proposed that such a road shall be first constructed, & that the Government allow \$500 a mile for that purpose, the amount to be deducted from its railway grant. This, it was pointed out, would secure a colonization road & a telegraph line this year, & open up means of transportation by which settlers might get into the country. It was stated that if the Government would intimate its purpose to grant such aid as the memorial asked for, arrangements had been made by which 2 steamers would be put on the Moose River & 1 on Hudson's Bay from Moose River to Churchill & Chesterfield Inlet this summer. A letter from the Polson Iron

Works was read, stating that the steamers could be built, if the order was given at once, in time to take them in on the spring freshets. It was also stated that arrangements had been made by which, if the Government gave the required aid, parties were prepared to put up the money to carry through the scheme.

RAILWAY FINANCE, MEETINGS, &c.

The Atlantic & Lake Superior Ry. Co. made application to the Dominion Government, in 1895, to guarantee interest on its bonds for \$20,000,000 for 10 years. The Co. claims that on Sep. 26, 1894, it notified the Government that it was ready to issue bonds, & that on Jan. 15, 1895, it was agreed that the issue should be for £500. On this the bonds were floated & work commenced. Subsequently the Dominion Minister of Finance published a notice in England to the effect that no guarantee had been given. In consequence the Co. claims \$1,500,000 damages for which it is suing in the Exchequer Court. The case was set down for hearing Feb. 17, but was not heard then, therefore the time has elapsed & no new date has been set for the hearing.

Buffalo & Lake Huron.—The report for the ½ year ended Dec., states that the balance, including the amount brought forward from the previous ½ year, after providing for the interest on the bonded debt, is £14,209, which will allow of the payment of a dividend of 5s. 3d. a share, and leave a balance of £424 to be carried forward. The dividend will be paid early in Mar. The directors announce the retirement from the board of A. Ashton, who has acted as Chairman of the Co. since 1870, & that M. H. Maxwell, Jun., has succeeded to this office, while E. Ashton has been elected to the vacant seat at the board.

Canada Eastern.—This line, the purchase of which by the Dominion Government is spoken of, is 136 miles long. The ordinary share capital authorized & paid up is \$1,000,000. The bonded debt authorized & issued is \$1,854,174.60. It received in Dominion Government aid \$366,839.84, & from the Prov. of New Brunswick \$400,000 in addition to \$20,000 of municipal aid loaned. Capital from other sources is stated as \$320,425.21, making a total capital subscribed of \$3,961,539.65, & paid up of \$2,087,365.05, which figures are also given as the total cost of the railway & rolling stock. For the year ended June 30, 1897, the net earnings were \$44,541.14. The proposed purchase price by the Government is said to be in the neighbourhood of \$2,000,000, not \$1,000,000 as stated in our last issue. In speaking on the subject during the New Brunswick elections, the Minister of Railways said he had approached Mr. Gibson on the matter because he thought the purchase of

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NEXT ANNUAL MEETING at Toronto, Sep. 20, 1899.

Canadian Ticket Agents' Association.

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Hooke, London, Ont.; AUDITOR, S. H. Palmer, St.
Thomas, Ont.

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Ont.; W. H. Harper, Chatham, Ont.; C. E. Morgan,
Hamilton, Ont.; T. Long, Port Hope, Ont.; A. Calder,
Windsor.

NEXT ANNUAL MEETING at Winnipeg, Oct. 13, 1899.

the C.E. would be a good thing for the I.C.R.
(Feb., pg. 38.)

C.P.R. Annual.—The 18th annual meeting
will be held in Montreal April 5 at noon.

C.P.R. vs. Toronto.—The City of Toronto
has been ordered by the Master in Chambers
at Toronto to pay the C.P.R. Co. \$16,396 in
connection with the York Street bridge con-
struction. The City refused payment on the
ground that the C.P.R. owed it \$46,000 rent
for the alternate station site on the Esplanade.

Dominion Atlantic net earnings for Jan.
\$42,290, against \$33,135 for corresponding
period.

Grand Trunk.—General Manager Hays
will attend the half-yearly meeting in London
Mar. 27, & give information at first hand as
to the progress & condition of the system un-
der the new management. He will be able
to show a constant increase in the business
done, a wonderful augmentation of the rolling
stock, & a general advance auguring well for
the future of the road. The report which will
be submitted to the meeting will show a gen-
erally healthy condition, & evidence will be
forthcoming illustrative of the beneficial ef-
fects of the policy of centralization which Mr.
Hays inaugurated.

Great Northern (U.S.) stock has reached
a price almost equivalent to 300 for the old
stock, which a year ago was selling below
150. The Co. has thus accomplished some-
thing seldom heard of in railroading—doubled
the price of its stock in a year.

Irondale, Bancroft & Ottawa.—The Hud-
son Improvement Co. of Jersey City, N.Y.,
assert a claim against this Co. by reason of a
contract entered into between the companies,
under which the Improvement Co. claims to
be entitled to the bonds & stock under this
agreement in priority to all other persons, &
claims that the present holders of the bonds are
not legally entitled to them, & that the Im-
provement Co. is. (Feb., pg. 38.)

Kaslo & Slocan.—A special general meeting
of the shareholders was called for Mar. 3, for
the purpose of authorizing directors to issue
bonds to the amount, including bonds issued,
of \$30,000 per mile of railway.

Kingston & Pembroke.—In the case of
Folger v. K. & P. Ry. Judge Price has made an
order for the distribution of surplus moneys in
the hands of the receivers amongst the stock-
holders. The amount to be distributed will be
\$20,000. It is said the Co. will be placed in
a solid condition, & new bonds will be issued
under the Dominion statute passed last session.

At the annual meeting, Mar. 6, the old board
& officers were re-elected. Gross earnings for
1898 were \$138,773, expenses, \$103,619,
net earnings, \$35,154.

Lake Erie & Detroit River.—Action has
been begun by a ratepayer of the Township of
Aldborough, Elgin Co., to quash a township
by-law, which gives a bonus of \$7,000 to this
Co. The action is grounded on the failure of
the Co. to extend its line from Ridgetown to
St. Thomas, passing through that township, as
it was to have done.

Northern Pacific.—Statement for 6 months
to Dec. 31:

		Increase.
Gross earnings	\$14,787,043	\$1,411,381
Operating expenses	6,216,472	325,049
Net earnings	\$8,570,570	\$1,086,332
Taxes, rent, and imp.	2,469,860	803,645
Net oper. income	\$7,100,709	\$282,686
Mis. inc., not includ. land sales	241,780	116,684
Net income—		
Main system	\$7,342,490	\$399,371
Prop. lines	261,689	58,195
Total	\$7,604,180	\$457,567

Ogdensburg & Lake Champlain.—The
Rutland R.R. took possession of the Ogdens-
burg & Lake Champlain R.R. Feb. 2. The
price paid is said to have been over \$4,000,-
000. P. W. Clement has assumed charge of
the O. & L. C. as President.

Ontario Railway Subsidies.—During 1898
the Province paid under the head of Railway
Subsidy Fund \$125,649.50.

Ottawa & New York.—The City of Ottawa
is applying to the Ontario Legislature for
power to extend for a year the time limited by
its by-law granting a bonus to this Co., in
which the Co. was to comply with certain con-
ditions therein contained.

Pembroke Southern.—A special meeting of
shareholders is called for Mar. 20 to authorize
the issue of bonds.

Quebec & Lake St. John gross earnings for
11 months to Nov. 30, \$265,348 against \$226,-
674 for corresponding period.

The Co. is asking the Provincial Govern-
ment to extend the period for the guarantee
of interest upon the Co.'s bonds, principally
upon the ground that it keeps an unremuner-
ative section of the railway open in winter for
the benefit of settlers only.

Quebec Subsidies.—The report of the Com-
missioner of Public Works shows that there
are 3,377 miles of railway in operation in the
province. The following amounts were paid
in land & cash subsidies in the past year:
Quebec, Montmorency & Charlevoix, \$15,191;
East Richelieu Valley, \$50,000; Great North-
ern, \$125,253; Baie des Chaleurs, \$9,555;
Montreal & Lake Maskinonge, \$11,375. The
obligations of the Government towards rail-
ways, due partly on Dec. 31, 1898, & partly
on Dec. 31, 1899, amount to \$970,633. No
subsidies will be granted this year. Premier
Marchand, speaking on the matter recently,
said the policy of the Government was first to
restore the finances to a sound condition, &
then it would see about the promotion of
further railway construction. He recognized
the importance of railways, & regretted the
necessity of refusing the aid desired, but until
the equilibrium had been restored in the fin-
ances, he had pledged himself to the people to
add no new obligations to the already heavy
liabilities of the province that could be at all
averted.

St. John, N.B., Bridge & Ry. Extension
Co.—At the recent annual meeting the follow-
ing directors were elected: Judge Barker, J.
H. Parks, Hon. T. R. Jones, W. H. Thorne,
T. Williams (Moncton), H. H. McLean & P.
Tucker.

Saskatchewan & Western Ry.—At the ad-
joined annual meeting at Winnipeg, Feb. 23,
a statement was submitted of the affairs of the
Co., & the following were elected directors:
E. B. Osler, H. C. Hammond, A. M. Nanton,
J. R. Waghorn & H. W. Nanton.

The Tilsonburg, Lake Erie & Pacific
having been extended from the G.T.R. loop
line, south of Tilsonburg to the M.C.R. north
of that town, a distance of 3.42 miles, and a
station having been built, the bonus debentures
for \$10,000 have been delivered to the
Co.

Vanderbilt Clearing House.—The Vander-
bilt lines intend to establish a clearing house
at Buffalo to audit the accounts & clear the
balance between the various roads on all
traffic interchanged at Buffalo & Suspension
Bridge. The clearing house will be in charge
of W. Nicholson, now Auditor of the Fall
Brook Ry. The earnings on all traffic inter-
changed will be accounted for through the
clearing house, instead of through the audit-
ing department of each road, as at present.

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net
profit & increases or decreases over 1898,
from Jan. 1, 1899, are as under;

Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan. \$1,864,570.36	\$1,247,036.50	\$617,533.86	\$101,906.27 +
+ Increase.	- Decrease.		

Approximate earnings for Feb., \$1,752,-
000, against \$1,488,000 in Feb., 1898, an in-
crease of \$264,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—
Approximate earnings for Feb., \$134,827,
against \$108,453 in Feb., 1898, an increase of
\$26,374.

Gross earnings for 1898, \$1,821,807; operat-
ing expenses, \$1,224,045; net earnings, \$597,-
761; total income, \$603,179. Interest on
bonds absorbed, \$859,616, & taxes, \$41,754,
leaving a deficit of \$298,191, against \$362,-
155 for 1897.

MINERAL RANGE, HANCOCK & CALUMET.—Approximate earnings for Feb., \$23,779, against \$19,809 for Feb., 1898, an increase of \$3,970.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Approximate earnings for Feb., \$246,362, against \$244,083 for Feb., 1898, an increase of \$2,279.

Net earnings for 6 months to end of Dec., 1898, were \$1,096,731, against \$1,046,015 for corresponding period.

G. T. Earnings, Expenses, &c.

The Secretary informs us under date of Feb. 10 that subject to audit, the results of the accounts for the half year to Dec. 31, 1898, are cabled as follows:

Gross receipts.....	£2,140,500
Working expenses.....	1,428,000
Net receipts.....	712,500
Net revenue charges for the ½ year, less credits.....	485,300
	£227,200
Deduct—	
Chicago & G. T. deficiency for the ½ year payable by the G. T. Co. under traffic agreements.....	£14,500
D. G. H. & M. deficiency for the ½ year.....	3,900
	18,400

Surplus for the ½ year..... £208,800

This surplus of £208,800 added to the balance of £2,200 from June, 1898, makes £211,000 available for dividend, which will admit of the payment of the full dividend for the ½ year on the 4% guaranteed stock, and a dividend of 3% on the 1st preference stock, leaving a balance of about £4,000 to be carried forward.

For the purpose of comparison the following figures for the corresponding previous ½ year may be given: Gross receipts, £2,247,151; working expenses, £1,434,804; net receipts, £812,347. This time last year the whole of the surplus, after paying debenture interest, was applied to the clearing off of the debit to revenue account. The year 1898 has fallen short of expectations. But it is very good as compared with former experience, & now that there is peace between the two great Canadian companies better results may be expected for 1899.

The following statement of earnings supplied from the Montreal office, includes the G. T. of Canada, the Chicago & G. T., & the Detroit, Grand Haven & Milwaukee Rys:

	1899	1898	Decrease	Increase
Jan..	\$1,956,281	\$1,916,332		\$39,949
Feb...	1,844,434	1,674,453		149,981

The following figures are issued from the London, Eng., office:

DETAILS OF GRAND TRUNK RECEIPTS.

Aggregate Jan. 1 to Jan. 31:

	1899.	1898.
Passengers, number.....	417,379	423,292
Passengers, amount.....	£ 70,829	£ 68,642
Immigrants, number.....	108	408
Immigrants, amount.....	£ 89	£ 270
Mails, express, &c.....	£ 12,433	£ 12,371
Freight, tons.....	781,726	809,401
Freight, amount.....	£ 221,190	£ 232,721
Miscellaneous receipts.....	£ 10,582	£ 4,726
Total receipts.....	£ 315,123	£ 318,730
Decrease.....		£ 3,607

W. L. Benham, Western Freight Manager for the Great Northern (U.S.), with headquarters at Seattle, has resigned. He is said to have received an appointment with the White Pass & Yukon Ry.

Lieut. G. D. Bowles, R.N.R., chief officer of R.M.S. Empress of China, was presented at Vancouver recently with a gold mounted & engraved walking stick, made from the wood of the Str. Beaver, on his leaving for England.

RAILWAY PROJECTS.

Algoma Lines.—Mr. Farwell, M.P.P., has introduced 5 bills in the Ontario Legislature to secure charters for roads to develop mining districts. The Bruce Mines & Rock Lake road is a 25-mile proposition, to run out of Bruce mines & tap a nickel district. The Thessalon & Grand Portage will be 20 miles long, to tap a copper mining country, & will pass through the placer gold mining district

Ashcroft to Glenora.—Gemmell & May, Ottawa, give notice of application to Dominion Parliament to incorporate a company to build a railway from or near Ashcroft or Kamloops, or some point between same, to Barkerville, thence to Glenora on the Stikkeen River.

Atlin Branch of W.P. & Y.—A deputation recently waited on the B.C. Government urging aid to the White Pass & Yukon Ry., to build a branch into the Atlin district. G. W.

Mitchell, of Ottawa, who is interested in the line, said the Co. was constructing, entirely out of its own resources, 48 miles of railway & solving the transportation of the Yukon & incidentally aiding the Atlin district. This was a strictly commercial proposition, & his Co. wanted nothing from the Province, although 28 miles of the road was through B.C. territory; but when it came to building branches & developing an entirely new section he considered that the Province, which would largely benefit by the construction of a line to Atlin, should certainly share in the outlay & the risk. The Victoria & Vancouver members of the deputation set forth the following arguments in favor of the Province assisting the railway: The urgent necessity of certain & direct railway communication with Atlin City; the White Pass & Yukon Ry. people, who are behind this enterprise, are now building from Skaguay to Bennett without asking for any subsidy in cash or land; the Atlin country can be more easily reached from Log Cabin on the line of the W.P. Ry. than by any other route; the distance from Log Cabin to Atlin City is 51 miles, 29 miles of railway & the remainder by water; the W. P. & Y. Ry. Co. will construct this branch provided sufficient aid is granted either in the shape of a substantial subsidy or a guarantee. The line will cost \$255,000 a mile.

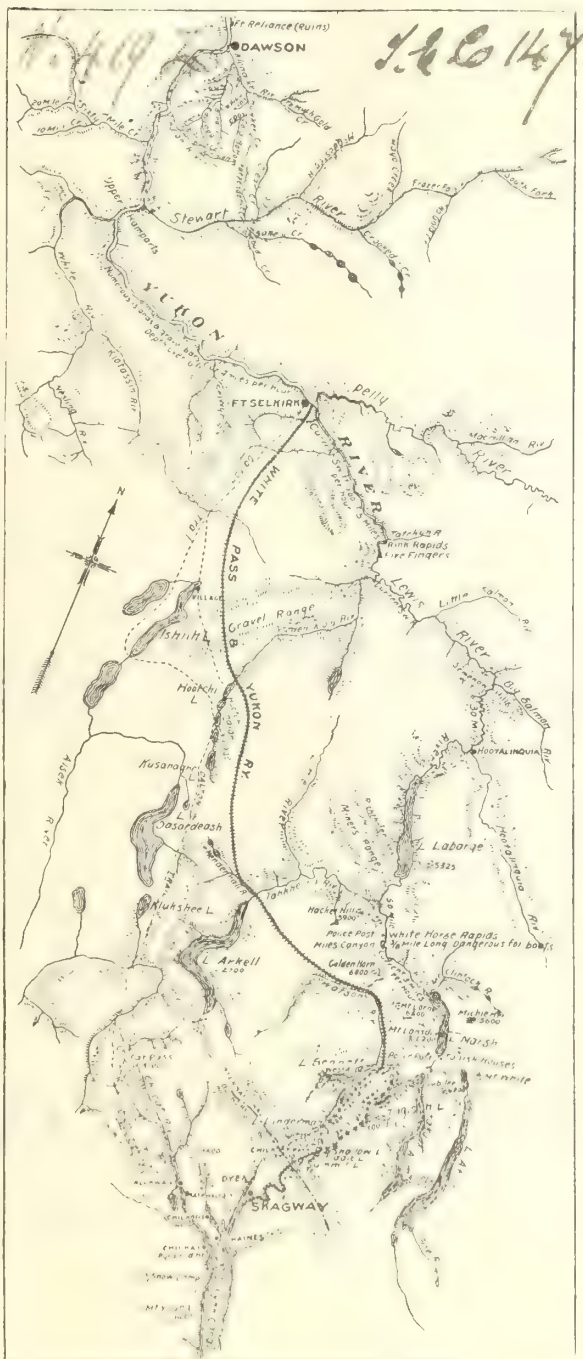
Atlin Transportation Co.—W. Tytler & E. C. Cargill give notice of desire to form a company under this name under the Tramway Co. Incorporation Act, to build a tramway from Taku Arm to Atlin Lake, & thence to Surprise Lake, Cassiar District, with branch lines.

Port Angeles.—There is a scheme on foot to construct a railway from Port Angeles, Wash., to a point on Puget Sound, where connection can be made with a transcontinental railway system. Towards the consummation of this scheme, the already overburdened taxpayers of Victoria—which by means of a ferry it is proposed to make the B. C. terminus—are to be asked to contribute \$150,000 as well as other considerations. The proposition is not received with very great favor by Victoria property owners.

J. W. Blabon, who has been Purchasing Agent of the Great Northern since 1891, has been appointed Western Traffic Manager, with headquarters at Seattle, Wash., succeeding W. L. Benham, whose title was Western Freight Manager.

Vice-President Shaughnessy's visit to Europe is believed to be mainly in connection with matters relating to the Co.'s financial matters & to meet some of the principal continental stockholders.

F. C. Bachelder, heretofore Superintendent of the Minnesota division of the Minneapolis, St. Paul & Sault Ste. Marie, has been appointed Superintendent of the Wisconsin & Peninsula division of the same road, with headquarters at Minneapolis, Minn., in place of D. Willard, resigned.



THE WHITE PASS AND YUKON RAILWAY.

on the Mississauga river. Another, to be named the Nickel Range road, will run from the Soo branch of the C.P.R., 6 miles to a nickel property, & is being projected by Mr. Clergue, manager of the pulp & nickel works. The Worthington & Onaping Ry. is proposed to develop nickel properties on Lake Onaping. It will be 25 miles long. The fifth & largest, the Algoma Central, will run from the Soo to Missanabie, & a branch will tap the Michipicoten gold district. It will be 100 miles long.

RAILWAY APPOINTMENTS, &c.

Canadian Pacific.—J. Cardell, whose appointment as Assistant Master Mechanic, was ~~announced in our last issue~~, will have headquarters at Calgary, Alta. The position of ~~Assistant Master Mechanic~~ at ~~Calgary~~ has been abolished. The position of Acting Road Foreman, vacated by S. Phipps, appointed as Assistant Master Mechanic at Winnipeg, has been abolished. F. E. Hobbs' appointment as Assistant Master Mechanic of the Pacific Division, does not interfere with the position of Master Mechanic of the Division held by L. R. Johnson, who is now in Japan on steamship business, & who will return to Vancouver in the spring.

J. Osborne is expected to leave Montreal for Winnipeg, to assume his new duties as General Superintendent of the C.P.R. Western Division, shortly after Vice-President Shaughnessy's return from England.

C. Lawrence has been appointed storekeeper at Nelson, B.C.

Mainly About People.

F. Belcher, of the Northern Pacific's Toronto office, has been transferred to the Winnipeg ticket office.

A. J. Gastin, formerly of Toronto, & at one time Superintendent of the G.T.R. rolling mills east of the Don, died suddenly in Boston recently.

G. F. Evans, of the Westinghouse Mfg. Co., is expected to arrive in Hamilton, Ont., shortly from Russia, where he has been establishing works for the Co.

C. R. Hosmer, Manager C.P.R. Co.'s Telegraph, has been elected a director of the Merchants Bank of Canada, to succeed the late T. H. Dunn, of Quebec.

J. Buntsen, General Manager B.C. Electric Ry., who has been in poor health for some time, leaves for England Mar. 18, intending to be absent 3 or 4 months.

C. R. Hosmer, Manager C.P.R. Co.'s Telegraph, has returned to Montreal from Paris, where he was called owing to the illness of his daughter, who has recovered. Mrs. Hosmer is still abroad.

A. C. Henry, C.P.R. purchasing agent, who has been in Bermuda for his health for the past month or so, expects to leave for home March 16. At last accounts he was much better, though still suffering slightly from rheumatism.

R. Brydone-Jack, who was engaged on the White Pass & Yukon Ry. as trustees' engineer, being the representative of the English bondholders of the road, died in Alaska recently, aged 36. His family was awaiting his return in Vancouver when the body arrived. He was a son of the late Dr. Brydone-Jack, president of the University of New Brunswick.

A prominent official of the C.P.R., in recently discussing the report of Sir Wm. Van Horne's resignation, stated that it was a rumor of annual occurrence & was not given any consideration in railroad circles. The news whenever it did come would be from Montreal & would most likely be announced at the annual meeting of the shareholders & not through a private cablegram.

In a recent article in the London (Eng.) Review on "The Newer Forces of Canada," Sir Wm. Van Horne is referred to as a person hardly less influential than the Premier. As the guiding spirit of the C.P.R. he would naturally be a great factor in the country's progress, but the man's strength of character, his numerous activities, says the writer, are daily influencing thousands throughout the country. He has a mighty talent for inculcating sound business methods, & he has a constant stimulating effect on the commercial & industrial heart of the Dominion.

White Pass & Yukon Railway.

In response to a request we have been furnished with the following interesting official information about this line, under date of Feb. 24:

Active operations on construction work were begun about June 1, 1898, & have been continued, without a break, since then. The summit of White Pass was reached with the rails on Feb. 15, 1899, & the Co. is now operating 2 miles beyond White Pass, making a total distance of rail opened for traffic of 22 miles from the Co.'s wharf at Skaguay. From Log Cabin to the summit, about 7 miles, will be completed by the end of Feb., ready for the steel. From 3 miles out of Skaguay to the summit of the Pass has been continuous rock-work, upon which has been consumed nearly 350 tons of dynamite. One familiar with this class of work & the use of explosives can form a very fair idea of the magnitude of this class of construction.

The deepest open cut is 16 ft. at Porcupine Hill, some 7 miles from Skaguay by rail. The balance of the rock-work has mainly been

side-hill work, with the exception of one tunnel of about 500 ft. in length, which is about 16 miles from Skaguay by rail & was bored through a spur to avoid a sharp curve. The maximum grade of the road is 3-9/10ths%, which holds almost continuously for about 13 miles. Ballasting material, up to the present, has been obtained from the bed of Skaguay River, near Skaguay, but now that the line is beyond the summit, vast quantities of the finest kind of gravel for ballasting will be hauled down grade & distributed from the summit to Skaguay, to put the bed in first-class condition. The major portion of the ties is sawed ties of fir from the mills of Puget Sound. Only a small portion of the timber adjacent to the line of the road was suitable for ties. The rails are 56 lbs. T steel, which is an unusual heavy rail for a narrow gauge (3 ft.) railway, & will thus enable a first-class alignment & grade to be maintained throughout the year. Sufficient rails are on hand to complete the laying of the line almost to Caribou Crossing.

About 1,650 men are now employed on construction, which is the largest number in the service of construction since work was begun. About the end of last July approximately 1,500 were on the pay roll of the construction force, but the discovery of gold on Pine Creek, resulting in the stampede to Atlin Lake, pulled down the force in 10 days' time to less than 500, & from that date until the first of the year it has been a struggle to get over 1,000 men upon the work. The question of labor has been a very serious one on all of this work. A higher price of wages has been paid for common labor than has probably ever been paid on any railway construction work of a similar class in the world; but, notwithstanding this fact, the allurements of gold seeking have been such as to make it extremely difficult to keep good men on construction. Had the Co. been able to maintain a force of 1,500 men from July through the fall the line would undoubtedly have reached the summit before Dec. 1, & the work would now have been well on towards its completion to Lake Bennett. However, if the present force can be maintained the Lake will undoubtedly be reached with the rail by the opening of navigation, or about June 1.

In an effort to expedite the work the Co. purchased 3 second-hand, narrow gauge locomotives in Seattle, which were formerly used on the Oregon Improvement Co.'s road from Seattle to its mines. These locomotives were thoroughly repaired & forwarded to Skaguay & have done excellent service in handling con-

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struction material. In July the Co. purchased 2 more second-hand locomotives, which were in first-class repair, making 5 in service until Feb. 1 when a 50-ton "Climax," geared locomotive, (that was second-hand, although but 6 months old), was purchased & is now just about in service. In Dec. an order was placed with the Baldwin Locomotive Works, of Philadelphia, for the construction of two 45-ton, compound locomotives, equipped with the most modern appliances & of a consolidation type. The Baldwin Works turned these locomotives out in less than 28 days from the time the order was received. These are now in transit between Seattle & Skaguay & will probably be in service by Mar. 1. The Co. has also in service 6 passenger coaches & 1 baggage car, 30 box cars & 40 flat cars. The box & flat cars were framed in Seattle & sent to Skaguay in a knocked-down condition &

The Co. has at Skaguay a large machine shop, equipped with the most modern & up-to-date type of machine tools, such as a 36 in. x 8 ft. bed planer, a 42 in. swing engine lathe, another 22 in. swing engine lathe, a mortising & post-boring machine, a wheel press, a 38 in. drill press, emery wheels, band saws, 25 h. p. boiler & engine to run the machinery of the shops; blowers & blacksmith's forges & a generally thoroughly equipped machine shop incidental to the requirements of a railway of this size. A large 2-story station has just been completed near the water front in Skaguay, the lower portion of the building being provided with ticket office, baggage room, waiting rooms, telegraph operator's office, etc., while the upper story has been designed for & is now occupied by the heads of departments & their assistants for the operating department of the road at Skaguay.

been completed for a branch line from Log Cabin to Atlin.

The road is already handling a vast amount of freight, there being at present over 600 tons in the warehouses at Skaguay awaiting transportation to the summit, where it is transferred from the end of the rail to 2-horse sleds, & by that means transported to Lake Bennett or to Atlin. The present general tariff, which is a special tariff for general merchandise, etc., in car-load lots, is \$2.50 per 100 lbs., from Skaguay to summit of White Pass, or the end of the railway. From the end of the rail to Lake Bennett, the rate is \$2 per 100 lbs. The Co. has appointed & located at Skaguay a customs agent who attends to the preparation of the customs papers incidental to the passage of bonded freight through Alaska territory, for which service a charge of \$1 is made for all papers



GRAND TRUNK RAILWAY SYSTEM. VICTORIA JUBILEE BRIDGE OVER ST. LAWRENCE RIVER, MONTREAL.

there set up on trucks which had been purchased complete & ready for the car body. All the rolling stock is equipped with the Westinghouse air brake service, with all the latest improvements, also with automatic couplers. The Co. will thus have in service by Mar. 1, 8 locomotives & the above enumerated rolling stock, which will be ample equipment to handle the vast amount of freight now offering & also enable it to forward its construction supplies. The Co. has also a snow plow, which it constructed at Skaguay, & with which it has been enabled thus far to keep the entire line of track open. Next year it will probably be found expedient to provide a rotary snow plow, as also to construct at various points snow fences & a few snow sheds. The major portion of the road, however, is so located as to be but little troubled with snow slides.

On the Co.'s wharf at Skaguay it has a large galvanized, corrugated iron warehouse & is now constructing a second one. Having a bonded privilege with the U.S. Treasury Department, the Co. is thus thoroughly provided for the handling of bonded freight through Alaska for British Columbia & Northwest Territory points, & a vast amount of this freight is now being handled. The Co. is also providing for the erection of 2 large, corrugated iron warehouses at Lake Bennett for freight purposes.

The Co. has constructed & has now completed & in operation a telegraph & long distance telephone line from Skaguay through to Lake Bennett, with instruments located at various points along that distance.

The preliminary survey for the road from Lake Bennett onward to Fort Selkirk was completed early last fall. A survey has also

for a shipment of 1 ton or less, or \$1.50 for a shipment of over 1 ton. By this means no delay is occasioned in the handling of bonded goods through the U.S. Customs Department at Skaguay.

The Alaska portion of the road has been constructed under the provisions of the Pacific & Arctic Ry. & Navigation Co., of West Virginia, while the British Columbia portion is being built under the charter rights of the British Columbia-Yukon Ry. Co., & the road is operated under the general title to the public of the White Pass & Yukon Route.

The following is a list of the general officers of the Co. as at present constituted.

S. H. Graves, President, Chicago, Ill.
F. C. Elliott, Secretary, Chicago, Ill.
J. W. Probert, Treasurer, Chicago, Ill.
A. L. Berdoe, Auditor, Seattle, Wash.
E. B. Hussey, Purchasing Agent, Seattle, Wash.

I. H. Gray, General Traffic Manager, Seattle, Wash.
 E. C. Hawkins, General Superintendent & Ch. Eng.,
 Seattle, Wash.
 F. H. Hixon, Assistant Chief Engineer, Skagway,
 Alaska.
 T. H. Whiting, Divisional Superintendent, Skagway,
 Alaska.

A Vancouver despatch, dated Mar. 8, says the laborers on W., P. & Y. Ry. construction have struck, the Co. having reduced wages from 35c. to 30c. an hour, & added another hour to the day's work.

Grand Trunk Betterments, etc.

The Victoria Jubilee Bridge, an illustration of which is given on page 60, is being rapidly pushed forward, so as to secure its completion by May 1. Work on the roadway and sidewalk for vehicular and pedestrian traffic is now being done. On the south side of the bridge the iron lattice work on the outer edge already extends to about the centre. Large consignments of the lattice work are arriving almost daily.

This bridge, which was designed by the Co.'s Chief Engineer, J. Hobson, was commenced in Oct., 1897, by the erection of the first span on the west end, the structure being built completely around the tube of the old bridge, the latter being cleverly utilized as a roadway on which a temporary steel span was moved out to the first pier, & the new structure then erected outside the temporary span. The progress of the work was delayed for 2 months during the winter of 1897-98, owing to very severe weather, & the actual time of construction has only extended over a period of about 8 months. During that time the enormous traffic was delayed but very little, practically nothing to speak of, the longest time, on any one occasion that the line was closed to traffic, being about 2 hours, & the total length of time closed during construction being about twenty hours. This is a very remarkable result, when the following facts are taken into consideration: While the old bridge, entire, weighed 9,044 tons, the new bridge weighs 22,000 tons. The total length of bridge is 6,592 ft., number of piers, 24, number of spans,

25, length central span, 330 ft., length side spans, 242 ft. While the width of the old bridge was 16 ft., the width of the new bridge will be 65 ft. The height of the old bridge was 18 ft., the height of the new bridge over all is 28 ft. The total cost of the new bridge, which provides double track for railroad trains, drive-ways for vehicles on each side, & foot-walks on the outside of drive-ways, will be about \$2,000,000. The contract price of the old Victoria Bridge was \$6,813,000. The flooring of the present bridge will weigh 2,800 lbs. per lineal foot, & each span has been so erected that it will carry not only a train on each track, moving in opposite directions, but going at a rate of 45 miles an hour, with a total weight of 4,000 lbs. to the lineal foot, moving at the rate of 25 miles an hour, as well as drive-ways & foot-walks crowded with vehicles & pedestrians. The new bridge will rank, from an engineering standpoint, with the foremost structures of the age, as the bridge which it replaced ranked the foremost, as a monument to the skill of the engineers & bridge builders of the period in which it was built. The opening of the double track on the new bridge marks an era in the handling of traffic over the G.T.R. system, for, whereas the old bridge could accommodate a maximum of but 100 trains a day, as they were required to travel at a low rate of speed, & one train could not follow another until the preceding one was out, thus losing a considerable amount of valuable time during a day, the present bridge has almost an unlimited capacity in this respect, as trains can be moved rapidly & follow each other in rapid succession, owing to the establishment of a modern electric block system, which will permit 2 or 3 trains on the bridge at the same time. This will enable the G.T.R. to handle with facility the large freight business passing through Montreal for export to Europe, which has heretofore been more or less hampered, owing to the limited capacity of the old bridge, as well as handling in a proper manner the large passenger business which annually comes to & through Montreal during the summer tourist season.

Entrance to Montreal.—In spite of statements to the contrary, no steps have been taken to advance the project for the abolition of the level crossings in Montreal. No thought of the new elevated road has been definitely shaped in the official mind; no plan exists on paper. The initiative must be taken by the Montreal civic committee which was appointed several years ago, & which has been renewed from time to time. The Co. is prepared to deal with the question in a liberal spirit; it will not make any advances. Mr. Hays would be glad to see the level crossings abolished; the urgency lies with the city.

Montreal General Offices.—A water color sketch of the new offices has been sent to the directors in London. This gives perspective, atmospheric effects, & the sense of color harmony. The idea of Architect Waite was to produce what is called monumental color, & in this he has succeeded admirably, for so delicately has the color scheme been blent that the shadings and graduations are seen to grow naturally out of the architectural design. This is what will actually be realized in the material—a colour harmony produced in stone—the shadings following a natural growth, which will give to the completed building the sense of a perfect harmony. Sir Charles Rivers-Wilson has great taste in architecture, while the members of the board are much interested in a building which will be one of the best of its character on this continent. The sketch will, no doubt, be examined by prominent English architects. Mr. Waite has given much care to the work, which presents certain new features & details, not shown in the original drawing. The street cars are seen running in front of the building, while in the centre is seen a great clock, which will be found to be a great convenience to business men & to others. The clock was added upon the suggestion of several prominent Montrealers, & Mr. Hays was heartily in favor of this addition, which will be an ornament & a convenience. Since the plans were prepared and the cost estimated, certain materials to be employed in the building have gone up in price. Iron, for instance,

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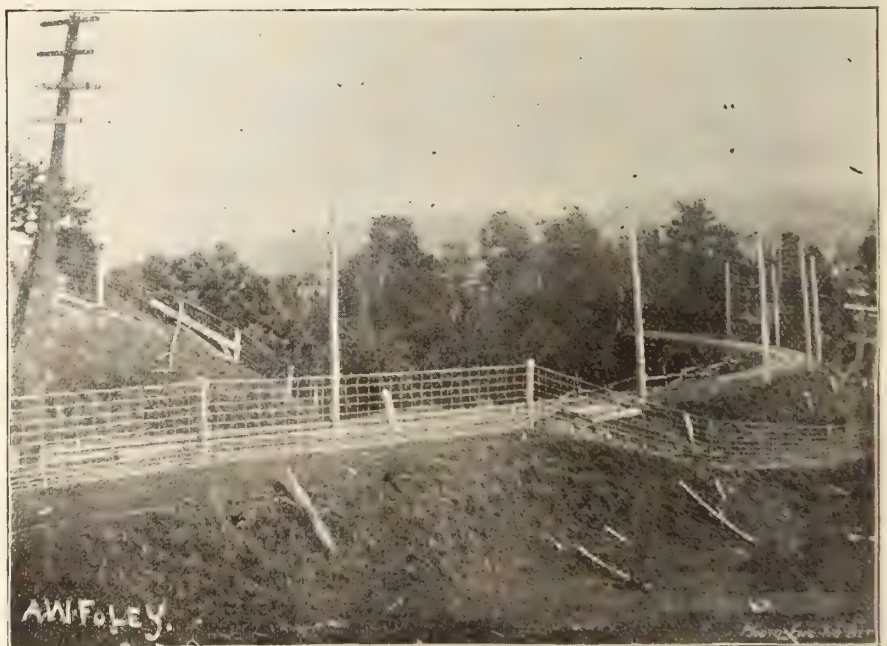
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has taken an upward turn, & when it is considered that there will be several thousands of tons of iron in the structure, the difference in the total cost will be considerable. Steps are being taken to grant only monthly leases to the tenants of St. Ann's market, so that when the G. T. offices are completed the market site may be turned into a public square.

Middle Division.—A considerable quantity of work is in contemplation for this year. Last year on this division about 250 miles of track were changed, 120 being of new 80-lb. steel, & the other released steel. This year it is expected that the same amount of steel renewal will take place. Most of the new rails will be laid between Toronto & Hamilton, & the rest at various points on the Southern division, & on the main line west of Stratford. It is the intention to remodel the southern yard at York, & it is expected that this with contemplated extensions will give double the present car accommodation, which is too small at busy seasons. The yard at Niagara Falls will also undergo considerable alteration & extension, & coal chutes will be erected both there and at Fort Erie. Stations at various points will undergo alterations & additions, particularly between Toronto & Niagara Falls. Dundas, Grimsby, Port Credit,

Canadian Pacific Betterments, Etc.

Atlantic Division.—In August last, page 153, we published a pretty full description of the deep water terminal facilities which the Company has provided at West St. John, N. B. We now give a plan of them on pg 73. All the tracks & structures shown on each are available for the handling of steamship traffic. The 4 buildings indicated by numbers & the 2 marked C. P. Ry., are freight warehouses. As the plan is on a scale of 450 feet to an inch, it will be seen these are of sufficient dimensions to fully accommodate the present requirements of the steamships & the railway. As shown on the plan there are track connections to all of these warehouses as well as to the buildings appearing in the rear of them. These last mentioned constitute enclosed and protected stock yards, in which accommodation is to be found for 600 cattle with provision for feeding. The stock yards being centrally located, the cattle are driven through temporary barricades direct to vessels without reloading on cars. A large horse barn has, by arrangement with the Co., been constructed by A. C. Smith & Co., this being one of the buildings shown at the upper end of the North Rodney wharf. The

but the business feature has its attractions & in this consideration alone the port is entitled to recognition. No doubt many who have not yet visited the Maritime Provinces, will avail themselves of the opportunity for a holiday trip next summer in order to obtain personally a more definite knowledge of the facilities than can be given in plans or in writings, & I believe they will be well received either individually or in numbers by the city corporation & the board of trade as well as the citizens generally of this enterprising community."

It is said the Co. has in contemplation the construction of a large extension or addition to the terminal facilities above mentioned at a cost of about \$150,000. Much depends on the result of the soundings & borings now being made off Blue rock. If the report is favorable a wharf at right angles to the present structures may be erected. One of the features will be a large coal pocket, the want of which has been much felt of late.

Montreal-Toronto Double Track.—The greater portion of the grading for the double track has been done between Western Jct., mileage 6.5 west of Montreal, & St. Annes, mileage 20.4, & the work will be completed in the spring just as soon as the weather will



CANADIAN PACIFIC RAILWAY STATION AND HOTEL, MOOSE JAW, ASSINIBOIA.

& Oakville will be among the stations which will be rendered more up-to-date. Work on the station at Galt will be resumed as soon as the weather permits. Work on the round house at Sarnia is being pushed as fast as possible. When completed the building will hold 30 engines, which will be housed there instead of at Point Edward, as at present. Interlocking signals at various points will also probably be established. The double tracking of the single line between Hamilton & St. Davids, 39 miles, so as to make a continuous double track between Toronto & Suspension Bridge, has, it is said, been seriously considered, but it will not be done this year. The traffic over this line is growing very heavy, and the necessities of the fast passenger service seriously interfere with it.

The Newfoundland Ry. has 548 miles of main line, & with branches a total mileage of 629. The officers are: R. G. Reid, Proprietor; W. D. Reid, General Manager; H. D. Reid, Assistant General Manager; R. G. Reid, Jr., Superintendent; G. H. Massey, Chief Engineer; H. A. Morine, Freight & Passenger agent; H. McNeil, Auditor; H. S. Cormack, Treasurer, & H. Crawford, Purchasing Agent, all with offices at St. John's, Nfld.

barn contains 60 separate single stalls, as well as box stalls for horses, & the conditions required of the firm in caring for the horses are simply that the owners of the stock shall be satisfied, this being both brief & conclusive. The grain conveyers, as the plan indicates, reach all of the steamship berths, so that vessels may discharge & receive cargoes without changing their position, & while this arrangement permits of independent communication with each vessel it also allows the simultaneous delivery of grain to any three vessels of the five that occupy these berths. Of course the plan does not show it, but the cross conveyer from the elevator to no. 3 berth & from that to the angle between nos. 3 & 4 has a double belt, so that nos. 3 & 4 may be operated independently, as may also all the others. The works as shown on the plan are fully completed & in operation this season, & whatever extensions may hereafter be found necessary to provide for a future increase of traffic, it will be seen that St. John is already fairly well equipped for handling the winter port business. An official of the Co. at St. John writes us:—"It is gratifying to observe that the attention of western shippers is being more and more directed to St. John. The sentiment connected with the development of a Canadian winter port is a very good thing,

permit. It is not the intention to do anything towards double-tracking the line west of St. Anne's this year.

Fort William-Winnipeg Double Track.—As stated in our last issue all the long crossing sidings which have been put in during the last year or two have been so located as to form part of the permanent double track. The same policy will be pursued with the sidings to be put in this year. An engineer will go over the line between Fort William & Winnipeg this year & prepare an estimate of the cost for double tracking throughout, a work which will have to be done in the near future on account of the certain increase of traffic.

Moose Jaw Station & Hotel.—The illustration on this page shows the combined station and hotel which is being built at Moose Jaw & which was fully described in our issue of Nov. last, pg 236. The building, which is about finished, is constructed of specially made Victoria, B.C., brick, with trimmings of Calgary stone, similar to the material used in the Vancouver station. It is a very imposing building. The architect is E. Maxwell, Montreal.

Calgary Workshops, &c.—The Co. has, during the past year, erected at Calgary a 12 stall round house with car repairing shop ad-

ing, 200x70 ft. & a blacksmith shop 60x70 ft. These are built throughout with Calgary sandstone & heated by steam. Adjacent to them are the coal pockets, water tank & cinder pit with depressed track. The store building & oil house will be located on a separate siding adjoining. The erection of these buildings means a large expenditure to the Co. in providing additional storage tracks & yards.

Tunnelling the Selkirks.—It is said surveys are contemplated with a view of doing considerable tunnelling in the Selkirk range so as to avoid maintaining some of the snow sheds.

Steamship Station & Hotel. The station at Sicamous Jet., B. C., which was burned last year, is being replaced by a combined station & hotel building, the track elevation & ground floor plans of which are given on page 75. The building is of frame covered with cedar shingles. The arrangement of the 1st floor can be readily gathered from the plan. The rear of the station faces Shuswap Lake, a splendid view of which will be obtainable from the wide gallery surrounding the building on three sides. In the basement will be situated men's lavatories, laundry, storeroom, fuel cellar & heating apparatus. On the 1st & 2nd floors will be 28 bedrooms, a drawing room, a smoking room & a large balcony overlooking the lake from these latter. The architect is E. Maxwell, Montreal.

Columbia & Western.—In reference to the report that a contract had been let for the extension of the Robson-Midway line, 15 miles beyond Midway to Rock Creek, we were officially informed, Feb. 14, that no such contract has been let.

Surveys, Construction, Betterment, &c.

Cariboo.—It is reported at the Pacific Coast that a survey for this line will be started at an early date. Work must be commenced by April or May next or the charter will expire. It is said the present holders purchased the charter for \$50,000 & paid \$15,000 in cash, the balance to be paid in stock in the railway. (Jan., pg. 11.)

The Chilcot R.R. & Transportation Co. has built a steam road of ordinary construc-

tion from Dyea, Alaska, at the head of Lynn Canal, to Canyon City, 8 miles, & from that point an aerial cable way, 8 miles long, carries passengers & goods through the Canyon & over Chilcot Pass to Crater Lake, whence water connection is made to Lake Bennett & to the Yukon River. The cable road is suspended on standards set at intervals, & rises 2,500 ft. in the first four miles. The tramway has capacity of 100 tons of freight a day.

Duluth, South Shore & Atlantic.—It is said a branch will be built from Newtonville, Mich., to the new copper range, following the Sturgeon river.

Great Northern.—The Quebec Harbor Commissioners have granted a site to this Co. for the erection of a grain elevator of a capacity of 1,000,000 bushels to be completed before May, 1900.

Intercolonial.—The terminal improvements at St. John, N. B., which have already been started, consist of a commodious wharf, with 27 ft. of water alongside at low tide, and berths for 3 large ocean steamers, with a large warehouse on the wharf & 500,000 bushel elevator to be built north of the passenger train shed. Grain conveyers will run from the elevator to the wharf. A number of additional tracks will be laid down. Connolly Bros., the contractors, are already at work on the wharf & tenders are to be sent in by Mar. 25 for the elevator and warehouse. (Feb., pg. 40.)

The Kootenay Ry. & Navigation Co. is building a line from Bonner's Ferry, Idaho, to Kuskanook, B.C., on Lake Kootenay, a distance of 50 miles. The portion from Bonner's Ferry to the international boundary line is incorporated under the name of the Kootenay Valley Ry., the portion in B.C. is incorporated as the Bedlington & Nelson Ry. On Feb. 14 we were advised that work was progressing generally the whole length of the line, and that about 1000 men were at work. There is nothing special in the physical features of the line. It runs along the foothills near the bottom land, & is being constructed just above the high water mark of the Kootenay River, along the easterly side. The valley from Bonner's Ferry to Kootenay Lake is very level, only falling a few feet in the entire distance. The bridge across the Kootenay River is the only structure of any consider-

able magnitude. There are no tunnels. The general average & total cost of the work will be heavy. (Jan., pg. 12.)

Lake Erie & Detroit River.—Plans are being prepared for a slip dock at Rondeau, which is expected to be built by May, to accommodate the car ferry Shenango No. 1. It is expected to cost about \$20,000. Particulars about the operation of the Co.'s ferries, &c., will be found under the head of Ontario & the Great Lakes, in the shipping department of this issue.

Manitoba & Southeastern.—On Feb. 20 we were informed that nothing definite had been decided in regard to the portion of the line to be constructed in Minnesota. As we previously stated, power will have to be procured from the Minnesota authorities. This line will go through Minnesota for about 45 miles. At War Road River, which enters Lake of the Woods near the boundary line, there is quite a settlement. It is expected large shipments of fish will be made there instead of at Rat Portage, on the completion of the line. The country is very flat south of the boundary line, as it is on the Manitoba side. Ties are already being delivered along the route & bridge lumber is being cut. (Feb., pg. 40.)

Midland, of Nova Scotia.—Contracts have been let for the steel superstructures of bridges between Windsor & Truro, including those across the St. Croix & Shubenacadie River, or about 17 spans. (Feb., pg. 40.)

Northern Pacific.—The Winnipeg station & divisional offices, recently destroyed by fire, will undoubtedly be rebuilt, & it is expected the hotel will also be rebuilt, though probably on a smaller scale. It is said plans are being prepared by a Winnipeg architect, but it is not expected the building will have as many stories as the original one. (Feb., pg. 49.)

Ontario & Rainy River.—A tote road is being made from Finmark station, C.P.R., to Lake Shebandowan, to take in supplies. (Feb., pg. 40.)

Ottawa Union Station.—President Booth, of the Canada Atlantic system, is said to be opposed to the terminal company scheme, mentioned in our last issue, & says he is anxious to proceed with the erection of a cen-

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tral station as soon as permission is given & plans approved. Sir William Van Horne has written the City Clerk that he is not personally in favor of the terminal scheme, & that he cannot see his way clear to endorse it. He suggests, however, if convenient, that the committee should leave the matter over until Vice-President Shaughnessy's return from Europe, as such matters come more within Mr. Shaughnessy's department.

Quebec Bridge.—Tenders have been received from 1 Canadian & 3 U. S. firms for both cantilever & suspension bridges. It is said a committee of experts will be appointed to decide which shape the bridge shall take, & that then the contract will be awarded. (Feb., pg. 41.)

Rutland-Canadian.

—Chief Engineer J. W. Burke advises us from South Hero, Vt., that work has been begun. The contractors are O'Brien & Sheehan, of New York City. The line from Burlington, Vt., to Rouse's Point, N. Y., will be about 50 miles in length. The Railroad Gazette says the bids ranged from \$499,000 up to \$1,100,000. The contract does not include the building of 800 ft. of steel bridging with three spans.

The Toronto, Hamilton & Buffalo is said to be taking options on property for the building of its proposed spur in the north-east part of Hamilton. (Feb., pg. 40.)

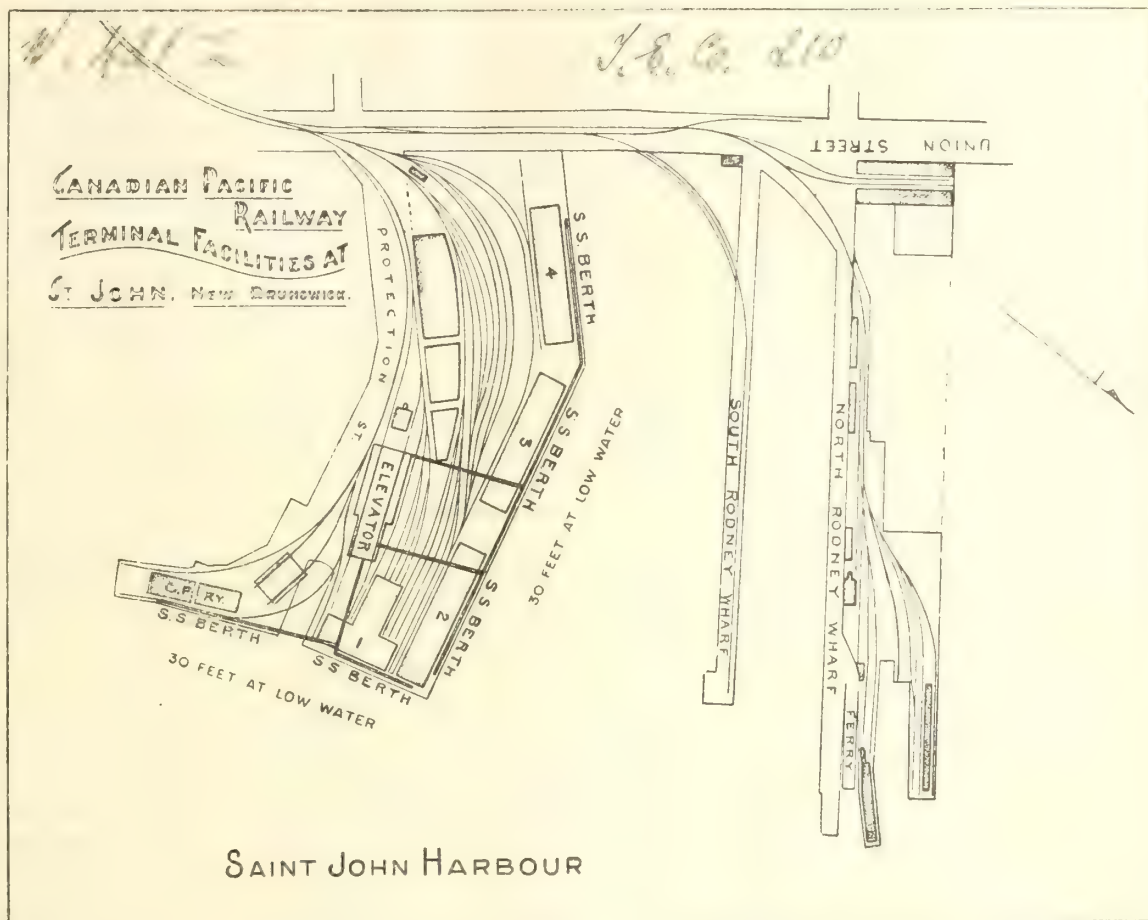
South Shore.—At a recent political meeting, A. A. Bruneau, M.P., said the Federal Government will next session grant a subsidy to this Co., & that the promoters are preparing to go ahead this spring with the work of connecting Sorel & Levis. The line now runs from St. Lambert, $6\frac{1}{2}$ miles from Montreal, to Sorel, 45 miles. Mr. Bruneau also announced that it is proposed to erect 2 large grain elevators at Sorel.

Canadian Pacific Equipment.

Since Jan. 1 orders have been placed for building 10 heavy consolidation engines, 2 parlor cars, 4 first-class passenger coaches & 1 combination second-class coach & smoker at the Co.'s works in Montreal & for 500 30-ton box cars at the Co.'s Perth shops. An order has been placed outside for 120 stable cars for the transportation of Northwest cattle.

The locomotives are for freight service & will in all probability be the same as the lot just completed, & which were equipped with cast steel driving wheel centres, compound cylinders & 4,000 imperial gallon tanks, with steel tender frame, the weight of locomotives in working order being 152,000 lbs.

The passenger cars will be finished on the outside with mahogany and will be equipped with wide end vestibules, standard steel anti-telescoping platforms, Westinghouse air brakes, air signals & steam heating, & while it is rather early to speak of the inside finish it is quite safe to say that it will be first-class in every respect.



SAINT JOHN HARBOUR

The stable cars will be wider and higher than the ordinary stock car, & will be equipped with feeding racks so that it will be unnecessary to unload the cattle en route for feeding purposes. They will be sheathed on the ends and on the sides half way down from the top, so as to protect the cattle from the weather. Both stable & box cars will be equipped with Westinghouse air brakes.

At the annual meeting April 5 the shareholders will be asked to authorize the purchase of rolling stock to the value of \$1,000,000 as the traffic may require it.

Grand Trunk Equipment.

An order has been given to build 12 locomotives in the Co.'s Montreal shops, 6 of them being 10-wheel passenger engines & 6 moguls for freight service. The driving wheels of the passenger engines are to be 72 ins., & the total weight of each will be 166,000 lbs., making the total weight of engine & tender 268,000 lbs. Forty-three in. wheels will be used under the tender, & the tank capacity will be 4,500 gallons; the weight of the tender alone being 55,000 lbs. The mogul locomotives will be constructed with all the modern improvements & the latest devices known to mechanical skill, & will be some of the most desirable engines placed on any railway. They will be used exclusively for freight service, & will be distributed over the different divisions of the system. The driving wheels of the moguls will be 62 ins. in diameter, the total weight of the engine & tender being 253,000 lbs. Some idea of the hauling capacity of these locomotives may be gathered from the fact that the weight of these locomotives that rest on the drivers alone is in the neighborhood of 130,000 lbs.

The Co. has made a great improvement in its rolling-stock, which enables it to very considerably increase the carrying capacity of

freight cars, by replacing the small journals with heavier ones, in cars of 30,000 lbs. capacity. The device has enabled the General Superintendent to issue a circular giving authority for these cars to be loaded hereafter up to 10% above their marked carrying capacity, whereas the former regulations permitted an addition of only 5%. This will enable the load of each car to be increased 3,000 lbs. The Co. has, however, very few cars that carry less than 40,000 lbs.

Intercolonial Railway Equipment.

The illustration on page 77 shows one of the compound consolidation locomotives recently built for this line by the Baldwin Locomotive Works. The general dimensions are as follows:

CYLINDERS.—Diameter, high pressure	15 $\frac{1}{2}$ in.
" Diameter, low pressure	26 in.
" Stroke	28 in.
" Valve	Balanced piston
BOILER.—Diameter	60 in.
" Thickness of sheets	11-16 in.
" Working pressure	200 lbs.
" Fuel	Soft coal
FIRE-BOX.—Material	Steel
" Length	14 $\frac{1}{2}$ ft.
" Width	4 $\frac{1}{2}$ ft.
" Depth, front	65 $\frac{1}{2}$ in.
" Depth, back	60 in.
" Thickness of sheets, sides	11 in.
" Thickness of sheets, back	11 in.
" Thickness of sheets, crown	11 in.
" Thickness of sheets, tube	1 $\frac{1}{2}$ in.
TUBES.—Number	230
" Diameter	2 $\frac{1}{2}$ in.
" Length	14 ft. 0 in.
HEATING SURFACE.—Fire-box	164.1 sq. ft.
" Tubes	10,450
" Total	10,614.1
" Grate area	32.04
DRIVING WHEELS.—Diameter, outside	56 in.
" Diameter of centre	50 in.
" Journals	28 x 12 in.
ENGINE TRUCK WHEELS.—Diameter	33 in.
" Journals	18 x 10 in.
WHEEL BASE.—Driving	15 ft. 3 in.
" Total engine	23 ft. 6 in.
" Total engine and tender	49 ft. 0 in.
WEIGHT.—On drivers	145,000 lbs.

WEIGHT.—On truck.....	17,500 lbs.
Total engine.....	102,500 "
TENDER.....	33 in.
Length of wheels.....	44 1/8 in.
Capacity.....	4,000 gals.
SAVES.....	Light

Railway Equipment Notes.

The Duluth South Shore & Atlantic has ordered 400 hopper-bottom ore cars to be delivered June 1. They will be 26 ft. long, 8 ft. wide, 7 ft. high. They will be of 60,000 lbs. capacity, & will have 33-in. wheels, weighing 600 lbs., metal trucks, with Westinghouse quick-action brakes.

The Lake Erie & Detroit River has bought 15 cars for the use of its excursion business between London & Port Stanley. They are second hand but quite comfortable for excursion traffic. Two of the Co.'s passenger locomotives were destroyed recently by a fire in the Erie & Huron division roundhouse.

The Michigan Central has ordered material for 10 locomotives, two 10-wheelers & eight 6-wheel switchers. Of the latter 6 will be built at the Co.'s shops in Jackson, Mich., & the others at the St. Thomas, Ont., shops, as they are to be used on the Canada Southern division. The dimensions will be in general the same as the Co.'s present standard engines of those two classes.

Rhodes, Curry & Co., Amherst, N.S., have established branch works at Halifax. This consists of planing mills, lath mills, saw mills, shingle mills, brick works, car works, machine works & foundry. During the past year they made large additions to their car works, both in the way of buildings & machinery. They have orders on hand for about \$250,000 worth of rolling stock, including box & flat cars, postal & express & baggage cars & snow ploughs. They employ on an average 250 men at Amherst, 35 on their sawmill property at Little Forks, & 100 on building contracts in Nova Scotia & New Brunswick.

In 1898 the Baldwin Locomotive Works completed 760 locomotives, representing every service in which a locomotive is used. Much of the output was shipped to foreign countries, the larger part going to Japan & Russia. This record does not, however, reach that of 1891, when 946 engines were built, which very nearly reached the estimated capacity of the works. This year opened with orders for 200 locomotives, & they are still coming in. These orders are mostly for rapid delivery, & the works are running day & night in consequence. One order recently

received is for 71 locomotives for the Chinese Eastern, a part of the trans-Siberian.

When a train is rounding a curve, the ordinary locomotive headlight points off into the surrounding country, & is useless. A mechanical engineer of a Western railway has devised an attachment by means of which the light is maintained in line with the track. The light is mounted on a turnable which is rotated through the proper angle by a cable passing around pulleys & leading to the two piston rods of a small double-acting air cylinder. The motion of the piston is regulated by a valve in the cab, the air pressure being taken from the air brake system. The headlight turns on inclines so arranged that when the headlight travels up the incline it will have bearings on the two quarters on which it travels. The object of this is to return the headlight to its normal position automatically when the air is released. The device has been practically tested.

Automatic Couplings in Britain.

A bill recently introduced in the British House of Commons gives the Board of Trade power, five years hence, to compel British railways to supply the whole of their rolling stock with automatic couplings. In introducing the bill the President of the Board of Trade, Mr. Ritchie, paid a well-deserved compliment to the efforts of the two chief Canadian railway companies to minimise the loss of life among those of their employes who are engaged in shunting operations, & stated that the report presented by Mr. Hopwood, the head of the Railway Department of the Board of Trade, as the result of his recent visit to Canada & the U.S., proved that the use of automatic couplings had very greatly reduced the casualties among the men. But whereas in the U.S. the adoption of these appliances had been forced upon the railway companies by legislation, in Canada the C.P. & the G.T. Cos. had on their own initiative, & without any form of compulsion, applied them, "wholesale." They have had their reward in the much greater security of life & limb in the ranks of their employes.

The bill has aroused the ire of the British railway companies, & Lord Claud Hamilton, Chairman of the Great Eastern Ry., has seceded from the Conservative party in consequence of it. The British Railway Association has arranged to send five prominent railway officials to America to investigate the facts upon which the Government bases the bill. It is estimated that to supply the whole

to the rolling stock of the lines in Great Britain with this device will cost \$10,000,000.


Preparing for Summer Travel.

The G.T.R. & C.P.R. are making arrangements for spring and summer traffic. Schedules are being prepared, dealing with general & local business. The latter is receiving a goodly share of attention, seeing that it grows every year, & will, in the near future, become an important factor in the business of both companies. A great effort is to be made this season to attract tourists to the country. The G.T.R. is making a spirited bid for tourist trade in the Muskoka Lake region. It has spent a good deal of money in securing & distributing in the great U.S. centres views of the beauty spots in this vast region, so slightly known, comparatively speaking, & which may be considered one of the most attractive districts in Canada. Ontario, no doubt, has found out something of her own beauty, but Muskoka has been hitherto unknown to the great body of Canadians. Visitors from the United States have been, in considerable numbers, charmed with what they have seen; but the effort is to be made this coming season to popularize this resort all over Canada & the U.S. by the wide dissemination of literature & pictures.

The C.P.R. has always looked to the U.S. public for the patronage of the beauty spots it had to offer along its system, & while effort is to be made to bring a large number of people to the cities of Montreal & Quebec, & the rural parts of Quebec, a good deal of thought & labor has been given to the exploitation of the Temiscamingue region. This includes the scenery on either shore, in both Quebec & Ontario, & the lakes which stretch for many miles through a country which may still be truthfully described as a solitude—romantic in the extreme, soft with sylvan beauty, bold with jutting headlands & hills, & various with wood & open stretches which gives promise to the settler. A magnificent series of views has been prepared & issued, setting forth all the more attractive spots in this vast region; destined sooner or later to be the home of a thriving population. The lakes & rivers & islands are almost without number; game is abundant, & fishing offers constant & abundant reward. The difficulty of access may be to some a drawback; but there is no doubt that many U.S. tourists will make holiday in this region during the coming summer—those who tasted of its charms last year hav-

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THE BARRETT TRACK JACK.

Recommended as a standard by the

Road Masters' Association of America.

These Jacks are made with Malleable Iron Frames, Steel Pawls, Machinery Steel Bearings and Pivots, forged Steel Rack. The wearing parts are removable and readily renewable at slight expense. The rectangular base gives great lifting strength and fits into close quarters better than other shaped stands. Adaptable to either high or low set loads.

The Barrett Jack is the safest, best and strongest known to the railroad world to-day.

Lifting capacity, 10 to 15 tons.

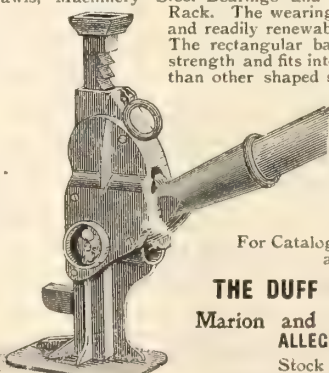
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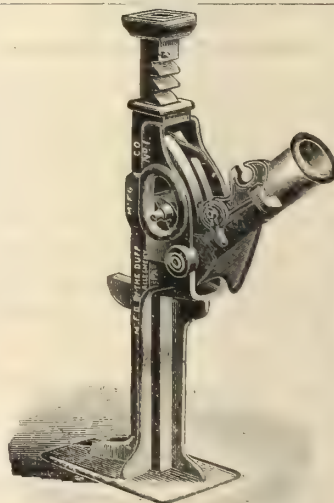
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No. 2 Automatic Lowering.



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ing spread the most glowing reports among their friends.—Witness.

Grand Trunk Tourist Literature.

The tourist publications, which have been issued by the General Passenger Department of the G.T.R. for the season of 1899, & which are being circulated throughout Canada & the U.S., are full of interest, the text giving graphic & concise descriptions of the regions in Northern Ontario, including the Muskoka lakes, the Lake of Bays, the Magnetawan river & the 30,000 islands of the Georgian Bay. The pamphlets are profusely illustrated with half-tone reproductions of river, lake & inland scenery with here & there a deer hunting picture or some fishing scene that makes one long for summer & the holidays. The publications are printed on the best paper, & by a somewhat new & novel process, which has been perfected after long & careful experiment with blending of colors & mix-

Passenger Traffic Notes.

The C.P.R. is making a big display at the New York sportsmen's show.

The Rutland, Fitchburg Ry. started, on Mar. 1, a vestibuled express train service between Montreal, Boston, Worcester & southern New England points via Lake Champlain & Burlington.

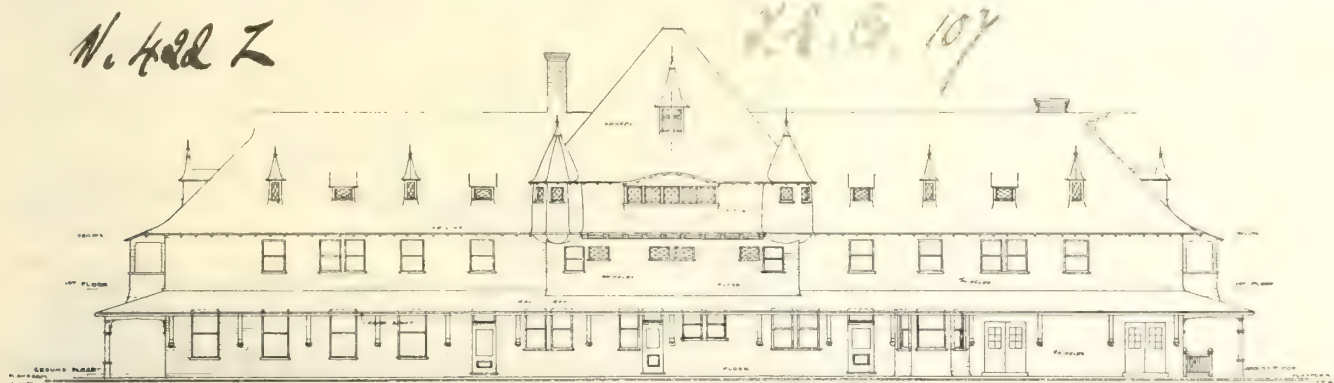
The G.T.R. City Ticket Office in Toronto was moved into its new quarters, northwest corner King & Yonge sts., Mar. 1. The new office is a great improvement on its predecessor. It is rumored the G.T.R. will lease the Canada Life offices in Hamilton when that company moves to Toronto.

The Northern Pacific railroad will, on Mar. 12, start double daily continental trains from St. Paul & Minneapolis to North Pacific coast points. One train, the Puget Sound Limited, will leave St. Paul at 8.55 a.m., the other, the Oregon Limited, will leave St. Paul at 10.30 p.m. Both will make equal time.

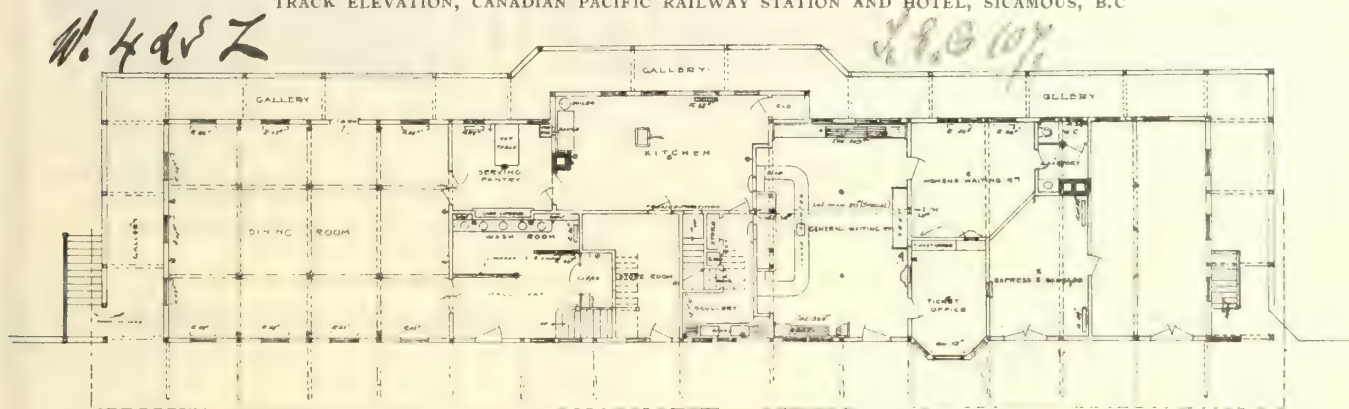
Grand Trunk & Canada Atlantic.

Arrangements have been completed whereby a through & efficient freight service will be inaugurated between Montreal & Ottawa, trains running solid between these two points, obviating the changing of engines & crews at Coteau Jct. This means that the freight service between Parry Sound & Montreal will be placed on precisely the same footing as the passenger service has been for years. This business will be centralized in Montreal & Ottawa, & Coteau Jct. will become a merely wayside station. As a point of grain shipment its history has closed.

The difficulty in regard to the interruption of the through passenger service between Toronto & Parry Sound has been overcome. The alteration which the G.T.R. had to make in its through service by reason of the resumption of its old relations with the C.P.R. at the close of the rate war dislocated the Parry Sound connection. Arrangements have been made between the companies by which the



TRACK ELEVATION, CANADIAN PACIFIC RAILWAY STATION AND HOTEL, SICAMOUS, B.C.



GROUND FLOOR PLAN, CANADIAN PACIFIC RAILWAY STATION AND HOTEL, SICAMOUS, B.C.

ing of ingredients, to get the very artistic & beautiful effect which they present. It is styled "Luxotype," & is entirely new from a printer's standpoint. Among the publications issued are "Muskoka Lakes—Highlands of Ontario"; "Lake of Bays—Highlands of Ontario"; "Among the 30,000 Islands of the Georgian Bay"; and a special brochure entitled "Hay Fever," giving the cause of this annoying disease & how to avoid & cure it. The several pamphlets bristle with pointers for the tourist, camper, hunter & angler. A postal card to W. E. Davis, General Passenger & Ticket Agent, Montreal, will secure copies.

J. Bryce, Manager Canadian Express Co., Montreal, writes: "It is pleasing to note that THE RAILWAY & SHIPPING WORLD is keeping well up to date. Its construction & the information contained therein are certainly very creditable."

There is a good deal of talk about future service between Montreal & Ottawa. At present the C.P.R. makes it over the Montreal & Ottawa section in 2 hrs. 40 mins., the Canada Atlantic doing it in 2 hrs. 55 mins. via Coteau Jct. & G.T.R. It is said the C.P.R. will shorten up to 2 hrs. 15 mins., & that the Canada Atlantic will also shorten up its time, making the run in 2½ hours. The C.P. mileage is 111.04 & the Canada Atlantic—G.T.R.—116.06.

Business on the extension of the Lake Manitoba Ry. & Canal Co.'s line, which was built last year, is extending rapidly. It was thought one train a week from Sifton to Cowan would be sufficient, but the Co. has found the traffic sufficiently large to put on a second train with two passenger coaches. These coaches are occupied from week to week with settlers going in, & the country from Cowan, at the end of the track, to Swan River, is a regular beehive with people teaming in their affects.

daily through service by way of Scotia Junction will be renewed, a connection being made by the O., A. & P.S. Ry. at Scotia Junction with the G.T. express leaving Toronto at 3.15 p.m.

Freight Traffic Matters.

The Kaslo & Slocan Ry. is doing a heavy ore carrying trade.

Business on the Manitoba & Northwestern continues to keep up, & is considerably ahead of the corresponding period last year. A good deal of wheat is steadily coming out. Cattle have not yet commenced to move.

Recent negotiations between the War Eagle Consolidated Mining Co. & the C.P.R. have reduced the freight & smelter rates on Rossland, B.C., ore from \$7 to \$6 a ton, & efforts are being made to secure a still better figure. With the object of securing a lower rate by offering the railway more business,

It is thought ore will be shipped from the Central States the course of two months.

The shipments of grain over the G.T.R. from the Midland, Ont., elevators have been light recently, although the general traffic movement over the entire system is very heavy. Most of the grain going out of Midland is for local consumption, there being continually no export movement from there. The Midland elevators are now pretty well cleared out, and grain dealers having stuff in elevator No. 2, the old elevator, will have to clear it all up by the middle of Mar., as the elevator will then close down for repairs.

General Freight Agent Wallace, of the I.C.R., has recently made contracts for westward bound coal freight, which will assure new business on the road both summer & winter. A contract has been made to haul coal from Picton county to Montreal, over almost the whole length of the line. The contract will average from 40 to 100 cars a week. A contract has also been entered into with the C.P.R. for the I.C.R. to haul from Springhill & Maccan to St. John about 150 cars a week. There is also an enormous expansion of freight business for Newfoundland from Montreal to North Sydney—all new business & diverted from New York. This is now equal to about 25 cars a week, & the trade is merely in its infancy.—Moncton Transcript.

In 1898 84,094 cars loaded with products from Michigan, Wisconsin, Indiana, Illinois & other Western States passed through the St. Clair tunnel for points in the Eastern States. This equals 4,200 trains of 20 cars, or 11½ trains a day, 9 cars an hour, or 1 car every 7

minutes during the 365 days of the year. None of this freight stopped in Canada. From these figures it will be seen that the Chicago & Grand Trunk is an important feeder to the G.T.R. Of the above through freight 658,123 tons consisted of agricultural products of the above states, 260,781 tons of animals, 16,120 tons of mining products, 47,519 tons of the product of forests and 153,519 tons of manufactured goods. The total tonnage amounted to 1,142,164. When it is taken into consideration that nearly all of the different cars come back over the same line it will be seen that the average number of through cars passing through the St. Clair tunnel is about 1 every 3½ minutes during the year. The west bound tonnage is less than ½ of the east bound tonnage.

For 15 years the C.P.R. found an elevator of 250,000 bus. capacity, sufficient for their trade at Owen Sound. In 1897 it became necessary for them to put up an additional elevator of 850,000 bus. capacity with a marine leg of 10,000 bus. capacity per hour. Also, the largest flour sheds on the Canadian side of the great lakes were erected. During the first year of the operation of the new elevator 2,264,247 bus. of grain were handled, & last season this was increased to 3,184,102 bus. In addition to this, during the past season the Co. handled through its sheds at Owen Sound 103,161 tons of western flour, etc., & had return freights westward amounting to 67,904 tons. A largely increased amount of local freights were also handled by the C.P.R. during 1898. In 1897 the Co. opened up a new trade at Owen Sound by establishing a line of steamers with Gladstone, Mich., & Chicago. The

steamer Alice Stafford ran on this route, assisted by other steamers. Last season the Stafford alone took to Owen Sound 31,648 tons of merchandise, principally U.S. flour, sugar & gluten meal for export.

Canadian Freight Association.

A largely attended meeting was held in Montreal, Mar. 3.

Representatives of the Merchants Line reported following as their proposed fleet for the season of 1899:—Persia, Ocean, Arabian, Sir S. L. Tilley, Cuba, Lake Michigan, Melbourne & Myles.

The R. & O. N. Co. reported the Bohemian, Corsican, Spartan, Algerian & Hamilton.

Mr. Smith reported the Canada Atlantic Transit Co. with steamers to and from Depot Harbor. Names of vessels to be subsequently reported.

The Georgian Bay & Lake Superior Steamboat Line reported the City of Collingwood and Majestic to sail between Collingwood, Owen Sound, Fort William and Duluth, calling at principal ports en route.

Mr. Hepburn reported the steamer Alexandria on the St. Lawrence River & Bay of Quinte ports route.

Differentials in favor of boat lines.—The following differentials were proposed & agreed to (sugar in all cases excepted):—

To & from St. Lawrence River ports between Kingston & Montreal inclusive:—

	1	2	3	4	5	6-10 classes.	Special Commodities.
	6	5	5	4	3	2	C.L. L.C.L. 2
							3c. per 100 lbs.

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6

per acre.

Lands in Assiniboia, east of the 3rd meridian, average

\$4 to \$6 per acre.

Lands west of the 3rd meridian, including the Calgary

District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin

District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or other crops.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the purchase money.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

Write for maps and full particulars.

L. A. HAMILTON, Land Commissioner,
F. T. CRIFFIN, Asst. Land Commissioner,

WINNIPEG.

ENAMELED IRON SIGNS

For Railway, Street Car, Steamship, Express, Telegraph, Telephone and Advertising purposes.

Railway Station Names, Street Car Route Signs, Express, Telegraph and Telephone Office Signs, Semaphore Arms, Switch Targets and Advertising Signs of every description of size and color made to order.

Railway, Steamship and Ferry Signs

For doors, etc., 23 x 3½ inches, blue letters and border on white ground, carried in stock with following lettering.

Waiting Room	Ladies' Toilet	Private Office	Dining Room
General Waiting Room	Men's Toilet	Freight Office	Lunch Room
Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

The following are carried in stock, size 10 x 2½:—

Men Women Exit Fire Escape

Railway numbers for bridges, mile posts, signal houses, etc.; single figures on plates 8½ in. high.

These signs last practically for ever, they never fade or tarnish, they are ever bright and attractive, they are absolutely impervious to heat or cold, they are the only signs that will withstand the effects of weather in all climates.

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THE ACTON BURROWS COMPANY,

Agents for the Imperial Enamel Co. of Birmingham,
29 Melinda Street, Toronto, Canada.

BRANCH OFFICES.—197 Lombard Street, Winnipeg S. A. Friskine, Resident Agent;
28 Broad Street, Victoria, B.C., D. H. Macdowall, Resident Agent.

To & from ports west of Kingston in Lakes Ontario & Erie, also the Detroit & St. Clair Rivers (but not including Bay of Quinte ports):—

1	2	3	4	5	6-10 classes.	Special Commodities.
8	7	5	4	3	2	C.L. L.C.L.

The L.E. & D.R. to be allowed the following differential rates on business between Hamilton, Toronto & London & St. Thomas, on business lake & rail via Port Stanley, as compared with all rail.

1	2	3	4	5	6	7	8	9	10
4	4	3	2	2	2	2	2	2	2

Special Commodities, C.L., 2c., L.C.L., 3c.

Bay of Quinte ports:

East & westbound, all water

1	2	3	4	5	6-10 classes.	Special Commodities.
8	7	5	4	3	2	C.L. L.C.L.

Lake and rail via Deseronto & Kingston

5	4	3	2	2	1	1	2c. per 100 lbs.
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The special commodities from Bay of Quinte ports, eastbound, to consist of apples in bbls., cheese, eggs, flour, mill feed, canned goods & evaporated apples. To & from other ports east & westbound & to Bay of Quinte ports westbound to consist of the articles in the G.T.R. & C.P.R. special iron, etc., commodity tariffs. It being agreed that no special

wharfage & insurance, &, as regards cartage, exactly the same arrangements to be in effect as in connection with the lake & rail lines. The local rates to Lake Superior ports to include wharfage, except to Sault Ste. Marie, Duluth & the "Superiors." The insurance to be equalized as against the lake & rail routes. The cartage arrangement same as lake & rail lines. This arrangement to remain in effect until July 1, 1899, subject to 15 days' notice to the Chairman, on the part of the all-water lines as to continuance or otherwise.

Basis of rates to Winnipeg & North-West Territories.—The basis of rates Montreal & points west in Ontario to Winnipeg rail & lake were adopted, same as last year, viz:—

1	2	3	4	5	6	7	8	9	10 classes.
143	123	103	87	72	70	55	55	—	47c. per 100 lbs.

The local rates from Fort William & Duluth to Winnipeg were announced to be:—

1	2	3	4	5	6	7	8	9	10 classes.
116	98	80	66	57	47	35	35	—	27c. per 100 lbs.

Rates to other points in the North-West to be on same basis as last year.

It was agreed that through tariffs should be published, & show precisely what is included in the rates—whether insurance, wharfage, etc., etc.

Traffic to & from connecting lines.—The Canadian Pacific, Grand Trunk & other com-

2 lb. Cans	.....	45 lbs. per case.
3 lb. Cans	.....	65
Gallon Cans, 6 cans per case	.....	45
Gallon Cans, 12	.....	90
Tomatoes, 3 lb. Cans	.....	70

Blank books.—Including exercise, scribbling & practice books. Note books & writing tablets without printed matter, except on outside covers: in cases, L.C.L. To Winnipeg, Man.; Portage la Prairie, Man.; Brandon, Man., at 3rd class rates via lake & rail or all rail. Same articles to take 5th class rates when shipped to same points with paper, classifying 5th class, in carloads.

Boots & shoes.—Leather, rubber or felt, in freight or mixed carloads, to be taken at 3rd class rates, minimum 20,000 lbs. to Manitoba & Northwest.

Groceries & dried fruits.—Groceries classified 5th class, c.l., & dried fruits, mixed carloads, from all points, Montreal & west in Ontario, to points west of Fort William & Duluth in Canada, groceries 5th class, dried fruits, 4th class to Manitoba & Northwest.

Flour, oil cake, etc., ex Manitoba & Northwest.—That the minimum rate on flour & oil cake from Fort William & Duluth be 15c. per 100 lbs. to all direct points Montreal & west in Canada; the rate to Montreal to be exclusive of terminal charges at that point.

Other traffic eastbound ex Manitoba & Northwest.—Traffic other than grain, flour &



BALDWIN COMPOUND CONSOLIDATION LOCOMOTIVE FOR INTERCOLONIAL RAILWAY.

rates, east or westbound, are to be made without the concurrence of transportation co.'s interested. Wharfage included at railway competitive points on the Bay of Quinte—at other points wharfage to be added to the rates.

It is understood & agreed that in the application of the differential arrangement as proposed herein, the rates quoted by the boat lines shall be based on the gross all-rail rates, i.e., the all-rail rates plus the usual additional cartage charge at cartage points. The rates quoted by the boat lines shall be: westbound, exclusive of cartage at shipping point, & also insurance, but to include cartage on cartage freight & wharfage at destination, except as otherwise provided herein. Eastbound the boat rates shall include cartage at shipping point (if a cartage station), but shall be exclusive of insurance & cartage at destination.

It is also understood that the boat lines will be governed by the rules of the Freight Inspection Bureau & the Canadian Joint Freight Classification.

Traffic to Lake Superior & the North-West.—It was agreed that no differentials be accorded the all-water lines on local or import traffic destined to Sault Ste. Marie, Lake Superior ports and points beyond. The all-water lines to quote the same through rates to points indicated as given in the tariffs printed by the Grand Trunk & Canadian Pacific Rys. The rates quoted by the all-water lines to points west of Duluth & Fort William, to include

panies interested to agree with lateral lines upon the arbitrariness to be charged over & above junction point rates, same to be included in printed tariffs.

That with regard to local business to Georgian Bay, Manitoulin Islands, Lake Huron & Lake Superior ports, last year's tariffs be reaffirmed, including Parry Sound & French River. The steamers represented at this meeting will not take traffic from Montreal, St. Lawrence River, Lake Ontario or Lake Erie ports to or for Lake Huron or Georgian Bay ports. Lighthouse supply trip excepted. All commodity tariffs & special arrangements in force last season expired with the close of navigation, &, if not specially renewed by agreement, now or subsequently, would be inoperative this season.

Ale, beer & porter, in glass & wood, any quantity, local to Georgian Bay & Lakes Huron & Superior ports only, at 25c. per 100 lbs. from Toronto and West, and 30c. per 100 lbs. east of Toronto to & including Montreal. Returned empties to take same rates. This arrangement will not apply on through shipments destined to points beyond Fort William or Duluth. Mixed cars of doors & sashes, glazed or unglazed, & common mouldings, in the white, to Manitoba & North-West, to be taken at 7th class, minimum 24,000 lbs.

The following weights will apply on shipments of canned fruits & vegetables: all canned fruits & vegetables except tomatoes:—

oil cake, shall take the same rates eastbound as apply westbound, subject to the same conditions as agreed to on westbound business for the current season.

Flour, oatmeal, corn meal, rolled oats, malt, oats, corn, split peas & pot & pearl barley in packages (straight or mixed carloads), minimum 30,000 lbs. per car.—From Montreal & points west in Ontario & connecting lines to Winnipeg, Emerson & Portage la Prairie at basing rate of 21c. per 100 lbs. west of Duluth or Fort William, plus 8th class proportionate rates to Duluth or Fort William as per current lake & rail tariff if routed lake & rail, Brandon one cent per 100 lbs. additional.

Woodenware, indurated ware, brooms, brushes, washboards, clothes pins, wooden churns, paper & matches (mixed carloads, actual weight, minimum 20,000 lbs.)—To Winnipeg, Portage la Prairie & Brandon, at the carload rate on each article in accordance with Canadian joint freight classification. Should the actual gross weight be less than the minimum of 20,000 lbs., the weight of the lowest classed article will be increased so as to make up the minimum. (Brush & mop handles & step-ladders will be classed as woodenware under this arrangement & will take 5th class rates.)

Rates from & to points east of Montreal.—The usual agreed C.P.R. & G.T.R. arbitrary rates over the Montreal rates herein arranged, or hereafter agreed upon, to apply to a

from all points east of Montreal, except as otherwise provided for—same to be shown in printed tariffs.

Commodity rates from Montreal.—The commodity rates as per pages 5, 6 & 7 of minutes of meeting of March 3, 1898, were adopted for the season of 1899.

Mixed cars special commodities.—Lake & rail tariffs to provide that mixed carloads of commodities will take the same carload rating so long as they are under the same class & included in the same group. See pages 5, 6 & 7 of meeting of Mar. 3, 1898.

Iron commodities.—Iron & steel (bar, band, bundle, boiler & sheet), corrugated & galvanized iron in sheets, iron pipe & pipe fittings, iron boiler tubes, tacks, nails & spikes (iron & steel), wire (barb, fence or telegraph, & staples when part of shipment), horse-shoes, bolts, nuts & washers, rivets & putty, straight or mixed carloads, minimum 24,000 lbs., from Montreal & west. To Winnipeg 57½ c. per 100 lbs., Portage la Prairie 68c., Brandon, Man., 74½c.

Bark extract, c.l. to Winnipeg. At 5th class tariff rates.

Basis of rates, etc.—That the agents of all the boat lines shall adopt & use the Canadian joint freight classification & the rules governing the same, in connection with all freight carried under these arrangements, & shall also be subject to the rules governing the Canadian Bureau of Freight Inspection.

Cartage.—In connection with all the arrangements herein provided for the Canadian Pacific, Grand Trunk, M.C.R., & other railway companies' rates shall be understood as being subject to an extra charge of 1c. on 5th class & 1¼c. on classes 1 to 4, inclusive, minimum cartage charge 10c., at all cartage points in Ontario & Quebec, & the steamboat companies agree to take these extra charges to account before applying the agreed differentials & to provide for these charges in all tariffs.

Manitoba & Northwest rates.—It is understood that the term Manitoba & Northwest does not include Kootenay, the Canadian B.C. or U.S. Pacific Coast points.

Rates to Pacific Coast & Kootenay District, westbound only.—The following differentials will be allowed on all water & lake & rail class & commodity rates via Fort William & Duluth, as compared with all-rail rates to Pacific Coast & Kootenay, B.C., points:—

1 2 3 4 5 6 7 8 9 10 classes.
10 8 7 6 5 5 5 5 - 5c. per 100 lbs., as per Canadian joint freight classification.

These differentials to be absorbed by the lines east of Fort William & Duluth on B.C. Coast traffic, & by the lines west of Fort William & Duluth on Kootenay traffic.

Maintenance of rates.—It is agreed by the representatives of all lines present to faithfully maintain the rates & regulations as provided for in the minutes of this meeting, & it is also agreed that no passes or reduced passenger fares shall be granted for the purpose of securing or influencing traffic to the territory covered by these agreements.

Grand Trunk Operating Notes.

An item has been going the rounds of the daily press to the effect that the G.T.R. management has posted notices in the round houses & car shops on the system that hereafter employees will get their monthly pay on Sunday, & that this is to obviate the loss of time involved by paying on week days. We are officially informed there is no truth whatever in the statement.

It is said the G.T.R. Co. has reached a settlement with the widow of Driver Brady, who lost his life at Murray Hill crossing disaster. The son & daughter of deceased will be given life employment at \$50 & \$25 each per month. The widow's portion has not been disclosed. J. McNamara, of Brockville, who was one of the most severely injured passengers, is said to have received \$2,400. He will be disfigured for life. The widow of W. Lunness, the Toronto cattle dealer, received \$6,750.

Arbitration as a means of settling disputes between railway companies & their employees has had another practical trial on the G.T.R. The dispute arose on account of the discharge of 4 locomotive firemen for failing, as it was claimed, to comply with the rules of the Co. when called upon to respond for duty. The men having failed to effect a settlement, it was proposed & accepted that the cases be referred to arbitration, one arbitrator to be selected by the Co. & the other by the men. In the event of these two failing to agree, then the third was to be called in. B. B. Osler, of Toronto, was selected by the G.T.R., & E. E. Clark, Grand Chief of the Order of Railway Conductors, was selected by the men. After submitting & reviewing the evidence in the case, an understanding was arrived at, which resulted in the restoration of two of the firemen, D. McGowen & J. Laing, to the service of the Co. Failing to agree upon the case of J. Burk, the third arbitrator, Chancellor Boyd, of Toronto, was called in, who, after listening to the arguments on both sides, as presented by Messrs. Osler & Clark, took the cases under advisement, & has made the final award, which was against the restoration of J. Burk.

The General Superintendent has issued the following circular to agents & conductors:—
"The present heavy demand for cars of every

description (especially large capacity box cars) requires the utmost vigilance & prompt movement of all cars in order to secure the greatest possible use of our equipment. Cars should be selected for loading all classes of heavy freight with strict reference to their suitability for character of load offered. Every car should, so far as possible, be loaded to its full stencilled capacity. Special attention must be given to the prompt loading & unloading of all long & large capacity cars. When suitable full load is not in sight for a car of large capacity, it should be immediately reported to the Train Master for distribution. Small capacity cars must be used for 'shed' or short haul freight, & every possible effort made by agents & conductors to fill up cars used in doing way work on local freights. Foreign box cars must be utilised so far as possible for shipment to points off the System in homeward direction. When suitable cars are not on hand agents should make special request by wire for them. Agents should also remember that a foreign car may be loaded to any point if freight is routed by the railway owning the car. This is imperative in all cases. When absolutely necessary, cars may be loaded 10% above their marked capacity, but never more, except by special permission. Agents should use the greatest care in making up daily car reports, & see that all cars on hand are properly shown under each head, also correctly entered in daily telegraphic car reports."

Canadian Pacific Operating Notes.

The Co. has, it is claimed, saved over \$300,000 in the amount of coal consumed over its system in the past year, as the result of a circular to firemen, giving specific instructions in regard to the use of fuel. The circular called attention to the necessity of economizing in the matter of fuel, & pointed out that large quantities were being needlessly consumed. The report that there was trouble between the Co. and the firemen on account of the circular is denied by the officials.

The Assistant to the Manager of the Western Lines has issued the following circular: "The practice of overloading this Co.'s freight equipment, box cars particularly, appears to be on the increase. The particular attention of all concerned is called to the serious results which may follow this dangerous practice. Agents at stations where there are no track scales must be careful to examine all cars after loading has been completed. Make sure that cars loaded with grain are not filled above the grain line. A careful examination will enable any agent to detect cars which are overloaded, & which must not be allowed to

INSURE IN

The Canadian Railway Accident Insurance Co.

OTTAWA, ONT. A PURELY CANADIAN CO.

Authorized Capital - - - \$500,000.
Subscribed Capital - - - \$175,000.

J. W. McRAE, President.

HON. E. H. BRONSON, Treasurer.

JOHN EMO, General Manager.

JOHN P. DICKSON, Secretary.

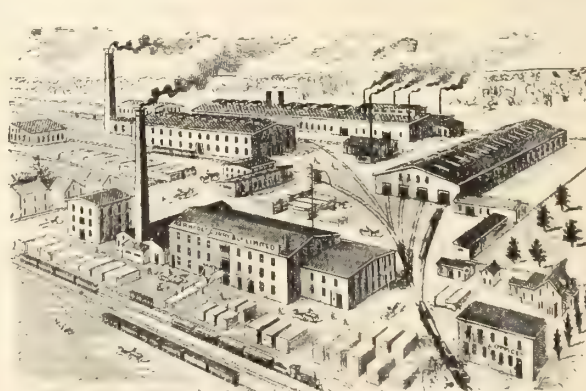
We make a specialty of Railroad Employees Insurance, also issue all classes of personal accident insurance. Policies containing all the latest and up-to-date features at rates as low as consistent with safety.

HEAD OFFICE:

26 Wellington St., Ottawa, Ont.

All Cuts used in the RAILWAY AND SHIPPING WORLD, and owned by the Publishers, are

.....For Sale.



Rhodes, Curry & Co.,

Ltd.,

Railway and Street Cars

of all descriptions.

Special Cars for Coal, Ore,
Lumber, &c., with Ball-
Bearing Wheels.

Car Wheels, Castings, Forgings, &c.
AMHERST, NOVA SCOTIA.

proceed without the excess being removed by the shipper. Call the attention of all shippers at your station to the fact that the regulations of the Co. will result in the collection of double rates on anything in excess of the capacity of the car. Be careful to ascertain the stencilled capacity of box cars with numbers lower than 10,000, the majority of these being only 30,000 lbs. capacity. Also look out for C.P.D. cars 20,000 to 20,198, 20,548 to 20,638, which are only 30,000 lbs. capacity, & C.P. box cars 30,998 to 31,198 which, although 34½ ft. long & 7 ft. high & closely resembling this Co.'s 30-ton equipment, are only of 40,000 lbs. capacity. Agents & trainmen must also be particular to see that the load in cars is evenly distributed, remembering that a car which is overloaded or loaded to the full capacity & not evenly distributed, is much more liable to derailment, & any agent who permits cars to leave his station in this condition, or any trainman, having occasion to open or load freight into such cars, allows them to go forward will be responsible for the results. The special attention of all agents & men at track scale stations particularly, is called to clause 2 in Freight Traffic Manager's circular 5, requiring the removal of excess weight when cars are found to be dangerously overloaded."

E. C. Hawkins, Chief Engineer & Superintendent of the White Pass Ry., has issued an order at Skagway prohibiting all Sunday work in the offices of the Co. Special attention is to be given to business during office hours, but late hours & Sunday work are to be avoided whenever possible.

The station agents on the Chicago Division of the Erie Ry. have been supplied with light wooden hoops, about 18 in. in diameter, for use in delivering train orders to enginemen & conductors who do not stop at the station. The hoop is attached to a stick about 4 ft. long, & the station man can thus easily hold it where the trainman can run his arm through it at any ordinary speed.—Railroad Gazette.

Toronto, Hamilton & Buffalo Ry.

The bonds of this Co., amounting to \$3,280,000, have been placed on the market by Edward, Sweet & Co., of New York. The syndicate had the bonds underwritten in England at 98c., but that deal did not go through, & they are held at par. They call for 4% interest. The prospectus reads as follows:

The T. H. & B. Ry. has been built in pursuance of a contract made in July, 1895, between the New York Central & Hudson River R.R. Co., the Michigan Central Ry. Co., the Canada Southern Ry. Co., & the Canadian Pacific Ry. Co. The railroad which, in pursuance of the agreement made, was constructed, passes through a section of country possessed of unusual natural resources & terminates in a city of over 50,000 inhabitants, well supplied with manufacturing facilities. An extension of this line westwardly from Hamilton, through Brantford to Waterford—a station on the Canada Southern Ry.—also serves two large manufacturing towns & a rich agricultural region.

The contract, the term of which is 50 years, provides, among other things, as follows: That 70% of the stock be taken over by the allied companies, & that during the term of the contract voting power on this stock, giving control, be vested in the New York Central & Hudson River R.R. Co.—5 of the 7 directors of the company to be named by the allied lines. All traffic which the proprietor lines can control, destined to points on the new line & its connections, to be sent via that line. Twenty-five per cent. of the earnings of the proprietor companies, & their leased & operated lines, on all traffic inter-

changed with the new line, to be set aside in each 6 months' period during the term of the bonds as a guaranty fund from each to pay any deficit in interest on the bonds in that period. Through service, without change of cars, during the period of the contract to be maintained between the stations & terminus of the proprietor lines, at Buffalo, Suspension Bridge & Toronto. The C.P.R. Co. to pay to the T. H. & B. annually 4% upon ½ of the cost of the Hamilton terminals of the latter, such cost having been agreed upon between the companies interested at \$1,571,770.28. The C.P.R. Co. to pay annually to the T. H. & B. its proportion of the expenses of operation & maintenance of the Hamilton terminals of the latter, the amount payable to be determined on the basis of wheelage. The road to be built & equipped under the specifications of the Michigan Central R.R., & under the supervision of engineers appointed by the proprietor companies.

The road was built as required in the contract, in the most thorough, substantial & permanent manner. The line between Welland & the C.P.R. connection was laid with 80-lb. rails, & the balance with 70-lb. rails. The total issue of bonds secured by 1st mortgage upon the franchise & property, now owned & hereafter to be acquired by the Co., is \$3,280,000. On Aug. 1, 1898, new construction & expenditure for betterments were nearly completed, & since that time the net earnings of the Co. have been more than sufficient to pay the interest on the bonds. The results of operation under the agreement in the 5 months' period ended Dec. 31, 1898, are as follows:

Total net earnings of the Co.	\$55,587.31
Amount of guaranty fund.	75,784.08
Amount available for interest	\$131,371.39
Total amount of interest	54,666.65
Excess for 5 months over total interest charged	\$76,704.74

C.P.R. ANNUAL REPORT.

The 18th annual report for the year ended Dec. 31, 1898, dated Feb. 27, 1899, & signed by the President, Sir Wm. Van Horne, has been addressed to the shareholders as follows:—

A balance sheet of the affairs of the Co. at Dec. 31, 1898, together with the usual statements & schedules, are herewith submitted.

The gross earnings for the year were.... \$26,138,977.13
The working expenses were..... 15,663,605.51

And the net earnings were..... 10,475,371.62
Add interest earned on deposits & loans & income from other sources..... \$87,066.86

Add interest due from D., S. S. & A. Ry. Co. on consolidated bonds held by your Co. against debenture stock issued..... \$800,280.00
Less advanced by your Co..... 395,280.00

Add interest from M., St. P. & S. St. M. Ry. Co. on bonds held by your Co. against debenture stock issued..... 126,400.00

423,366.86
\$10,804,738.48
Deduct fixed charges accrued during the year, including interest on land bonds..... 6,774,321.24

The surplus for the year was..... \$4,124,417.24
From this there has been charged off the ½-yearly dividend on preference stock, 2% paid Oct. 1, 1898..... \$245,846.07
And ½-yearly dividend on ordinary stock, 2% paid Oct. 1, 1898..... 1,300,000.00

Leaving balance..... 3,578,571.17
From this there has been declared a 2d & ½-yearly dividend on preference stock of 2% payable April 1, 1899..... \$237,162.50

And a 2nd ½-yearly dividend of 2% on common stock payable April 1, 1899..... \$1,300,000.00

The working expenses for the year amounted to 59.92% of the gross earnings, & the net earnings to 40.08%, as compared with 57.16% & 42.84% respectively in 1897.

The earnings per passenger per mile were 1.52c., & per ton of freight per mile 0.76c, as against 1.82 & 0.78c. respectively in 1897.

Although the gross earnings for the year were considerably beyond those of 1897, the net earnings show a comparatively small increase. This was due in part to the rate disturbances which continued during 9 months of the year, but in greater part to the long-continued rains following the harvest in the Northwest, which prevented the threshing & harvesting & marketing of grain until within a few weeks of the close of lake navigation, making it necessary to find employment for the Co's rolling stock in other traffic affording little profit.

The passenger rate difficulty which prevailed at the date of the last annual report continued until Nov., when it was terminated with results not unsatisfactory to your directors. This settlement resulted in a restoration of the North Bay arrangement with the G.T. Co. & in removing all visible causes of friction with that Co.

The Co's ocean & lake steamships, & its telegraph, express, sleeping cars & grain elevators, have continued to add largely to your profits, & together show a handsome increase over any past year.

Your property has been maintained in excellent condition throughout & has been much improved in the way of permanent structures & station & terminal facilities, & large additions have been made to its equipment. A detailed statement of the expenditures for permanent improvements & new equipment is appended.

Two hundred & eighty miles of your principal lines were relaid during the year with steel rails weighing 73 lbs. a yard in place of the original 56 & 60 lbs. rails.

The application of automatic couplers & air brakes to your freight equipment is well advanced, & the end of this heavy expense will soon be reached.

The Crow's Nest Pass line was completed to Kootenay Lake in Oct., too late in the year to affect your year's results as regards earnings.

The acquisition of the Columbia & Western Ry., which was authorized at your last annual meeting, has been carried out, & a formal lease has been entered into which you will be asked to approve. That railway is now in the possession of your Co., & its extension westward from Robson to the Boundary Creek mining district (100 miles), to which your assent was also given, is now well advanced, & is expected to be completed about midsummer. This extension, although unusually expensive in construction, is fully justified by the extensive developments in the districts it is intended to serve, & which are as yet without railway facilities. The Co. will acquire in connection with this line 1,600,000 acres of land from the Province of British Columbia; but it is probable that this grant will be converted into a cash subsidy.

The attractions of the Klondike drew away many prospectors & miners from Southern British Columbia early in the year, but the development of the mines of the latter district has continued & the shipments of ores have increased as rapidly as the means of transportation would permit. The much desired shipping facilities afforded by the new Crow's Nest Pass line & the facilities which will soon be afforded by the Boundary Creek line, will, without doubt, give a great impetus to the shipments & to business generally in the Kootenay, Rossland & Boundary Creek districts.

Two extensions of branch lines in Manitoba were made during the year, one of the Stonewall branch northward to Foxton, 10.6 miles, & one at the Pipestone branch westward, 17 miles; the settlement of the country having made both of these necessary.

Your Co. expended a considerable amount, about the beginning of the year, in ocean & river steamers for the expected large movement towards the Yukon (Klondike) country; but, unfortunately, the steamers could not be got ready in time to take full advantage of such trade as there was; it is, however, expected that the present season will afford them profitable employment.

The Co.'s hotel at Quebec, the Chateau Frontenac, has been most successful, & a large addition was made to it last year to meet the requirements of the travel it had so largely stimulated. It has not only become profitable in itself, but has from its beginning added materially to your passenger earnings.

A final agreement for the sale of the Aylmer Branch, between Hull & Aylmer, 7.5 miles, for \$100,000, has been entered into, subject to your approval.

During the year \$919,000 of the 4% consolidated mortgage bonds of the Minneapolis, St. Paul & Sault Ste. Marie Ry.; \$717,500 of the 5% 1st mortgage bonds of the Montreal & Ottawa Ry., & £120,000 of the 4% 1st mortgage bonds of the Columbia & Kootenay Ry., in respect of interest upon all of which your Co. is liable as guarantor, were purchased with the proceeds of £412,191 4% consolidated debenture stock, your Co. thereby effecting a considerable annual saving.

During the year £2,285,000 of 4% preference stock was created & sold, & the proceeds have been applied to the purchase of the Alberta Ry., to the completion of the Crow's Nest Pass line, & towards the expenditures for additions, improvements & equipment already authorized by the shareholders.

The purchase price of the Columbia & Western Ry., the amount expended on its extension from Robson to Boundary Creek, & the cost of the extensions of the Stonewall & Pipestone branches, together with a portion of the amount expended on general improvements & equipment, have been temporarily advanced from the Co.'s surplus.

The Duluth, South Shore & Atlantic Ry., although still requiring assistance from your Co. is steadily improving in its earnings. The discovery of extraordinary deposits of cheaply mined iron in adjacent districts 6 or 7 years ago forced a heavy reduction in the rates of that railway on iron ore, which had been its chief source of earnings; but this loss is being made good by the development of a diversified traffic, & your directors are encouraged to believe that this line will soon be self-sustaining.

The Minneapolis, St. Paul & Sault Ste. Marie Ry. earned last year \$413,275 above all its interest & other fixed charges, but necessary expenditures for rolling stock and various ad-

ditions & improvements prevented the repayment to your Co. of any part of the advances made prior to 1897. You will be asked to approve measures for placing this important line on a proper financial footing, such as will admit of its healthy development & insure its continued profitable working.

You will be asked to approve expenditures for improvements of permanent way aggregating \$150,979; for additional station, yard & terminal facilities at Montreal, Vancouver & other points, \$788,187; for the completion of air brake & automatic coupler equipment, \$365,010; for branch lines to mines in connection with the Crow's Nest line, \$300,000; & to authorize the purchase of rolling stock to the extent of \$1,000,000, as the traffic of the Co. may require.

Your directors are glad to be able to report a continued & marked improvement in land sales, which for the year were 348,608 acres for \$1,121,744, against 199,482 acres for \$665,740 in 1897, & 87,878 acres for \$308,928 in 1896.

The satisfactory progress which has been made in the settlement of the Northwest is evidenced not only in the largely increased land sales of the Co., but in the number of homesteads taken up from Government lands in Manitoba & the Territories beyond, which, according to official returns, were 4,848 in 1898 as against 2,406 in 1897.

A much larger amount of grain from the Northwestern crops remains to be moved than ever before at this time of the year, & this, together with the most satisfactory agricultural & industrial conditions now prevailing in Canada, which are due in a great measure to good crops & good prices & to successful mining, gives promise of a large spring & summer traffic.

CONDENSED BALANCE SHEET, DEC. 31, 1898.

ASSETS.	
Cost of road—main line...	\$141,421,759.77
Lines acquired & held under perpetual leases...	27,183,317.85
Branch lines.....	15,392,782.60
Crow's Nest extension.....	8,709,806.01
	\$192,707,666.23
Equipment—rolling stock...	\$19,113,974.04
Lake and ferry steamers...	1,135,874.23
Shops & machinery (Montreal, Hochelaga, Perth and Carleton Place)....	1,433,544.07
	21,683,392.34
Japan & China steamships & appurtenances.....	3,504,403.01
Coast steamships.....	529,249.62
British Columbia lake & river steamers.....	670,479.96
Acquired securities held against debenture stock issued.....	25,696,681.77
Other acquired securities.....	2,192,161.94
Real estate, surplus lands at & near Montreal, available for sale.....	343,308.98
Hotels & other buildings at Vancouver, Fort William & Banff Springs hotel held by trustees for the Co.	916,218.30
	1,259,527.28
Balances due on lands sold, deferred payments.....	1,862,051.76
Balances due on townsites—deferred payments.....	209,294.73

Advances.	
To Montreal & Atlantic Ry. secured by \$500,000 1st mortgage bonds.....	424,144.80
Interest to Oct. 1, 1894....	75,637.48
	499,782.28
To Minneapolis, St. Paul & Sault Ste. Marie Ry. car trusts, etc.....	467,817.89
To Duluth, South Shore & Atlantic Ry. car trusts, etc.....	236,213.19
Material and supplies on hand.....	2,541,410.12
Station & traffic balances & accounts receivable.....	3,565,638.38
Miscellaneous securities and advances.....	1,529,895.25
Imperial & Dominion Governments, amounts due for mail transportation (since paid).....	105,781.58
Dominion Government on account work on Crow's Nest extension & in British Columbia (since paid).....	622,520.66
Cash in bank.....	4,147,228.80
	\$264,031,205.79

In addition to the above assets, the Co. owns 17,154, 179 acres of land.

LIABILITIES.	
Capital stock.....	\$65,000,000.00
Four % preference stock.....	20,951,000.00
Four % consolidated debenture stock.....	48,061,866.53
Mortgage bonds.	
1st mortgage, bonds, 5%....	\$7,191,500
Canada Central, 1st mortgage, amount of issue, £500,000	\$2,433,333
Sinking fund deposited with Government....	1,500,000
	\$850,000.00
Balance at maturity.....	850,000.00
Canada Central 2nd mortgage, 6%.....	973,333.33
Due Province of Quebec on Q. M. O. & O. Ry., at 4 1-2%.....	3,500,000.00
Due Province of Quebec on North Shore Ry. at 4 1-2%.....	3,500,000.00
Algoma Branch, 1st mortgage, 5%.....	3,650,000.00
North Shore Ry., 1st mortgage, 5%.....	616,119.67
	48,088,080.33
Land grant bonds, 1st mortgage. Am't of issue \$25,000,000.00 Less amount redeemed & cancelled....	20,585,500.00
	4,414,500.00
Amount held in trust by Dominion Government, not bearing interest....	1,000,000.00
	3,414,500.00
Land grant bonds 3 1-2% interest guaranteed by Dominion Government....	15,000,000.00
	18,414,500.00
Current liabilities, including Crow's Nest & Columbia & Western extensions & vouchers and pay rolls.....	4,566,231.34
Interest on funded debt & rental of leased lines—Coupons due Jan. 1, 1899, & including coupons overdue not presented.....	1,505,228.40
Accrued to date, not due..	344,818.30
	1,850,046.70
Cash subsidy from Dominion Government.....	25,000,000.00
Subsidy earned on Crow's Nest extension.....	2,776,190.00
Bonuses from provinces & municipalities.....	1,350,188.07
	29,126,378.07
Land grant. 3,921,756 acres sold, amounting to.....	12,784,846.25

Spokane Falls & Northern System. Nelson and Ft. Sheppard R'y Co. Red Mountain R'y Co.

THE DIRECT AND ONLY ALL RAIL ROUTE
BETWEEN THE

KOOTENAI DISTRICT

And all British Columbia Points, Pacific Coast Points, Puget Sound Points, Eastern Canada and the United States.

Connects at Spokane with Great Northern Railway, Northern Pacific Railway, O.R.R. & Nav. Co.

Maps furnished. Tickets sold and information given by local and connecting line ticket agents.

C. G. DIXON, G.P. & T.A., Spokane, Wash.



Pearson Car.... Replacing Jack

Quickest Working and Most Popular
Device for Rerailing Cars.

Prominent R. R. Officials say: "Best device on the market for work intended."

Used on 200 Electric and 100 Steam Roads.

Send for list of Roads and Official Reports.

F. E. Came, 17 Place d'Armes Hill, Montreal

6,793,014 acres taken by Dominion Government.	10,189,521.00
	22,974,367.25
Less, expenses, cultivation rebate, & 10% on land grant bonds taken in payment.	2,872,790.26
	20,101,576.99
Less, expenditure Col. & Kootenay Ry. lands. \$ 1,183.88	
Less, cancellation of M. S. W. C. Ry. sales. 28,181.58	29,365.46
	20,072,211.53
Town sites—Amount received from the sale of town sites, not covered by land grant mortgage.	3,271,875.35
Less, expenditure improvements, grading, clearing, etc.	915,682.90
	2,356,192.45
Surplus receipts applied against advances on land bond interest.	992,967.76
	1,363,224.69
Adjustment of interest on Montreal & Atlantic Ry. advances.	75,637.48
Surplus earnings account.	6,462,023.12
	\$264,031,205.79

EARNINGS FOR THE YEAR 1898.

From passengers.	\$ 6,538,589.58
" freight.	16,231,444.93
" mails.	609,974.57
" express.	615,631.43
" parlor and sleeping cars.	455,345.07
" telegraph, grain elevators, and miscellaneous, including profit on Pacific steamships.	1,687,991.55
	\$26,138,977.13

WORKING EXPENSES FOR THE YEAR 1898.

Conducting Transportation.	\$ 4,014,178.20
Maintenance of Way and Structures.	3,274,642.90
Motive Power.	4,866,253.15
Maintenance of Cars.	602,263.83
Parlor and Sleeping Car Expenses.	86,197.99
Expenses of Lake and River Steamers.	413,195.02
General Expenses.	1,589,777.06
Commercial Telegraph.	457,097.36
	\$15,663,605.51

DESCRIPTION OF FREIGHT CARRIED.

Description.	1897.	1898.
Flour, barrels.	2,911,072	3,292,450
Grain, bushels.	37,756,201	35,443,084
Live stock, head.	663,773	715,018
Lumber, feet.	831,865,383	840,145,338
Firewood, cords.	185,208	203,336
Manufactured articles, tons.	1,310,827	1,529,044
All other articles, tons.	994,813	1,119,087

FREIGHT TRAFFIC.

	1896.	1897.	1898.
No. of tons carried.	4,442,955	5,174,484	5,582,038
No. of tons carried 1 mile.	1,769,958,865	1,955,911,006	2,142,319,887
Earnings per ton per mile.	0.75c.	0.78c.	0.76c.

PASSENGER TRAFFIC.

	1896.	1897.	1898.
Passengers carried.	3,029,887	3,179,589	3,674,502
Passengers carried 1 mile.	263,607,453	317,997,951	430,493,139
Earnings per pas. per mile.	1.83c.	1.82c.	1.52c.

TRAFFIC TRAIN EARNINGS, 1898.

	Mileage.	Earnings.	Earnings per traffic train mile.
Passenger.	7,160,764	\$ 7,907,854.97	\$1.14
Freight.	10,496,129	15,682,335.29	1.49
Total.	17,656,893	\$23,590,190.26	\$1.34

The above earnings of traffic trains include earnings from mails, express and sleeping cars, but do not include Pacific steamships, lake steamers, river steamers in Yukon trade, British Columbia lake and river steamers, telegraph, elevators, rents, &c., the net earnings from which amounted to \$1,678,494.49.

EXPENSES PER TRAFFIC TRAIN MILE, 1898.

	Expenses.	Expenses per traffic train mile.
Maintenance of way and structures.	\$ 3,271,642.90	0.185
Motive power.	4,866,253.15	0.276
Maintenance of cars.	962,263.83	0.055
Traffic and general expenses.	5,690,153.25	0.322
	\$14,790,313.13	\$0.838

The Packing of Frogs.

The case of the G.T.R. vs. Washington, which came before the Judicial Committee of the Imperial Privy Council recently, was an appeal from a judgment of the Supreme Court of Canada of Dec. 9, 1897, reversing a decree of the Court of Appeal for Ontario & restoring a judgment of Justice Street. The arguments were heard in Aug. last before a committee consisting of Lord Macnaghten, Lord Morris & Sir Henry Strong, when judgment was reserved.

Lord Macnaghten, in delivering on Feb. 25 for Sir H. Strong, their lordships' judgment, said the action was brought by the respondent against the appellants to recover damages for injuries suffered by him resulting in the loss of his arm in Jan., 1896, while in the discharge of his duties as a yardman in the Co.'s employ at Hamilton. At the trial before Justice Street the jury found that the injuries to the respondent were caused by his foot having caught in a "frog" in the Co.'s yard, & that the Co. had been guilty of negligence in not having the frog "blocked" or properly protected. Judgment was thereupon entered for the respondent for \$2,500, the amount at which the jury assessed the damages. That judgment, having been reversed by the Court of Appeal, was restored by the Supreme Court. The only question raised related to the proper legal construction of an act of Parliament imposing certain duties on railway companies. That enactment was sec. 262 of the Railway Act (Canada), 51 Vict., c. 29. It was in the following words:

"1. This section shall apply to every railway & railway company within the legislative authority or jurisdiction of the Parliament of Canada. 2. In this section the expression 'packing' means a packing of wood or metal, or some other equally substantial & solid material, of not less than 2 in. in thickness, & which, where by this section any space is required to be filled in, shall extend to within 1½ in. of the crown of the rails in use on any such railway, shall be neatly fitted so as to come against the web of such rails, & shall be well & solidly fastened to the ties on which such rails are laid. 3. The spaces behind & in front of every railway frog or crossing, & between the fixed rails of every switch where such spaces are less than 5 in. in width, shall be filled with packing up to the under side of the head of the rail. 4. The spaces between any wing rail & any railway frog, & between any guard rail & the track rail alongside of it, shall be filled with packing at their splayed ends, so that the whole splay shall be so filled where the width of the space between the rails is less than 5 in.; such packing not to reach higher than to the under side of the head of the rail; provided, however, that the Railway Committee may allow such filling to be left out, from Dec. to April in each year, both months included. 5. The oil cups or other appliances used for oiling the valves of every locomotive in use upon any railway shall be such that no employe shall be required to go outside the cab of the locomotive while the same is in motion for the purpose of oiling such valves."

The Railway Committee of the Privy Council in Canada, on Nov. 19, 1889, in pursuance of the authority conferred on them by subsection 4, made an order that the appellants should be at liberty to leave out the packing or filling of frogs & other spaces from Dec. to April in each year. Their Lordships were unable to see that there was any error in the judgment of the Supreme Court in so construing the Act as to restrict the powers of the Railway Committee to the filling required by subsection 4. The words "such filling" in the proviso in their primary significance must mean the filling required by the immediately preceding part of subsection 4, & did not include that made obligatory by sub-

section 3. And that the ordinary grammatical construction ought to prevail unless it could be shown that there was to be found in the statute some context or provision making it imperative to enlarge the scope of the proviso so as to include the cases dealt with in subsection 3. Their Lordships were unable to find any such context, & were consequently of opinion that the judgment of the Supreme Court was right. If it had been intended to include in the proviso to subsection 4 the cases provided for by subsection 3, it would have been obvious that the plural word "fillings" should have been used; therefore, though not, of course, by itself conclusive, it was not immaterial to observe that the word "filling" in subsection 4 being in the singular number supported the construction adopted by the Supreme Court. The decision of the Court of Appeal seemed to have been influenced by contrasting the Act of Parliament with certain statutes enacted by the Legislature of Ontario for the regulation of Provincial railways. As those were enactments emanating from a different legislative body from that which passed the statute to be interpreted, & could not be said to be "in pari materia" with it, their Lordships were unable to see that they ought to have any influence upon the question to be decided arising exclusively upon the Dominion Act & relating only to Dominion railways. Their Lordships would humbly advise her Majesty to dismiss the appeal & to affirm the judgment of the Supreme Court. The appellants must pay the respondent's costs.

Canadian Pacific Railway Projects.

The latest map issued by the C.P.R. shows a large number of projected lines. Most of these have been shown in one or more former maps as follows:—

In Quebec, an extension of the Lake Temiscamingue branch northwesterly to Les Quenais.

In Ontario, from Kleinburg to Sudbury Jct.

In Manitoba, from Stonewall northwesterly via the Narrows of Lake Manitoba to connect with the L.M.R. & C. Co.'s Ry. at Dauphin.

In the Northwest Territories, from Estevan due west some 50 miles. From the terminus of the Pipestone branch west & north-west to Regina. From Moosomin southwest & west to join the last-mentioned line near the 50th parallel. From Saskatoon to Battleford. From Swift Current north-westerly to Sullivan Lake, Alberta.

In British Columbia, from the terminus of the Columbia & Western Railway, now under construction, at Midway via Penticton to a connection with the main line of the C.P.R. at Hope.

Two projected lines are shown for the first time on this year's map, one from Fort Steele Jct., on the Crow's Nest Pass line, along the valley of the Columbia River, to Golden. The other from the terminus of the Arrow Lake branch, at Arrow Head via Trout Lake to Kootenay Lake. A survey for the latter is now being made.

Canadian Pacific Railway Mileage.

Following is an official statement of the mileage on Dec. 31, 1898:

	MILES.
Mileage included in the C.P.R. traffic returns.	6681.2
Mileage of other lines worked.	732.4
Mileage under construction, including extension of Pipestone and Stonewall branches and a portion of the Crow's Nest Pass line, which, although practically completed, is not in operation at the end of the year.	250.0
Mileage of lines owned.	7663.6
Minneapolis, St. Paul & Sault Ste. Marie Ry.	1245.0
Duluth, South Shore & Atlantic Ry.	589.0
	18,198.2

Miscellaneous Railway Notes.

The Brown System of Discipline.—General Manager Pennington says this system is in use on the Minneapolis, St. Paul & Sault Ste. Marie Ry., & that it has proved in every way superior to the former way of handling men.

Calgary & Edmonton net earnings, Jan., \$7,014.79, against \$17,100.89 in Jan., '98.

The Canada Atlantic is building 500 box cars, all of 70,000 lbs. capacity, equipped with steel trucks & Westinghouse air brakes.

Car Heating Couplers.—The Consolidated Car Heating Co. has taken action against F. E. Cane, of Montreal, Canadian agent of the Gold Car Heating Co., alleging that that Co., through him, has sold its steam heating couplers to Canadian railways, & placing damages at \$15,000. The Consolidated Co. claims that the Gold coupler is an infringement of the Consolidated coupler. This is denied by the Gold Co., and Mr. Cane informs us the latter Co. will protect all its customers.

Detroit River Bridge.—The bill introduced in the U. S. Senate, by Senator McMillan, to provide for the construction of this bridge, a summary of which was given in our Feb. issue, pg. 36, was not reported from the Committee on Commerce, and therefore failed to become law. The following paragraph in a Buffalo paper was doubtless written in the expectation that the bill would pass at the recent session of Congress: "Next winter the railways running into Detroit from Windsor will not be tied up with a blockade boat ferry, but will use the bridge if it is built in time. Everything is ready for work on the new bridge, & it will be located at the south bend of Belle Isle. The structure will be a high bridge, 117 ft. above the water, with a clear cantilever span of 1,300 ft. over the Canadian channel, & a total length of cantilever construction of 2,400 ft. There is also to be a steel viaduct 1,000 ft. in length, & 3 truss spans over the U.S. channel, each 335 ft. long."

Dominion Atlantic.—A special general meeting will be held in London, Eng., March 30, at which the report for 1898 will be submitted & directors elected. A resolution will be submitted authorizing the directors to issue £100,000 4% 2nd debenture stock similar to the existing £250,000 created by the trust deed of 1896.

G.T.R. Appointment.—J. Foley has been appointed Roadmaster of 22nd District from Guelph to Southampton, Harriston to Warton, & Owen Sound Branch, vice T. Lockhart assigned to other duties.

Great Northern.—A Montreal despatch says: Ross, Barry & McRae have undertaken the contract of completing this line, ex-

tending from the end of the track at Shawenegan, Que., to Hawkesbury, 88 miles. All the bonds, subsidies & bonuses have been transferred to them, & they will finish the road in 18 months. (Jan., pg. 11.)

The Great Northern Ry. (U.S.) will move its Toronto offices to the northwest corner of King & Yonge Sts., on the 1st floor over the G.T.R. offices, on April 1.

Hamilton & Caledonia.—Walter Anderson, Hamilton, who is Secretary of this proposed railway company, for the incorporation of which application is being made to the Ontario Legislature, writes us that he has every reason to believe the construction of the road will be proceeded with as soon as the charter is obtained. (Feb. pg. 34.)

Inverness & Richmond.—In Nov. last, pg. 238, we gave particulars of the charter for this Nova Scotia line, & of its control by P. Ryan & R. H. Bowes, of Toronto. They have given an option on it to Mackenzie, Mann & Co., & it is expected that firm will take it over & build the line. D. D. Mann has been in Nova Scotia recently in connection with the matter, & made a deposit of \$2,000 with the municipality of Inverness in accordance with a resolution of council. It is said P. Ryan has secured nearly all the coal-mining properties at Port Hood, paying cash for options in almost every instance. This is taken as evidence of the bona fides of the undertaking. The I. & R. Ry. Co. has already several miles of the "shore road," so called, graded between Port Hastings & Port Hood. The county has paid \$7,000 for the right-of-way. It is expected that work will be commenced vigorously early this spring, so that the outlook in this connection is very fair. A meeting of the Co. will be held in Halifax, Mar. 16, to authorize the issue of 1st mortgage bonds for \$15,000 a mile from the Straits of Canso to Cheticamp.

Liability to Passengers.—In the Exchequer Court at Ottawa recently, in the case of Colpitts v. the Queen, the decision was in favor of the Crown, & dismissing the petition. The suppliant was one of those injured in the Palmer's Pond accident, on the I.C.R., near Dorchester, N.B., in 1897. Justice Burbidge held that railway companies are not liable to passengers they carry for injuries they may receive unless there be negligence of some kind. They do not insure the safety of their passengers; their obligation is to use reasonable care to carry their passengers safely. In other words, it is upon the suppliant to show that the injury of which he complains resulted from the negligence of an officer or servant of the railway. The Judge, therefore, declined to entertain the claim for damages against the Government in the present suit, & ordered that the action be dismissed with costs. The Colpitts case was a test one. If he had won

several other suits would have been entered against the Crown.

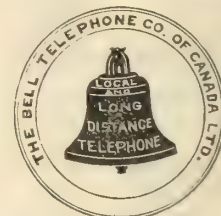
From Morris, Man.—Howell & Mathers, Winnipeg, give notice of application to the Manitoba Legislature to incorporate a company to build a railway & telegraph line from or near Morris, northwesterly to or near Portage la Prairie, with the right to build a branch line from the main line in Township C, Range 2 west, to or near Carman; thence westerly to or near the western boundary of Township 6, Range 10 west, thence northwesterly to or near Carberry; thence northwesterly to or near Neepawa; thence northwesterly to the western boundary of the Province; & also with the right to build a branch line or extension from the easterly terminus, easterly, northeasterly or southeasterly to the eastern boundary of the Province south of Township 10.

Ottawa & New York.—We were in error in stating in our Jan. issue, pg. 13, that the bridge over the north channel of the St. Lawrence River had been completed last fall. There remains to be erected the suspended arm of the north cantilever, a matter of a few days' work only. The plans for replacing the wrecked bridge over the south channel are not sufficiently complete to admit of any information regarding them being given now.

Qu'Appelle, Long Lake, & Saskatchewan net earnings, Jan., \$125.56, against \$3,091.39 in Jan., '98.

Saskatchewan & Western.—The following officers have been elected:—President, A. M. Nanton; Vice-President, H. C. Hammond; Sec.-Treas., W. R. Baker.

United Counties.—H. Upton has been appointed Traffic Manager of this Co. with headquarters at 22 St. John St., Montreal, & all matters appertaining to rates, divisions, &c., will hereafter be dealt with by him. He will continue to discharge the duties of Auditor & Freight Claim Agent.



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promptness secures business
immediate information is required:
an answer is wanted, and wanted quick:
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WHAT WE THINK.

—The idiotically placed railway swing bridge pier, which has been a serious interference with the successful use of the canal at Sault Ste. Marie, Ont., has been removed & the bridge replaced by one which extends across the whole width of the canal. The pier should never have been provided, and it would be interesting to learn who recommended it in the first instance.

—The railway traffic returns for the current year are, up to date, of a most satisfactory character. The C.P.R. leads with a tremendous increase, the approximate gross earnings for Jan. & Feb. showing an increase of \$455,000, the Grand Trunk figures for the same period showing an increase of \$189,930. Other lines, there is every reason to believe, generally show increases. With the absence of any rate disturbance the outlook for the year is very bright.

—Some opposition papers are attacking the Baldwin locomotives recently brought in for the Intercolonial, stating they are not working satisfactorily & that they are not what is required. The question of the importation of locomotives for a Government line may, perhaps, be a debatable question, but the quality of the Baldwins is beyond question. There is no better locomotive made, and we are inclined to think that Mechanical Superintendent Joughins, who is responsible for the specifications, knows what is required on the I.C.R. better than the political newspaper critics.

—The scheme for the consolidation of electric railway interests, with the Buffalo Railway as the central figure, & including the Niagara Falls Park & River Ry., particulars of which are given on pg. 89 of this issue, is, we have reason to believe, expected by the directors of the N.F.P. & R.R. Co. to go through. While we should be sorry to see the control of this line pass out of local hands they cannot be expected to refuse a good offer for a property which so far has not proved a remunerative investment, & which could undoubtedly be operated more economically & successfully as part of the consolidated system proposed.

—The fallacious idea that a reduction of passenger fares would produce such a large increase of travel as to more than compensate the railways was given utterance to at the recent annual meeting of the Toronto Board of Trade, when the President, referring to last year's rate cutting between the two principal lines, said that if the results were analyzed he thought it would be found that the railways were not sufferers to any material extent in consequence of the low rates which prevailed, as owing to the increased traffic any deficiency in net earnings must have been very largely overcome. The figures, however, tell a different story. The disastrously low rates prevailed during 9 months of last year. The Grand Trunk reports show that in 1898 that line carried 6,833,464 passengers, against 6,533,024 in 1897, & the passenger receipts for 1898 were £1,025,258, against £1,083,912 in 1897. So that in 1898 the G.T. carried 300,440 passengers in excess of the previous year, for which it received £58,654 less in cash. The handling of 300,440 more passengers required the use of more equipment, more train men, more clerical work, & involved other expenses, while \$285,410 less was taken in. The C.P.R. does not publish its passenger & freight receipts separately each month, & at the moment of writing its figures for 1898 are not available, though they will probably be received before this paper goes to press & room may be found for them elsewhere. They will probably be found to tell

a very similar story, though not perhaps to quite the same extent.

—The announcement from Ottawa that the Dominion Government has decided to build a telegraph line from the terminus of the Government system at Quesnelle, B.C., to Dawson City, Yukon, on the ground that the ministers have decided that the franchise is too valuable & too important to be allowed to go into any but Government hands, is hardly a surprise, as there have been strong rumors to that effect for some time past, but it is a curious decision in view of the record of the Government on the question. At the last Dominion session acts were passed incorporating the Dawson City & Victoria Telegraph Co., & the Northern Commercial Telegraph Co., both being empowered to establish telegraph communication between British Columbia & Dawson City. The latter Co. does not seem to have done anything under its charter, but the first mentioned charter was acquired by the Canadian, British Columbian & Dawson City Telegraph Co., which has been organized in England with a share capital of £300,000, & which recently issued £225,000 1st mortgage debenture stock. We were recently informed that this Co. had let a contract for the construction of the line, & that the Resident Engineer had been despatched to British Columbia to start the work, so that no doubt considerable expense has been incurred. When the prospectus of the debenture stock was issued we felt compelled to criticise it adversely on account of the visionary estimates it contained, but we want to see the Co. get fair play, & now that the Government has decided to build a line & ruin the franchise, the Co. is certainly entitled to liberal compensation. If there are reasons to-day for the line being built by the Government, they doubtless existed a year ago, & the two charters above mentioned should not have been granted. The fact that the C., B.C. & D.C. T. Co. was issuing debentures & preparing for work was given wide publicity, & yet it does not appear that the Government notified the Co. of its intention to render the charter valueless. This mode of procedure is unworthy of a Government, & is calculated to seriously prejudice Canadian interests in Europe. If capitalists once came to the conclusion that they are not to be treated honestly by the Government, & that after proceeding in good faith to carry out the powers unanimously given them by Parliament, their franchises are to be arbitrarily rendered worthless, they will leave such investments severely alone. The two charters granted last session provided for the rates for messages being subject to the control of the Governor in Council, a sufficient safeguard against excessive charges, & we fail to see any reason, "from the standpoint of the national safety" or otherwise, for the Government's action in this matter. Given a government control of rates, as provided by the statutes, there is every reason to believe that a line from Quesnelle to Dawson could be built & operated more economically & more effectually by a company than by the Government.

Some extraordinary, & in our opinion unjustifiable, legislation was enacted at the recent session of the British Columbia Legislature, at the instance of the Attorney-General of that Province. The Railway Aid Act of 1890 provided that the Lieutenant-Governor-in-Council might grant aid to a line from Ashcroft to Cariboo, to an Okanagan line & to the Farwell branch of the C.P.R. No subsidy had been granted to any of these lines under the authority above mentioned, & an act was passed taking away the power from the Lieutenant-Governor-in-Council. To us this act seems to have been unnecessary & probably injudicious, as the want of such power by the executive might seriously delay construction,

but there is no other objection to it. But some other clauses of the act are of an altogether different character. By acts passed in 1897 & 1898, aid, not to exceed \$4,000 a mile was granted towards the construction of lines from Penticton to the Boundary Creek district, about 100 miles; from Robson to the Boundary Creek district, about 80 miles; from the Pacific coast, near Point Roberts, to Penticton, about 230 miles; from Bute Inlet to Quesnelle, about 230 miles, & from Teslin Lake to a seaport in B.C., not more than 400 miles. Under the authority of these acts the late Turner government entered into contracts with Mackenzie, Mann & Co., for the construction of lines from Penticton to Boundary Creek; from Point Roberts to Penticton, & from Teslin Lake to a seaport in B.C. The act recently passed takes away the power to aid the lines subsidized in 1897 & 1898, & cancels the contracts with Mackenzie, Mann & Co. The only excuse the members of the Government & their supporters in the House could offer for the measure was the technical plea that the contracts were not binding, because their carrying out by Mackenzie, Mann & Co. was dependent on that firm's being able to secure Dominion aid also. On the strength of the contracts the contractors went to considerable expense for surveys, &c., & were endeavoring to secure aid from Ottawa. Ex-Attorney-General Eberts, in opposing the cancellation of the contracts, fittingly termed it repudiation, & remarked that capital being timid such action would have the effect of scaring it away from the Province. British Columbia is a magnificent field for investment, & has been brought so prominently before the world during the last few years that capitalists have been turning their attention to it to an extent previously unknown. But they will soon call a halt if they once get the impression that the Legislature is ruled by repudiationists, & that any contract they enter into—to which the Government is a party—is liable to cancellation. Unfortunately for British Columbia, its government at present is dominated by the Attorney-General, a carpet-bagger from Manitoba, who left behind him there a record for just the sort of legislation he has recently forced through the Victoria House. On becoming Attorney-General of Manitoba about 10 years ago, one of his first acts was to secure the passage of a bill cancelling two contracts with the Government, which were held by political opponents; among the clauses of the bill being one which took away the rights of the contractors to appeal to the courts for compensation! This is mentioned merely to show that he is capable of securing any legislation which may suit his purpose, no matter how arbitrary or outrageous it may be, & that no contractor or investor is safe in British Columbia so long as he is a member of its government.

Good Luck for a Good Fellow. A recent Montreal despatch said: "'Charley' Hosmer has made half a million dollars in London. This statement was on everybody's tongue to-day on the stock exchange & other public resorts, & all appeared to be delighted to learn that the Manager of the C.P.R. Co.'s Telegraph had struck it rich, as mining men would say. It appears that while Hosmer was in London recently he was so successful in a deal that his profits reached the splendid sum of £100,000. From being a poor boy Hosmer has become a millionaire." We do not vouch for the accuracy of all the foregoing, though it is pretty well known that Mr. Hosmer has amassed a large fortune. His good luck is gratifying to everyone who knows him, for there is no better fellow made.

F. D. Anthony, Chief Engineer, Ottawa & New York Ry., has moved his office from Cornwall, Ont., to Ottawa.

Direct Taxation in Ontario.

Under the title of An Act to supplement the revenues of the Crown in the Province of Ontario, the Treasurer of the Province has submitted to the Legislature a measure to tax banks, insurance, loan & trust companies & a number of other corporations, including steam & electric railways, sleeping car, express, telegraph & telephone companies. In consequence of the emphatic protests against the measure, it has already been changed in many respects, & it is probable that before it gets through the house a number of other alterations will be made. Following we give a summary of the principal provisions of the bill as affecting the interests we specially represent, as they stand at the time of writing (Mar. 11).

The taxes provided for are to be paid on Nov. 1, 1899, & thereafter on June 1 in each year.

Every railway company operating a line or part of a line of railway within the Province shall pay \$5 for each mile of railway from terminus to terminus operated or used by the company. The word "railway" or the words "railway company" shall not include an electric railway or electric railway company or a tramway or a tramway company.

Every street railway company in any city in the Province & every company working or operating a railway or part thereof entirely or partly by electricity in any city in the Province for carrying passengers shall pay \$20 for each mile of track when the same does not exceed 20 miles in such city, \$35 for each mile of track when the same exceeds 20 miles, but does not exceed 30 miles, \$45 for each mile of track when the same exceeds 30 miles, but does not exceed 50 miles, & \$60 for each mile of track when the same exceeds 50 miles. The mileage shall be computed on the single track, each mile of double track being counted as 2 miles of single track.

Every telegraph company which owns a line or part of a line of telegraph where the same or part thereof is operated or worked by others or by any other company other than the owners within the Province shall pay $\frac{1}{10}$ of 1% on the paid-up capital of such company, but where a company owning the line is taxable under the preceding clause, it shall not be taxable for an additional $\frac{1}{10}$ of 1% under this clause; & every company which operates or works in the Province a telegraph line or part of a telegraph line or one

or more lines or parts thereof under lease or agreement with the owners of such line or lines or parts thereof shall pay $\frac{1}{10}$ of 1% upon the paid-up capital of such company.

Every railway or other company which owns a line or part of a line of telegraph operated in the Province shall pay a tax of $\frac{1}{10}$ of 1% upon the amount of capital invested in the telegraph line or works.

Every telephone company working or operating a telephone line for gain in the Province shall pay a tax of $\frac{1}{10}$ of 1% upon the paid-up capital of such company.

Every gas company and every electric lighting company in any city in the Province shall pay a tax of $\frac{1}{10}$ of 1% on its paid-up capital, but this shall not apply to any gas or electric works owned by a municipality & operated for the purposes of the municipality.

Every express company or company doing express business or a general express business in the Province shall pay \$2,000.

Every company doing business in the province by either leasing or hiring sleeping cars or parlor cars to a railway company, or whose sleeping or parlor cars run upon or are used by a railway company within the Province shall pay $\frac{1}{10}$ of 1% upon the capital of the company invested in cars & rolling stock used in Ontario during the preceding year.

Street or electric railway companies in cities, telegraph companies, telephone companies, express companies & sleeping or parlor car companies which pay the taxes imposed by this act, shall continue to be assessable & taxable for municipal purposes as they were by law assessable or taxable on Feb. 1, 1899.

The assessment & taxation of railway companies shall continue to be made under & in accordance with The Assessment Act, sec. 31, & railways shall not be liable to municipal assessment or taxation in respect or by reason of the crossing of streets or highways by the tracks or roadways thereof.

Nothing in this act shall affect or interfere with any special assessment by a municipality upon property benefited by any local improvement for the cost of such local improvement.

On or before July 1, 1899, & thereafter on or before April 1 in each year every corporation or company on which a tax is by this act imposed & which is doing business in the Province shall without any notice or demand to that effect from the Government deliver in duplicate to the Provincial Treasurer a detailed statement in which shall be set forth the name of the corporation or company, its business, the amount of its capital stock, & the

amount thereof paid up; & in the case of companies under or within clause 13 of sec. 2 the amount of capital of the company used or invested in sleeping or parlor cars or rolling stock of such classes of cars used in the Province during the preceding year, & in the case of railways, street railways or railways operated by electricity & other companies paying a mileage rate the number of miles in operation in any city or cities within the Province. Such statement & the information required by this section shall be made & furnished by & under the oath of the president & manager or of the manager & vice-president having personal knowledge of the affairs of the company & in the case of extra provincial companies by the manager or chief agent of the company in Ontario & the accountant or secretary thereof or by such other person or persons connected with the company or corporation as the treasurer may require & shall be in accordance with one of the forms in the schedule to the act.

Every corporation or company which, & the agent of any company who, neglects to conform to the provisions of the preceding section shall each be liable to a penalty of \$20 a day for each day during which default is made & the company shall also be liable to pay a tax of double the amount for which it would have been liable under the preceding sections, & any penalty or such double tax may be recovered with costs in an action brought in the name of the Treasurer aforesaid to be tried by a judge without a jury.

Dominion Railway Legislation.

No less than 56 applications have been made for legislation in regard to railways at the current Ottawa session.

An application will be made for a charter for a railway from Edmonton via Athabasca Landing & Lesser Slave Lake to Peace River, & to navigate the Athabasca River from Athabasca Landing to the mouth of Little Slave River & onward to Lesser Slave Lake. An extension of time is sought on behalf of the Northern Pacific & Manitoba Ry. Co. for the completion of its undertaking. A company asks power to build from Edmonton to Victoria, & thence by Beaver Lake to South Edmonton. The Saskatchewan Ry. & Mining Co. seeks the right to construct branch lines prior to the construction of the main line. The Red Deer Valley Ry. & Coal Co. asks an extension of time to fulfil its charter. The Bran-

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don & Southwestern Ry. asks power to build west to the boundary of the province.

Among some of the Yukon schemes which will come before the House, the following may be mentioned:—The British Yukon Ry. Co., which has already constructed a line over the White Pass, & operates the same under authority from both Canada & the U.S., seeks power to continue to Fort Selkirk, & on to the international boundary; also to build from Cariboo Crossing or Tagish House to Teslin Lake or river, & branches anywhere in the Yukon, not exceeding 50 miles in length. Three applications are in for charters over the Dalton trail. One project is known as the Alaska & Northern; another is the Pacific & Yukon Ry. & Navigation Co. The last-named company proposes building through the Chilcot Pass to Dalton's Post on the Alsek River, & thence by the most feasible route to a point on the Lewes River below Five Finger rapids. Another concern proposes locating a line by the Stickeen River route, & southerly from the Stickeen to a point on the coast of B.C. They also propose the alternate route by way of the Lynn canal to Dawson, & power to build "branch lines & lines of railway along or near any creek or watercourse in the Yukon district." In the Yukon itself several charters are sought. One is for a road from Dawson City along Klondike River to Hunker Creek, Dominion Creek, Indian River & back to the Yukon, from which the route would lead back to Dawson. Another is from Klondike City along Bonanza, & across to Sulphur Creek & Dominion River, with branches along Hunker, Dominion & Quart creeks, & along any other creek & watercourse, or to any other place in the Yukon district. A third proposes operating a road from Dawson to the forks of the El Dorado & Bonanza creeks, & from Dawson to the divide of Dominion & Sulphur Creeks, with power to build branch lines of 30 miles. The Ashcroft route, which has found many advocates, will be utilized for a railway project, if the application for the right to build a line from Ashcroft to Dawson City, & from Ashcroft southward to the international boundary line, is granted.

Applications are not lacking from other portions of Canada to provide & improve existing means of communication. Among the most important of these is that of the Corbin syndicate, which last session put up such a fight against the C.P.R. for access to the Boundary Creek region of B.C. The application is renewed almost in the same terms as last year. The B.C. Southern Ry. Co. will ask for an extension in time for the completion of its eastern section, & power to connect with the C.P.R. at Golden. The Bedlington & Nelson Ry. Co. will make application for Federal incorporation. Another company proposes building from the C.P.R. main line, between Kamloops & Ashcroft, to Quesnelle, & following the route by the Telegraph trail to Hazelton, or alternately from the same starting point to Barkerville in the Cariboo country, & thence by the Telegraph trail to Hazelton.

While British Columbia & the Yukon will be the chief centres of activity in railway promotion, Manitoba & the Territories will not be overlooked, though the country is covered with charters for unbuilt railways. The Edmonton District Ry. Co. has given notice of a bill authorizing it (in addition to the powers already conferred) to build a line from the line already authorized to the Yellow Head or Peace River pass, & on through the mountains by the most practical route to the Pacific ocean. An alternative proposition is that it be allowed to connect with the projected line of the British Pacific Ry. Co., & that authority be given to construct branch lines to the navigable waters of the Yukon river. It is proposed to change the name of the company to the Edmonton, Yukon, Pacific Ry. Co. The Nipissing & James Bay Ry.

Co. will have a bill before Parliament to extend the time for the completion of its undertaking. An application will come before Parliament for a charter for a railway from Lake Winnipegosis to Edmonton.

Recent British Columbia Legislation.

At the session of the British Columbia Legislature just closed, the following acts relating to transportation interests were passed:—

To incorporate the Kamloops & Atlin Ry. Co.
To amend the North Star & Arrow Lake Ry. Act, 1898.

To incorporate the Vancouver, Northern & Yukon Ry. Co.

To incorporate the South Kootenay Ry. Co.
To incorporate the Atlin Short Line Ry. & Navigation Co.

To incorporate the Big Bend Transportation Co.

To amend the Kitimaat Ry. Act, 1898.

To amend the Kootenay & Northwest Ry. Co.'s Act, 1898.

To incorporate the Cariboo-Omenica Chartered Co.

To amend the Columbia & Western Ry. Subsidy Act, 1896.

To incorporate the Atlin Southern Ry. Co.

To grant a subsidy to a railway from Midway to Penticton.

Respecting the Canadian Pacific Navigation Co.

The Yukon Telegraph Line.

F. Richardson, heretofore Inspector of the Eastern Division of the C.P.R. Co.'s telegraph, has left with a number of assistants for the Pacific coast under instructions from the Dominion Minister of Public Works to construct a telegraph line from Skagway to Dawson as a Federal work. The estimated cost of the line for the distance of 600 miles between the points named is \$150,000, on the basis of \$250 a mile. It is expected that the line will be in operation by Nov. 15, & when it is completed Dawson will be brought within 6 days' communication of Ottawa. Whether the sea link will subsequently be connected by a cable between Vancouver & Skagway, or whether the Government line from Quesnelle in the Cariboo country will be extended northward to connect with the Skagway-Dawson line, has yet to be determined. Mr. Richardson was sent out by the Government last year to report upon the feasibility of a line by the old telegraph trail from Quesnelle, his estimate of cost being \$350,000. This line could not well be completed before the end of 1900, & it has been decided to construct the shorter line first.

Nova Scotia Transportation Questions.

A conference of representatives of the boards of trade throughout N.S. was held at Halifax in the middle of Mar. Among the subjects for discussion were, "Subsidies to trans-Atlantic freight steamships," "Freight rates on the Dominion Atlantic Ry.," "Winter mail service between Canada and England."

In the discussion on the subsidies to trans-Atlantic freight steamships much difference of opinion was expressed. It was, however, pretty clearly established that cheaper ocean freight rates can be obtained from New York, Boston & other U.S. ports, than from Halifax—one delegate showing that the rate on apples from Halifax to London is 75c. a barrel, against 48c. from Boston. It was also pointed out that for 20 years the Dominion Government had subsidized steamers to call at Halifax, & that they then proceeded to Portland to load Canadian products. A resolution against the granting of subsidies was carried.

The discussion on D. A. Ry. freight rates was enlivened by a tilt between P. Innes, ex-Superintendent of the line, & P. Gilkins, the present Superintendent, in which the former charged that the rates were excessive & the latter maintained that they were as low as on any line in Canada, & in some cases lower. The meeting passed a resolution asking the Dominion Government to appoint a railway commission with judiciary powers, on the lines of the English Railway Commission, or the U.S. Interstate Commerce Commission, which would hear & adjudicate upon the complaint of individuals or localities & which would authoritatively fix reasonable rates.

On the question of the winter mail service it was resolved that until the initiation of the fast Atlantic service, the winter mail service between the United Kingdom & Canada should have its winter terminus at a port on the Atlantic coast of N.S., & that in the contract for the performance of each service to be entered into by the Government & a steamship company, while it should be stipulated that the western terminal port should be in Canada, there should be no provision obliging the Company's steamships to proceed to any port other than that at which the mails are to be landed.

Delegates from Sydney brought up the question of improved passenger train service on the I.C.R. in Cape Breton, stating the necessity for fast express trains and alluding to the present trains as "express" merely so as not to hurt the feelings of I.C.R. officials. It was stated that no satisfaction could be obtained from General Manager Pottinger. A resolution demanding an improved service was passed.

A resolution was passed urging the Dominion Government to build a coal shipping pier & provide terminal facilities for handling coal traffic at Pictou.

Railway Committee of Privy Council.

An important session was held at Ottawa, Feb. 22, when a number of cases came up for hearing. The principal one was the complaint of the Sun Oil Refining Co. of Hamilton, associated with which were The Gall Schnieder Oil Co., Montreal; The Atlantic Oil Refining Co., Montreal, & The American Oil Co. The complaint was as follows:

"Your complainants necessarily import from the U.S. & sell in Canada large quantities of U.S. petroleum & its products. According to the uniform classification of freight, prescribed by the Governor-in-Council under the Railway Act & now in force, illuminating oils & lubricating oils in wood are classed as 5th-class for car lots & 3rd-class for less than car lots. The railway companies, by their tariff issued Oct. 1, 1898, have advanced the through rate per 100 lbs. from Toledo to Montreal upon these goods from 29½ to 46½c.; from Buffalo to Montreal, from 17½ to 35½c.; & from Buffalo to Hamilton, from 10½ to 16½c. This advance is unjustifiable & unreasonable, and is made indirectly against manufacturers or dealers in these products in Canada in favor of the Standard Oil Trust of the U.S., which owns & operates large industries for the manufacture of oil in Canada. The associated railway companies, by their tariff issued 16 Jan., 1899, have advanced local rates in Ontario on U.S. petroleum & its products over 50%, while the local rate on Canadian petroleum & its products remains the same as it formerly was. Your complainants cite the following instances in support of the statements contained in the preceding paragraphs, lastly mentioned, under the tariff from Hamilton to the following places: 23¼ miles, Hagersville rate, Canadian 15c., U.S. 25¼c.; 18 miles, Harrisburg rate, Canadian 11c., U.S. 21c.; 12 miles, Copetown rate, Canadian 9c., U.S. 19½c.;

2 miles, Dunnville rate, Canadian 15c., U.S. 10c. & the rates to all other local points are fixed in the same proportion. Under the tariff the charge on the Canadian product has remained the same as it formerly was, & the advance has been on the U.S. product only. The tariffs of Oct. 1, 1898, & Jan. 6, 1899, have been issued & put into force without the previous revision & approval of the Governor-in-Council, & no order in Council has been passed altering the rates previously fixed, as required by the provisions of the railway act. By reason of the facts herein complained of your complainants have sustained loss, & are greatly impeded in the transaction of their business. It was submitted that these tariffs were illegal, & the complainants asked that they be disallowed.

After argument by G. L. Staunton for the petitioners, by G. M. Clark for the C.P.R., & by B. B. Osler for the G.T.R., Mr. Osler announced that the G.T.R. would absolutely withdraw its tariff of Jan. 6. Mr. Clark followed suit for the C.P.R., & the Minister of Railways announced that the Committee would consider the question of the Oct. tariff at a later date, when the question of what is through traffic will have to be decided.

Intercolonial Ry. & St. John Ry. Co.—Counsel for the St. John (street) Ry. Co. strongly opposed the application on behalf of the Intercolonial to compel the electric railway company to assist in the maintenance of protection at Mill street. He claimed that the St. John Co. was the successor & owner of the People's Street Ry. charter granted in 1866., & that 3 of the I.C.R. tracks at the point in question only had been put down in 1883, thereby making the steam road responsible. Moreover, part of the arrangement between the city & the I.C.R. was that the latter road should protect the crossing. Deputy Minister Schreiber asked the Committee to order an interlocking switch to be put in to guard against accident in case the street railway car broke loose on the hill. Decision was reserved.

The Montreal Island Belt Line Ry. Co. applied for permission to construct a branch line from their main line to the Dominion Cotton Mills Co.'s works in Montreal. The line is quite a short one, being but 2,100 ft. in length. Counsel for the Montreal St. Ry. Co., took the ground that the case did not come within the jurisdiction of the Committee & claimed that the City Council had not sanctioned the extension. After argument it was decided that the case stand over till the City Council expresses itself thereon.

Kootenay Ry. & Navigation Co.—Application was made on behalf of this Co.'s subsidiary, the Bedlington & Nelson Ry. Co. for running powers over some 15 miles of the C. P.R.'s Crow's Nest Pass line from or near Creston to Kootenay Landing, the application being based on the statute 60-61 Vic., cap. 5, sec. 1, sub-sec. f, which reads as follows:

"That the Railway Committee of the Privy Council may grant running powers over the said line of railway & all its branches & connections or any portions thereof, & all lines of railway now or hereafter owned or leased by or operated on account of the Co. in B.C. south of the Co.'s main line of railway, & the necessary use of its tracks, stations & station grounds, to any other railway company apply-

ing for such grant, upon such terms as such Committee may fix & determine, & according to the provisions of the Railway Act & of such other general acts relating to railways as are from time to time passed by Parliament, but nothing herein shall be held to imply that such running powers might not be so granted without the special provision herein contained."

J. A. Gemmill, in supporting the application, asserted that the applicant had prior right to the portion of the route required, & that the C.P.R. Co. had taken possession of part of route which had been laid out for the B. & N. R. The physical difficulties rendered the construction of a separate line under present conditions almost prohibitive. The cost would average \$30,000 a mile. G. M. Clark, for the C.P.R., opposed the application & submitted there were no physical difficulties justifying the Committee giving running powers. The Minister of Railways referred to the subsidy given by the Dominion to the Crow's Nest line on the understanding that other roads were to be given running powers. Mr. Clark contended the C.N.P. line had cost far more than the estimate on which the subsidy was based. The case was adjourned to give the parties a chance to come to an understanding on the question of cost before the making of an order by the Committee.

The Brandon & Southwestern Ry. Co. applied for permission to cross with its proposed line the C.P.R. Southwestern Branch near Carrol, Man., & the C.P.R. Pembina Mountain Branch near Deloraine, Man. The hearing was adjourned in order to allow the applicant to put in plans & profiles showing the crossings proposed.

The Maritime Electrical Association will meet in Halifax on or about April 18.

E. L. Drewry, Proprietor of the Redwood & Empire Breweries, Winnipeg, Man., always issues a very handsome calendar. For many years he has used English productions of great merit, but this year he has put out a local work, which is of special interest in Western Canada, as it accurately represents a member of each of the three principal corps—the Royal Canadian Dragoons, the Northwest Mounted Police & the 90th Manitoba Rifles, over the title, "Western Soldiers of our Queen."

The C.P.R. will this season undertake the handling of grain cargoes directly at Owen Sound as it does the other lines of freight arriving there, instead of letting the work out to contractors. For some years past the grain shovelling in the vessels' hold, has been under contract.

COAST & INLAND SHIPPING.

Cheap Transportation on the Lakes.

Statistics for the past year just closed, show that on the Great Lakes, at least, there is still a very wide difference in favor of the water lines. The railroads have charged 1c for carrying 1 ton of coal 4 miles under the conditions which produced the lowest freight rates on American railways. It is well known that the cost of shipping such coarse freight is often brought down below the level which would be practicable if the profits on other merchandise & on passenger traffic did not

pay the fixed charges of the railroad companies. Against this minimum of 1c for every 4 miles 1 ton of coal is carried on land, where the competition between railroads is most severe, there must be placed an average charge of transportation on the Great Lakes which is not over 1c. for every 20 miles for similar freight. That is, the cost of shipping coarse merchandise by water on the chain of inland seas which stretches 1,000 miles through the richest part of North America is only about 20% of the lowest rate for such service on the railroads. Improvements in railroad equipment & methods of operation are offset, from year to year, by equal progress in cheapening water transportation. The result is that the lakes are still of enormous economic value. They not only afford means of transporting many million tons of merchandise at rates much below the lowest which could be had on land, but they keep the cost of moving freight by rail far under the level which would be maintained if it were not for the tremendous force of water competition.—Cleveland Leader.

Fort William Navigation.

President Muir, of the Winnipeg Grain Exchange, in speaking at the recent annual meeting, said: "Your Secretary was directed to interview the Dominion Minister of Public Works, asking the Government to provide means to extend the season of navigation to Fort William, by keeping the river there clear of ice to the last possible date. The result was disappointing, as the Minister failed to grasp the idea outlined in our representations that at a small expenditure the river could be kept open until the date that the Sault river & canal freeze up, thus allowing large quantities of grain to go forward by boat which otherwise must remain at Fort William until the following May, or be shipped all rail to the seaboard at a heavy loss to shippers. Our members were anxious to have Fort William harbor kept open as long as the harbor of Duluth. The Minister seemed to think it was contrary to the will of providence that any such attempt should be made. A proposition is under consideration by which millions of dollars would be spent to improve harbors & railways in Ontario for the purpose of retaining the grain trade to Canadian ports; yet the small amount required for improvements at Fort William has been refused. I trust the Dominion Government will deal with the matter during the year in a more practical way than they have dealt with it in the past."

Winter Navigation of the Lakes.

F. B. McCormick writes from Pelee Island, Ont., to the Marine Record: "For many years this very important question has been discussed with more or less intensity & then suffered to drop into indifference again. I think I may opine that in the minds of practical men its entire feasibility is fully admitted. Since Capt. W. Clinton, of Windsor, Ont., nearly 30 years ago built the ferry steamer Victoria, after which the other Detroit River ferries have been modeled & improved, the fact of winter navigation has been fully established. But with the enormous growth of the lake marine, new & extended necessities have

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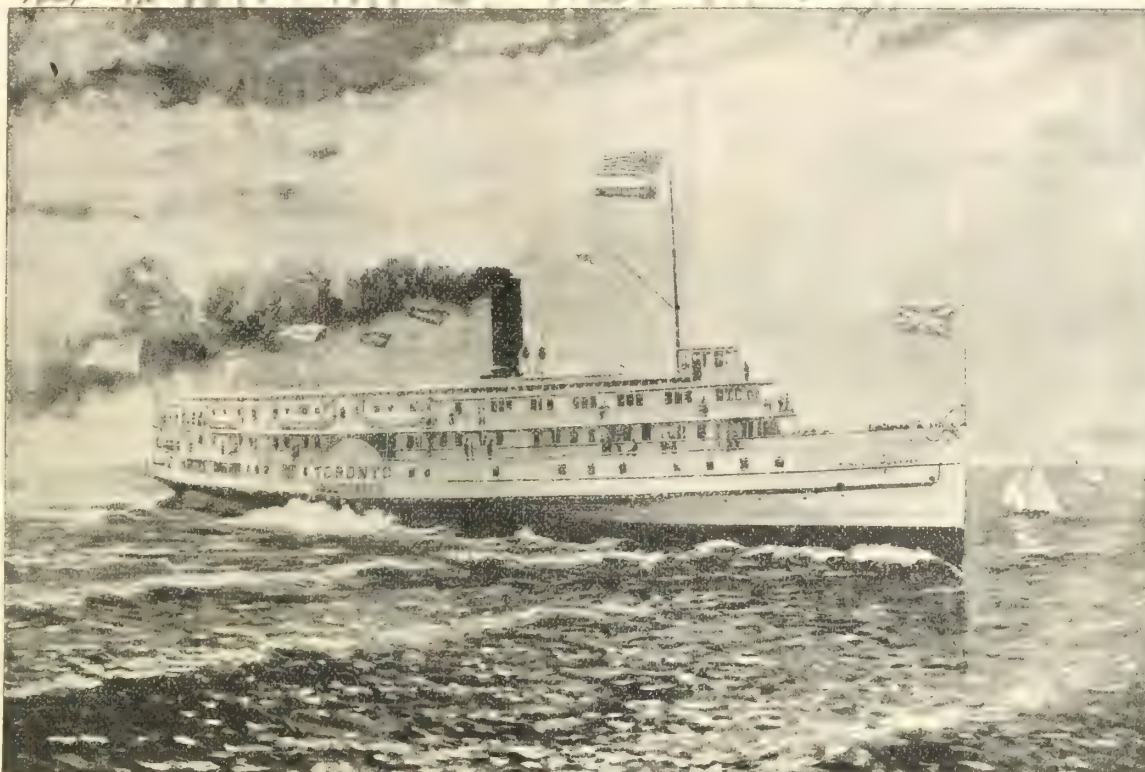
arisen, & the imperative need of such service is conceded. If there existed across or through the Great Lakes natural winter channels like that which is open to-day from Wheatley, Ont., via Point Pelee, Pelee Island & Kelley's Island to Sandusky, Ohio, to the eastward of the Islands, entirely free of ice all winter long, simply because the ice is held up the lake by the chain of islands, then this winter navigation would be but a simple problem. If, then, we may say that this question is no longer a matter of doubt, the only question remaining is the financial one, 'Will it pay'? I think so. By the building of a few powerful steamers, with bows very like the ordinary whaleback, but especially strengthened to stand the strain of ice-breaking, & with a beam somewhat greater than her consorts, so as to give room for their ready passage in her wake, a steamer or heavy steamers can be built which will head the van & be the pilots of their fleets. As all the nautical world knows, the modern ice-breaker does not cut, she simply rides the ice down by & under her receding stem, as she glides over & bears it down beneath her. The ponderous hulls which crowd our waters, with only slight modifications, can be made to work both winter & summer, & the additional expense, especially if these vessels lead fleets of freighters, will not be a bar to success."

Richelieu & Ontario Navigation Co.

At the meeting of directors, Mar. 8, Capt. H. Esford was appointed commanding officer of the new steamer Toronto. The new vessel was naturally a prize which was looked on with envy by a great many of the old commanders in the fleet, & there has been a good deal of rivalry as to who would secure it. Capt. Esford was the choice of the committee of management, & the directors endorsed the decision. Capt. Esford was commanding officer of the Corsican, & has been in the employ of the Co. as pilot & officer for a good many years. Capt. McGrath, who commanded the Bohemian last year, will take the Corsican, while the Bohemian will be under Capt. Dunlop. Capt. Esford is a resident of Barriefield, a suburb of Kingston, & is well known, particularly at the ports touched by the Western line, as he is the oldest captain in the Co.'s employ on that line. We mentioned him last July as the man who would get the position and our forecast has been borne out.

The other appointments are as follows:—Capt. Boucher, for the str. Quebec; St. Louis, the Montreal; Gouin, the Berthier; E. Gouin, the Terrebonne; Raymond, the Cultivateur; Paulin, the Chambly; Dougal, the Canada; Riverin, the Carolina; Lapierre, the Saguenay; Grange, the Spartan; Crepeau, the Mouche-a-Feu; Berthiaume, the Sorel; & Faubert, the Riviere-du-Loup.

The time table for the coming season has been arranged. The mail steamers will this summer leave Toronto at 2.30 p.m. daily, instead of 2, which was the time during previous



RICHELIEU AND ONTARIO NAVIGATION CO.'S STEAMER TORONTO.

seasons. The only boat making a call at Charlotte, N.Y., will be the Toronto. In Toronto she will dock at the Yonge Street slip side of Milloy's wharf, the old wharf being too short for her.

In January we published an illustration of the str. Toronto from a photograph taken in Toronto Bay. The illustration published on this page is from a drawing which the management has had made, & which is more of a broadside view.

L. E. & D. R. R. Co.'s Lake Erie Line.

The Lake Erie & Detroit River Ry. Co.'s car-ferry Shenango No. 1, after being stuck in the ice on Lake Erie for 5 weeks, made Port Stanley on Mar. 1. W. Blanck, who went from Detroit to release her by the use of dynamite, said on his return: "When we tried to get out to the craft the first time she was about 15 miles out in the lake off Port Burwell. We made a trip toward her for 8 miles over the ice & then struck clear water & were forced to take to the open boat we had along with us. But the ice crushed in about the sides of our skiff & we were forced to turn back. We made the attempt again the next day, crossing the wide stretch of ice on skates & pulling behind us a flat boat fitted with runners. The ice we went over was firm & glassy, though only from 1 to 4 ins. thick. We reached the boat the next day & cleared away the ice around her with dynamite. Then we got the ferry to about 2½ miles below Clear Creek, but were again blocked at this point. We saw it was no use to make further efforts till the weather moderated & the ice in some measure cleared away. It is now piled up far higher than the gunwales of the craft, & I am not exaggerating when I say it is fully 40 ft. thick." It may be added that when the Shenangos, Nos. 1 & 2, were running for the former owners they met with similar difficulty. They are not high-powered car carriers of the kind that are used in the Straits of Mackinac, & in crossing a long stretch of open water on Lake Erie they are not able to keep up a regular service, even in the heavy weather of fall months.

The Co. is overhauling the str. Flora at Sandwich, in fact she is practically being rebuilt & put in first-class shape. The old boilers & engine are being replaced by new ones. She is also being refurnished throughout with electric light. The improvements will cost from \$25,000 to \$30,000. She is expected to be ready for service by the end of May or middle of June, when she will run on the Cleveland, Rondeau & Port Stanley route in connection with the Co.'s railway.

In the railway betterment news on an earlier page of this issue mention is made of the slip dock to be built by the Co. at Rondeau. When it is completed, early in June, the Shenango No. 1 will call at that port in addition to Port Stanley. It is not the intention to abandon Port Stanley or Port Dover. When the arrangements are completed at Rondeau the Shenango, & perhaps other ferries, will be run between Conneaut & Rondeau & Sandusky & Rondeau.

E. C. Walker, Walkerville; F. H. & J. H. Walker, Detroit; Dr. S. A. King, Kingsville, & W. Woollatt, Walkerville, are applying for incorporation as the Lake Erie Navigation Co., Ltd., with a capital stock of \$40,000.

Dominion Notices to Mariners.

The Department of Marine has issued the following notices:

No. 8, Feb. 24. North Atlantic Ocean, off Nova Scotia.—Dangerous wreckage.

No. 9, Feb. 27. New Brunswick.—1. Beaver Harbor whistling buoy. 2. Change in position of the back range-light on Pointe du Chêne railway wharf.

No. 10. Nova Scotia.—Buoyage of West Dublin Bay and Crooked channel.

General Shipping Notes.

The str. Pro Patria, which runs between Halifax & St. Pierre Miquelon, is being equipped with electric lights.

Capt. J. McGowan, last year on the Ottawa River Navigation Co.'s str. Duchess, will

and the steamer now being built in Toronto, to run between Ottawa & Toronto.

It is expected that as a result of recent purchases of coal & iron properties in Newfoundland & Cape Breton, iron shipbuilding in the Maritime Provinces will soon be an accomplished fact. An endeavour is being made to start it in Halifax.

A meeting of the various local societies of marine engineers, under the name of the National Association of Canadian Marine Engineers, was decided on at a recent meeting in Toronto. It was decided to hold the first convention in Montreal as soon as possible after the close of navigation this year.

Application will shortly be made for the incorporation of the Richelieu River Navigation Co., with headquarters at St. John's, P.Q., & with a capital of \$25,000, which it is understood has been subscribed. We gave on page 55 of our last issue a description of a steamer which is being built for this Co. by the Polson ironworks, Toronto.

Probably the most notable vessel built during the past year in the shipyards of the Ohio and Mississippi rivers is the str. Kate Adams, for the Memphis & Arkansas City Packet Co. It is more than probable the construction of the Adams will mark a new era in shipbuilding on rivers. She is the first steel hull side-wheel packet boat built for passenger & freight service on the rivers. As strength has been sacrificed in large wooden steamers of the river type to secure lightness of draught, particular attention has been directed to the results obtained from the adoption of steel for this hull. When this boat went into commission with complete outfit on board, her draught was only 3 ft. 3 ins., whereas 2 boats having wooden hulls, built at the same yard, of the same general dimension, & exactly the same engine & boiler power, each showed under similar conditions a draught of 4 ft. 4 ins.—Marine Record.

In British Columbia Waters.

Capt. Ford is having a steamboat built at Lulu Island.

A. Ansberg is having a steamboat built at Vancouver for Fraser River salmon business. She will be 92 ft. long & cost about \$16,000.

Mackenzie Bros., Vancouver, are building another steamer of the type of their present vessels, the Fingal & Staffa.

The str. Alpha, brought round the Horn last year & used in the northern B.C. trade, is advertised for sale at Vancouver, B.C.

The C.P.R. tug Ymir will be launched as soon as the ice has broken up. When she is afloat the str. Nelson will be laid up for repairs & the Ymir will ply between Nelson & Kootenay Landing with the Co.'s freight barge.

R. P. Rithet & Co., in their last monthly report, say: "During the first part of the month

grain freights improved appreciably, but as foreign markets made no response, exports could do little business & rates have weakened again. The close, however, still shows some improvement on our previous quotations. Weather conditions being favorable owners are asking advanced rates for new crop loading, & 30s. is the last indication. The course of lumber freights has been steadily forward, & quotations have had to be marked up for every destination. Vessels continue so scarce as to justify an opinion that rates are likely to continue on a comparatively high level for some time to come."

Ontario and the Great Lakes.

The str. Alexandria is undergoing an extensive overhauling at Picton.

It is said R. O. & W. B. Mackay will take over the propeller Myles next season.

M. McInnis, of Meaford, is having a tug 60 ft. long, 13 ft. beam, 6 ft. deep, built at Owen Sound.

Capt. T. Donnelly, Kingston, has been appointed inspector for Lloyds, & will resign his position as Government steamboat inspector.

Maitland, Rixon & Co., Owen Sound, are having a tug built, to replace the burned Ainslie. She will be 93 ft long, 18 ft. beam & 10 ft. deep.

The statement recently published in a Niagara Falls paper to the effect that the Niagara Navigation Co. intends building another steamboat is without foundation.

W. J. Poupore, Ottawa, is having built at Kingston a steam launch 43 ft. long, 8 ft. beam, with a 6 x 6 high pressure engine, for use on the Ottawa River from Pembroke.

The owners of the steamers that rescued the schooners Melrose & Minnedosa on Lake Huron last fall, & took them to Alpena, are suing the Montreal Transportation Co. for \$13,000 salvage.

It is said the Hamilton Steamboat Co. is negotiating for the purchase of Oaklands, across Hamilton bay. If a deal is made the Co. proposes to build an hotel & a wharf & make other improvements.

Capt. Melancthon Simpson, formerly one of the best known of Lake Ontario captains, died in Toronto recently, aged 72. He was also a ship builder & a large number of the lake schooners were turned out under his superintendence.

Efforts are being made by people in the localities interested to get one or more good boats, carrying passengers & freight, to run between Windsor & Sault Ste. Marie, along the eastern shore of Lake Huron, calling at Sarnia, Bayfield, Goderich, Kincardine, Port Elgin & Southampton.

Capt. J. Malcolmson died Mar. 4, aged 83, at Hamilton, where he had lived for 60 years. In 1855 he sailed the John Hensen, in 1856 the

John Ray, in 1857 the brig Orkney Lass; from 1860 to 1868 the barque Malta and from 1868 to 1881 the schooner New Dominion. He had a wide reputation as a careful navigator, and in all the years of his sailing was never wrecked. He retired in 1881.

The Thousand Island Steamboat Co.'s steamers New York, Empire State, St. Lawrence, America, New Island Wanderer, Pierrepont & Jessie Bain are being overhauled. The business will be conducted on the same lines as last season. The New York & Empire State will run from Clayton to Montreal, & the America will connect with them from Kingston. It is expected that the improvements being made to these boats will increase their speed.

Capt. Craig, of Port Arthur, Ont., is contemplating a trip to Thunder Cape & probably to Isle Royale, at any rate for a distance toward the latter point, in order to ascertain the condition of the ice between the Cape & Island, for a firm of Buffalo vessel insurance agents who are desirous of inspecting the steamer Harlem, which was wrecked on the outer side of Isle Royale last fall. The wreck lies about 20 miles from Passage Island.—Marine Record.

The 14 ft. navigation through the St. Lawrence system of canals for 1899 is now regarded as an impossibility. The contractors who are unable to push the Galop rapids canal have laid the cause of delay before the government & have been granted an extension of time until the spring of 1900 to complete the work. The deep water steamboat line between upper lake & seaboard must transfer to barges at Kingston, Prescott & Ogdensburg as formerly.

A meeting of representatives of the shipyards on the great lakes was held in Cleveland, Ohio, recently, to discuss the proposed consolidation of shipyard interests. It is stated that the deal will undoubtedly be consummated, & that by the end of April the new organization will be in working order. Practically all the yards on the lakes will be in the combine. It is proposed to purchase outright the Wheeler yard at Bay City. The consolidation will involve millions of dollars invested in shipyard plants & put an end to competition in vessel-building on the lakes.

Ice has been giving the Windsor-Detroit car ferries a lot of trouble. One day recently a M.C.R. ferry attempted to cross the river with a passenger train on board. The powerful steamer made good headway until she got within a few feet of her slip on the Detroit side & then she stuck. The ice had anchored to the bottom. The other car ferries attempted to push her into the slip, but the combined efforts of the 3 steamers failed to get her any nearer. Cables were attached to the ferry & carried ashore, and 2 powerful locomotives were given the task of pulling her into the dock. The combined efforts of the ferries & locomotives finally succeeded in getting her in.

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MATCHES

Two lake charts have just been published by the U. S. army engineers. One of them covers, on a large scale, the St. Mary's River from the canals down to Twin islands in Mud lake, & the other is a general chart of Lake Michigan on one sheet. The engineers have been at work on resurveys connected with the making of these charts for several years past, & they are corrected in every detail up to date. The river chart will be known as St. Mary's River chart no. 2. It takes in both channels, old & new. The Lake Michigan chart extends well across the Straits of Mackinac.

The grain merchants of Montreal are eagerly looking forward to the opening of navigation. It seems, however, now pretty certain that the canals will not be opened until May 1 or after, & in this, as in other respects, the auspices are different from those of last year. Last year the canals were opened about the middle of April, & grain was able to meet some of the first boats, but this year the barges will not be able to get into Montreal until May 5 or 6. Steamers will leave Great Britain for Montreal about April 15, arriving here about April 25, so that there may be 10 days between the arrival of the ships & the advent of the grain-laden barges, unless the Minister of Railways & Canals becomes awake to the importance of the situation. The Kingston Board of Trade has protested against the order of the Government to keep the canals closed until May 1. If the opening is delayed until that date much of the Western grain to come east will be diverted to routes other than the St. Lawrence River.

Yukon & Northern Navigation Matters.

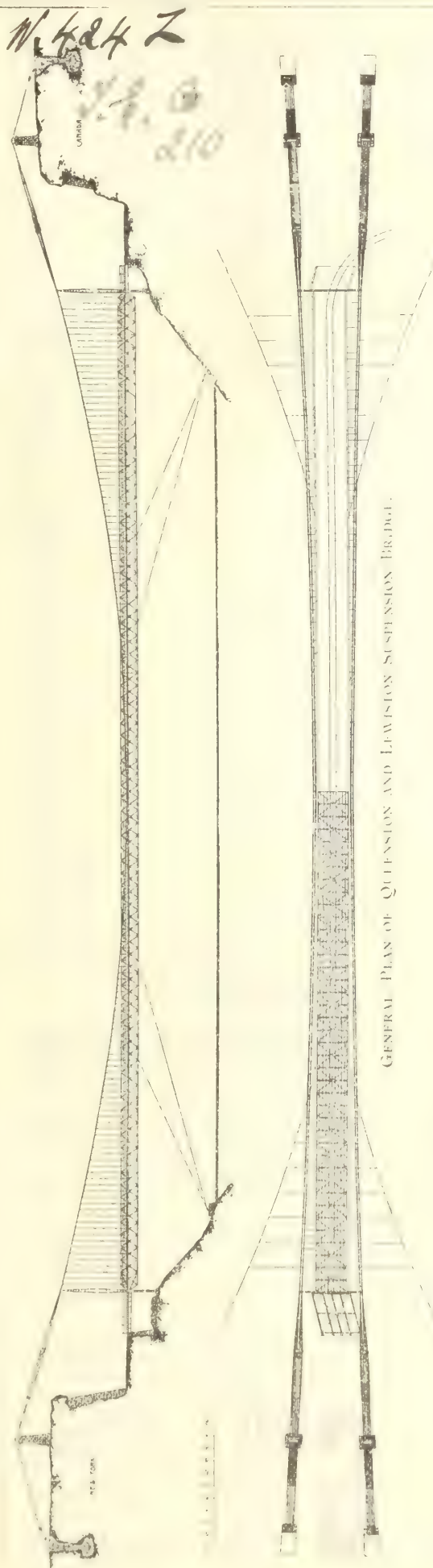
It is said the Alaska Trading & Transportation Co. will place a new line of boats on the lower Yukon this summer.

Large quantities of supplies have been sent north from Victoria for the Bennett Lake & Klondike Navigation Co.'s steamers on the northern lakes.

The str. Willie Irving, though a stern wheel-er only 80 ft. long & 20 ft. beam, made \$23,000 on one round trip last year. She made 10 trips during 4 months of last season, & is the boat that shot the Five Finger rapids 2 miles in length in 2½ minutes.

The latest Klondike flotation in England is the Bennett Lake & Klondike Navigation Co., with a capital of £100,000. Mr. Lowles, M.P., is Chairman. The flotation excites some adverse comment. The Westminster Gazette says the new shares will be left to gamblers, who have underwritten them upon terms the directors do not find convenient to disclose, making use of the obnoxious waiver clause to hide the contracts from those whose money they seek.

It is expected there will be at least 3 steamers on the Skeena river this year—2 to be operated by the Hudson's Bay Co., & 1 to be under the management of an English syndicate. From the manner in which northern traffic is now shaping itself, it would seem as though there will be quite a rush into the Omineca country this year, several large parties having already started out with the intention of going into the country over what is known as the Greece trail, leading inland from the Naas river. Port Simpson business men have big expectations of what a mining excitement will do for them this coming season, & are looking forward to early navigation on the river, basing their calculation on a mild & open winter, which they regard as a hopeful sign of the ice all disappearing with the first blush of spring. At Cunningham's a start has been made to provide increased wharf accommodation for the steamer belonging to the syndicate referred to.



ELECTRIC RAILWAYS.

Queenston-Lewiston Bridge.

We published last month, page 59, a brief description of the suspension bridge building across the Niagara river near Queenston, Ont. The illustration now given shows the general design and construction of the bridge & tells about all that there is to be told now about this structure. It will be noticed that it is built without stays, thus conforming to the views of many of those who have recently written about the New York and Brooklyn Bridge. It will be noticed also that the cables are spliced for a considerable length at either end with eyebars. This was done, as we explained last month, because the cables taken from the upper suspension bridge at Niagara Falls were not long enough to carry the whole length of the span and yet were long enough and good enough to be used so far as they would go.

The peculiar location of this bridge, by which the towers are founded so much higher than the landings, permits and requires a novel construction, namely, the use of the rocker bents at each end of the stiffening truss. These bents support the cables at that point. They are hinged at the shoe, at the end of the truss, and at the top, and they act in themselves as towers.

The principal dimensions of the bridge and of these bents can be taken off the engraving. The bridge is 1,040 feet between towers and 800 feet between rocker bents and 28 feet wide between trusses.—Railroad Gazette.

Work on the bridge has been suspended owing to the dangerous condition of the ice-covered cliffs on both sides of the river. Nothing further will be done on the bridge until the weather makes the conditions better. There is no possibility of having the bridge ready for use until the spring. The retaining walls on both sides of the river have been finished and the pier work is practically complete. As soon as work is resumed the superstructure will be put in its place.

Consolidation of Electric Lines.

On Feb. 27, the Buffalo, N.Y., Commercial said: "The most stupendous business deal in the history of Buffalo, both in point of public & private interests concerned & in the amount of capital involved, is about completed. It involves some \$25,000,000 of capital. Briefly, it is the sale of the entire street railway system of Buffalo & a number of suburban lines. The deal includes the properties of the following companies: The Buffalo Ry. Co., the Buffalo Traction Co., the Buffalo, Bellevue & Lancaster Ry. Co., the Buffalo & Niagara Falls Ry. Co., the Buffalo & Lockport Ry. Co., the Niagara Falls Park & River Ry. Co. (running along the river bank on the Canadian side), the Niagara Falls & Clifton ridge Co., & the Lewiston & Queenston Heights Bridge Co. This immense combination of interests has been sold to a syndicate composed of New Yorkers & Philadelphians, & all of the interests named are to be consolidated under one management. A summary of the capital stock & bonded indebtedness of all the corporations involved, with the exception of the Capital Stock of the Niagara Falls & Clifton Bridge Co., which could not

be obtained, is as follows: Buffalo Ry. Co. (including Bellevue & Lancaster road), \$15,250,000; Buffalo & Niagara Falls Ry. Co., \$2,150,000; Buffalo Traction Co., \$3,858,000; Buffalo & Lockport Ry., \$1,500,000; Niagara Falls Park & River Ry., \$1,000,000; Lewiston & Queenston Heights Bridge Co., \$285,000, making a total of \$24,105,000."

An Electric Railway Decision.

One, Fraser, desiring to ride on a trolley car belonging to the London St. Ry. Co., & finding all the seats occupied, & the rear platform crowded, jumped on the foot board running alongside the car, while it was in motion. The car had to cross a bridge, on approaching which there was a curve. This caused Fraser to sway out as the car entered the bridge & strike a post thereon by which he was thrown out & injured as there was only 14 inches between the post & the side of the car. Held by the Ontario Divisional Court that the plaintiff must be taken to have been invited to occupy the footboard by the Co., & while there, should have been carried in safety, which could not be done on account of the manner in which the bridge was constructed, therefore there was negligence. The jury at the trial gave a verdict of \$3,300. The Divisional Court thought this excessive & ordered a new trial, unless plaintiff accepted \$2,000 & costs.

Galt, Preston & Hespeler St. Ry. Co.

The report presented at the annual meeting, Jan. 31, stated that the business of 1898 had been fairly successful, the earnings showing considerable increase. The passengers carried numbered 235,495, against 221,674 in 1897. The freight carried was 12,716 tons, against 12,973 in 1897. The increase in earnings from all sources was \$1,191.99. The drop in freight tonnage is owing to the fact that during half of 1897 a freight business was done with Berlin, which ceased Dec. 31, 1897.

A number of additions and improvements to the plant were made during the year. The financial statement is as follows:

RECEIPTS, 1898.	
Balance, Jan. 1, 1898.....	\$882 64
Earnings—Freight.....	\$5,043 43
Passenger.....	13,773 09
Miscellaneous.....	350 45
Demurrage.....	19,766 97
Coal sold.....	43 00
Supplies sold.....	42 54
Paid overcharges by C.P.R.....	579 08
Cash from 6th call.....	7 22
Telephone.....	3,617 50
Cash from overdue freight.....	0 25
Bill payable.....	14 07
Cartage repaid.....	3,000 00
Ocean Insurance Co.....	11 36
	10 00
	\$27,974 63

EXPENDITURES, 1899.	
Refund overcharges freight.....	\$20 45
Refund passengers.....	7 30
Wages.....	9,367 84
Repairs.....	572 21
Fuel, oil and waste.....	2,619 09
Supplies.....	2,629 24
Insurance, fire and accident.....	710 47
Construction.....	1,287 41
Cartage account.....	142 49
Paid overcharges freight for C.P.R.....	5 74
Maintenance.....	102 06
Equipment.....	217 76
Interest.....	4,419 35
Bills payable.....	3,692 16
Park attractions.....	57 00
Taxes.....	84 40
Horse killed.....	90 00
Postage.....	28 70
Telephone and telegraph.....	29 88
Rent of office at Hespeler.....	36 00
Directors' fees for 1897 and 1898.....	568 00
Sundries.....	438 25
Balance in bank.....	848 83
	\$27,974 53

ASSETS, DEC. 31, 1898.	
Plant, including real estate, machinery, rolling stock, etc.....	\$121,611 59
Office furniture.....	111 35
Stationery, etc.....	275 00
Unexpired insurance.....	386 34
Accounts debtors.....	331 39
Supplies as per inventory.....	5,950 00
Coal, oil and waste as per inventory.....	194 13
C. P. Ry.....	1,051 35
Cash in bank and on hand.....	848 83
	\$130,759 98

LIABILITIES, DEC. 31, 1898.	
Shareholders.....	\$27,912 50
Bonds.....	100,000 00
Outstanding accounts.....	1,308 87
Interest accruing due.....	958 90
Balance.....	579 71
	\$130,759 98

The following directors were elected: H. McCulloch, President; M. A. Todd, Vice-President; J. W. Leonard, J. D. Moore, D. Spiers, F. Clare, W. H. Lutz.

Hamilton, Grimsby & Beamsville.

At the annual meeting, Jan. 23, the report showed an increase of \$760 over 1897. The Co. paid 5% dividend, & showed a surplus for the year of \$295.10. The heavy snowstorm in Dec. stopped operating for a week, which cut down the revenue fully \$1,200. The freight, fruit & express business is steadily increasing, & should the line be extended to St. Catharines—some 12 miles further—delivering C.P.R. freight & express cars to the centre of that city, no doubt it would be a great benefit to that district & increase the Co.'s revenue considerably.

ASSETS, DEC. 31, 1898.	
General construction account.....	\$265,232 46
Tools and implements.....	1,774 73
Material.....	2,017 03
Horse and wagon.....	268 00
Furniture—office and stations.....	752 20
Coal on hand.....	850 00
Outstandings—freight, milk, express, etc.....	770 36
Insurance—unearned guarantee.....	232 50
Cash on hand and in bank.....	262 72
	\$272,160 00

LIABILITIES, DEC. 31, 1898.	
To the Public—	
Bonds.....	\$85,000 00
Mortgages on real estate.....	7,000 00
Bills payable.....	8,900 00
Open accounts payable.....	2,746 71
Bank of Hamilton loan.....	20,000 00
Sundry items—T. H. & B., C. P. R., etc.....	140 60
Wages—accrued but not paid.....	596 57
Interest accrued—Bank of Hamilton.....	750 00
Interest accrued—mortgages.....	152 50
" " bonds.....	708 34
Dividend Jan. 1.....	1,416 25
	\$127,410 97

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Canadian Pacific Railway Company.

Dividends for the half year ended December 31st, 1898, have been declared as follow:

On the Preference Stock two per cent.
On the Common Stock two per cent.
Warrants for the Common Stock dividend will be mailed on or about April 1st to Shareholders of record at the closing of the books in New York and London respectively.

The Preference Stock dividend will be paid on Saturday, April 1st, to Shareholders of record at the closing of the books at the Company's London Office, 1 Queen Victoria Street, London, E.C.

The Common Stock transfer books will close in London at 3 p.m. on Tuesday, February 28th, and in Montreal and New York on Friday, March 10th. The Preference Stock books will close at 3 p.m. on Friday, March 10th.

All books will be re-opened on Thursday, 6th April. By order of the Board.

CHARLES DRINKWATER,
Montreal, February 6th, 1899. Secretary.

Notice to Shareholders.

The Eighteenth Annual Meeting of the Shareholders of this Company for the election of Directors and the transaction of business generally, will be held on Wednesday the fifth day of April next at the principal office of the Company at Montreal, at twelve o'clock noon.

The Common Stock transfer books will close in London at 3 p.m. on Tuesday, February 28th, and in Montreal and New York on Friday, March 10th. The Preference Stock books will close at 3 p.m. on Friday, March 10th.

All books will be re-opened on Thursday, April 6th.

By order of the Board,
CHARLES DRINKWATER,
Secretary.

Montreal, 6th February, 1899.

To the Shareholders—	
Capital stock.....	\$113,300 00
Profit and loss account.....	31,449 03
	144,749 03
	\$272,160 00

REVENUE ACCOUNT, 1898.

Passengers.....	\$34,060 15
Milk.....	922 58
Freights.....	5,521 66
Extra baggage.....	91 40
Express.....	1,628 13
Mail.....	438 00
Rents.....	71 50
	\$42,730 42
Wages.....	\$13,920 32
Car repairs.....	1,625 27
Power house expenses.....	1,028 58
Repairs to road bed and track.....	1,386 43
General expenses.....	2,157 77
Fuel—Coal.....	2,960 52
Lubricants.....	166 21
Water rates and taxes.....	574 10
Printing and stationery.....	651 16
Insurance—fire, guarantee and liability.....	1,203 46
Rents.....	238 00
Advertising.....	591 15
Repairs to buildings, etc.....	82 27
Interest—sundries.....	1,251 40
Repairs to overhead lines.....	100 06
Legal expenses.....	663 50
Repairs to telephones.....	30 66
Commissions, etc.....	60 50
Clothing.....	111 99
	\$28,751 31
Net earnings.....	\$13,985 11
Fixed Charges—	
Interest on bonds.....	\$4,250 00
" " mortgages.....	370 00
" " Bank of Hamilton loan.....	750 00
Dividends.....	5,665 00
	\$11,035 00
Balance to profit and loss.....	\$2,950 11

The directors & officers for the current year are:—President, C. J. Myles; Vice-President, W. J. Harris; other directors, L. Bauer, R. Ramsay, A. H. Myles, J. Gage; Treasurer, R. S. Martin; Secretary & Manager, A. J. Nelles.

Two of the Co.'s conductors were recently fined \$5 & costs each at Winona for charging fares in excess of those allowed by the Saltfleet Township by-law. The Treasurer of Saltfleet municipality was complainant. The Co. will appeal.

R. McCallum, Engineer of the Ontario Public Works Department, recently made an inspection of the line as directed by the trial judge in suit brought by Saltfleet municipality against the Co. Engineer Patterson has also been over the line, it being intended to compare his report with Mr. McCallum's at the trial.

Maritime Provinces Electric Lines.

The Bedford Electric Co., with headquarters at Halifax, is capitalized at \$250,000. It proposes to install an electric plant at St. Margaret's Bay, to transmit light & power to Halifax & other points in the vicinity, & to furnish power for the operation of an extensive pulp mill to be erected. The transmission line will be 18 miles in length, & the pipe line from the power house to the dam about 4,000 ft. in length. It is also proposed to operate an electric tramway to Halifax. M. M. Keefe, Halifax, is President, & A. E. Soulis, Manager & Secretary.

Halifax Electric Tramway gross earnings for Jan., \$16,559.07, against \$15,133.24 for corresponding period. The Co. at the beginning of the year began selling ticket-books of 25 for \$1.

Moncton St. Ry.,—B. F. Pearson, a director, & F. A. Huntress, Manager of the Halifax Electric Tramway Co., who recently visited Moncton, have made their report to the owners of the railway in regard to the Street Ry. Co. obtaining the street ry. & municipal gas & electric light under one company, the City to turn over the works and business to the St. Ry. Co. for a certain number of years for cer-

tain compensations. The matter has been laid before the City Corporation for action & is under consideration.

Trenton to Westville.—A project is on foot to build an electric railway between Trenton & Westville, N.S., via New Glasgow & Stelarton.

Ontario Electric Railways.

Brantford St. Ry.—We were officially informed on Feb. 16 that the directors had not considered the rumored extension of the line to Cainsville. (Dec. '98, pg. 271.)

The Brantford Courier says it has seen some letters which have recently passed between one of the projectors of the electric road between Hamilton & Brantford & a leading resident of Cainsville. The correspondence states that the project is in capital shape & that it is expected that a start will be made in time to have the road "open for the summer business." The plan is to run along the Stone Road through Cainsville & to put a steel bridge over the G.T.R. crossing at that point. The structure will consist of a span 40 ft. wide & 20 ft. high. If the bridge over the T. H. & B. is not found to be wide enough to leave a carriage way on each side of the rails special provision will also be made to get over that line in a safe manner. One letter says: "We have raised most of the capital required to start with on our present charter."

Cornwall Electric St. Ry.—The work of getting the plant in running order has been found by the Sun Life Assurance Co. to involve extensive repairs & renewals to the machinery, & it will probably be a week or two yet before the service is in first-class shape. A quantity of the property of the Co. not covered by the mortgage has been sold by the sheriff, including material, the carroussel & boats at the park, &c. Mr. Bradley, formerly of the Hull Electric Co., has been placed in charge of the line.

The Hamilton, Chodoke & Ancaster Electric St. Ry. Co. is applying to the Ontario Legislature to change its name to the Hamilton, Ancaster & Brantford Ry. Co., to increase its capital stock from \$100,000 to \$300,000, & to empower it to build from its present proposed terminus, at Duff's Corners, to the city of Brantford, & a branch line to Sulphur Springs, Ancaster Township.

Hamilton Radial Electric Ry.—At the recent annual meeting the following directors & officers were elected: President, A. Turner; Vice-President, W. A. Wood; other directors—J. Dixon, A. Zimmerman, J. Moodie, jr.; Treasurer, J. Moodie, sr.; Secretary, S. E. Malloch. It is said to be possible that the Co. may extend its line to Oakville this year.

Hamilton St. Railway.—At the recent annual meeting the following were elected: President, E. Martin; Vice-President, J. A. Bruce; other directors—W. Gibson, B. E. Charlton, I. Beer, W. J. Harris, F. W. Fearman.

The earnings of the Co. in 1898 were \$112,965.63, on which it paid the city 6%. The mileage is about 16 miles, on which it pays the City \$400 per mile a year. The payments for percentage & mileage aggregated \$14,310.10.

The Co. recently asked the City for a rebate of taxes on personality & realty of \$64,610. In 1898 the Co. paid taxes on an assessment of \$128,360, & the assessment for this year was reduced to \$63,750 by the Board of Judges. Under the judgment of the Board of Judges the Co. claims not to be assessable for \$50,000 personality. The application was refused.

London St. Ry.—Following are comparisons of the past 2 years' business:

	1898.	1897.
Car earnings.....	\$109,927.57	\$89,937.68
Miscellaneous revenue.....	\$4,184.23	\$2,434.86
Operating.....	\$114,111.80	\$92,372.54
Net earnings.....	\$18,146.52	\$42,914.01

Passengers carried.....	2,811,558	2,585,480
Car miles.....	1,074,302	944,343
Earnings per car mile.....	10.59	10.73
Earnings per passenger.....	4.00	3.92
Earnings per cap. of popu.....	2.95	2.66
Operating per cent. of earnings.....	57.7	57.6

The earnings for Jan., 1899, were \$8,194.38, compared with \$7,705.18 for Jan., 1898.

Earnings for Feb., \$7,391.28, against \$6,657.85 for Feb., 1898.

The Board of County Judges, appointed to hear the appeal of the Co. from the decision of the Court of Revision against the assessment of its property, has given judgment. The reductions made amount to \$202,000. The assessment on rails, poles & wires was \$136,780, divided in wards. By expert measurement it was found that No. 4 Ward was assessed for 6,560 ft. too much, which, at the rate of \$7,000 a mile, took \$8,750 off the original assessment, leaving the assessment \$128,030. The bridges were assessed for \$19,220, & the assessment was reduced to \$9,000. The assessment on that portion of the asphalt pavement laid by the Co. was \$22,817, & the cars were assessed for \$50,000. Afterwards the assessment was amended by adding the value of streets the cars run on, \$132,000, & the decision reduces the amount to \$33,000. The board fixed the assessment on rails, poles & wires, making for 18 miles \$108,000.

Metropolitan St. Ry.—A switch was recently put in by the C.P.R. on its North Toronto line, near Yonge St., with the intention, it is said, of connecting with this Co.'s line, so as to provide a through freight service to points north of Toronto to compete with the G.T.R. The Toronto City authorities, with their usual hampering policy, objected to the connection being made & detailed policemen to prevent it.

Niagara Falls Park & River Ry.—At the annual meeting Feb. 7 the following were elected: President, E. B. Osler; Vice-President, W. Hendrie; Secretary, R. A. Smith; other directors, R. B. Angus, H. C. Hammond, A. R. Creelman, S. B. Sykes. The Co. does not make public its report & the latest figures available are up to June 30, 1897, as follows: Length of line 13.68 miles. Ordinary share capital, authorized \$1,000,000; subscribed \$600,000; paid up, \$592,630. Bonded debt authorized \$690,000; issued \$600,000. Capital from other sources subscribed & paid up, \$706,638.41. Total capital subscribed, \$1,906,628.41; paid up, \$1,298,988.41. Floating debt, \$706,628.41 at 4 & 7%. Total cost of railway & rolling stock, \$907,539.19. The net earnings for the year ended June 30, 1897, were \$11,372.78. No dividend has yet been paid.

The Co. has sued the town of Niagara Falls, to recover \$124.42, paid as taxes on a \$6,000 assessment on roadway. The Co. claims that the property is a public highway, & therefore exempt.

The Co. is building in its shops at Niagara Falls, 6 large open motor cars, each having a seating capacity of 75.

The annual report of the Niagara Falls Park Commissioners, just presented to the Legislature, states that the Canadian Niagara Power Co., in pursuance of its agreement with the N.F.P. & R. Ry. Co., has installed an electrical plant in the railway power-house, which, it is stated, will furnish about 1,000 electrical horse-power in excess of what is needed for operating the electric railway—of which amount about 600 h.p. has already been put into practical use.

Niagara Falls, Wesley Park & Clifton Tramway Co.—The management of this horse car line has asked the Niagara Falls town council that it be allowed to change from horse to electric power on the present line & to build a branch down Bender avenue to Mowat gate of Queen Victoria Niagara Falls Park, & up Clifton Hill to Center street.

Here the route would change, & instead of following Victoria avenue, as at present, it would continue on Center street to Ellen street & on to Ferry street. A line would also be built out to Landy's Lane, & the right of way would be asked to Victoria & Culp streets, making a loop line to Falls View.

The Ottawa Electric Ry. Co.'s agreement, which expires in 1923, provides for no payment of percentage on receipts. A mileage rate of \$150 a mile per year for the first 15 years, & \$500 a mile for the second 15 years is paid on unpaved streets, & \$1,000 a mile for paved streets, with an initial bonus of \$1,000 a mile for any streets when paved.

Port Arthur-Fort William.—No action appears to have been taken by the Town of Port Arthur to carry out the requirements of the report made by W. Phillips for the Ontario Government, except to put the overhead construction in fairly good order. It is said the Port Arthur Council is holding off in the hope of making some new arrangement with Fort William or getting its act amended by the Legislature. It is contended the work required on the roadbed could not be done in any case in winter. (Dec. '98, pg. 273.)

The town of Port Arthur has been operating the line from Port Arthur to Fort William at a loss, & will likely adopt a new schedule of fares. The present rates are: Cash fares, 5c.; blue tickets, 6 for 25c.; morning & evening tickets, 8 for 25c.; school children, 10 for 25c. For one fare passengers are permitted to ride from end to end of the line—over 7 miles.

St. Catharines & Niagara Central.—D. S. Haines, who is the representative of the people now operating this line, says the roadbed has been extensively repaired already, & by July next the road from Niagara Falls to St. Catharines will be electrically equipped, & a splendid service in operation, with cars modern & up-to-date. The present roadbed will be retained this year, & next year many improvements will be made. Wherever possible the trestles will be filled in, & where this is not practical, steel trestles will replace the wooden ones. Through Merriton the road will run on the ground, doing away with the long stretch of trestle there, & the long curve in rear of the high school in Thorold will be done away with, & a direct line struck from the brow of the mountain. The idea is to get the road on the level as much as possible. Mr. Haines says the road will be running to Port Dalhousie by July 1, next.

Application has been made to the Niagara Falls, Ont., Town Council for permission to extend the line in that town to the Niagara River.

St. Thomas St. Ry.—J. E. Taylor has been appointed Manager. He was formerly connected with the Hamilton, Grimsby & Beamsville Electric Ry., also with the City & Suburban St. Ry. of Portland, Ore.

Toronto Railway.—The City has taken action against the Co. in connection with the overcrowding of the cars. The writ states that the claim is for damages for breach of agreement between the City of Toronto & the Co. providing for the operation of the street railways in the City, dated Sep. 1, 1891, & for a mandamus & injunction, declaration & interpretation as there set out. The City claims that the Co. has broken the terms of the agreement in that the Co. has from time to time overcrowded & still habitually overcrowds its cars & for an injunction to restrain the Co. from continuing to overcrowd the cars. The City claims that the Co. uses, in the operation of the system, cars which are not of the most approved design for service & comfort, as provided by the agreement, but which are dilapidated, worn out & dirty, & for an injunction restraining the use of such cars. The City claims that the Co. has neglected to furnish the City Engineer annually a statement of

tracks, cars & plants & appliances on hand, together with the value of the same, as provided by the agreement, & that special performance of the agreement be ordered by the Co. The City further claims that the Co. refused to give to & accept from passengers transfers, as provided; & the City claims an interpretation of the agreement & a declaration of the rights of passengers to be transferred from car to car on the system. The Co. has entered an appearance in the suit.

The gross earnings are as follows:—

	1899.	1898.	Increase.
Jan.	\$95,690.12	\$86,562.36	\$9,127.76
Feb.	91,860.30	82,402.19	9,458.11
			\$18,585.87

Quebec Electric Lines.

The Chateauguay & Northern Ry. Co. is applying for legislative authority to extend the time for commencing work & for power to sell its surplus electric power, to engage in electric lighting, to extend its railway to Berthier, by a branch line; & to own & operate hotels, restaurants, parks & places of amusement, & to increase its capital stock.

Hull Electric Co.—The Court of Review recently rendered judgment in the case of this Co. vs. the Ottawa Electric Co. & the Corporation of Hull intervenant. By this action the Co. plaintiff asked that the Ottawa Electric Co. be ordered to take away the posts placed by it in the streets of Hull, & it also claimed \$20,000 damages. The action was based on an exclusive privilege granted the plaintiff by a special by-law, afterwards sanctioned by the Legislature. The corporation of Hull having, by a resolution, authorized the Co. defendant to use the streets intervened in the case, protesting against the pretensions of plaintiff. The action was dismissed in the Superior Court, on the ground that the bill passed by the Legislature conferred upon the Hull Co. the exclusive privilege of selling electricity, & as such was ultra vires, being an infringement of the Dominion Parliament's exclusive right to regulate trade & commerce. In review the Court held that the by-law, as passed by the council, purely & simply conferred upon the Hull Co. the exclusive privilege to establish an electric system in the streets of the municipality, which did not necessarily imply an exclusive privilege to sell electricity, & as such it was valid & binding. For that reason the judgment of the court below must be reversed, & the Co. defendant must be condemned to remove its posts & pay \$200 damages.

The Montreal Island Belt Line Ry. Co. wants to extend its track from north of Duquette St. to the cotton mills, & has the support of the City Council in its application to the Railway Committee of the Privy Council in that behalf.

Montreal St. Ry.—The gross earnings are:

	1897-8.	1898-9.	
Oct.	\$133,419.69	\$116,093.09	\$17,326.60
Nov.	125,126.10	110,698.98	14,427.12
Dec.	127,678.00	113,029.33	14,648.67
Jan.	125,276.04	110,155.96	15,120.08
Feb.	113,838.02	102,425.99	11,412.03
			\$72,933.50

The City Surveyor has entered a number of suits against the Co. on account of the overcrowding of cars. General Manager Wanklyn admits that the cars are running irregularly, but says it is the fault of the city by-law more than the Co. The Co. has not enough cars, & cannot make up the deficiency at the moment, owing to the late fire at its shops, & to the clause in the by-law which prohibits it from buying cars built outside of Montreal. But for the latter provision it would buy the additional cars required at once. Forty cars are now being built & will soon be put into service, & 10 more will be put into service in the summer. As to the overcrowding of cars, Mr.

Wanklyn says that the overcrowding is to the Co.'s disadvantage, it being estimated that as much as \$800 a week is lost by conductors being unable to collect fares in overcrowded cars.

In regard to the extension of the Cote des Neiges line, Mr. Wanklyn says:—"This line is built to a point above Pine Avenue, & I cannot say at present that the Co. intends to build it any higher. The grade above Pine Avenue is very steep, & the Co. is convinced it would be unsafe under present conditions to continue it any further. It has been said the reason the Co. did not want to build the line to the city limits was because it would cost so much. Such a reason is a foolish one, as the cost would be but very small. The Co.'s only dislike to going to the top of the hill is simply on the score of safety. We have no doubt that the line would pay very well in summer time.

In the last annual report it was mentioned that a system of cast welding of the rail joints had been introduced which, judging from the results obtained elsewhere, was calculated to produce great benefit, & also to considerably reduce the expense of track maintenance. We are informed that nearly 1,000 of those joints were made last autumn, & so far the results have been thoroughly satisfactory, one joint only having broken during the severe winter weather. It remains, however, to be seen how they will stand the change of temperature in the spring.

Quebec Legislation.—A Quebec despatch of Feb. 14 says:—Few people have probably paused to contemplate the enormous interests involved in the legislation sought at Quebec this session by various electric railway concerns & in the opposition that is made to it. The array of legal talent upon the one side & upon the other the strong stand taken by the members of the House on either side of the question, & the keen character of the argument & of the lobbying that attends the slightest move in connection with the bills referred to, are undoubted indications of the vast interests that are at stake. The town of Longueuil possibly sees an opportunity of doing what the city of Glasgow does, & asks for power to build & operate & purchase or build all the rolling stock necessary for operating a single or double line of tramway, & to lease any railway already existing between Longueuil & St. Lambert; to acquire the lands necessary for constructing the tramway, stations & other buildings required, & to enter into any agreement necessary for running its cars over any other line of tramway to reach Montreal. On the other hand, a strongly worded petition against the powers asked by the town has been presented from residents of the territory between Longueuil & St. Lambert, who express the belief that the municipality cannot afford them an efficient service, & that the granting of the demand would simply shut them out from the benefits of a line likely to be constructed by a powerful Montreal company. Just what company the petitioners have in view is not made clear, but outside of the municipality of Longueuil there are likely to be two competing companies in the field on the south side of the St. Lawrence if present desires are gratified.

The Quebec, Montmorency & Charlevoix Ry.'s earnings for the last 3 months of 1898 were over \$79,000 & the operating expenses less than \$34,000. After deducting $\frac{1}{4}$ of the cost of removing snow in the winter, which is estimated at \$12,000, the net revenue for the 3 months was over \$42,000.

Sherbrooke St. Ry.—In reference to the press rumor that this line had been purchased by F. Thompson & Co., bankers, etc., Sherbrooke, we were informed on Feb. 15 that negotiations were in progress for the purchase of the property, but that nothing had been definitely decided. (Feb., pg. 61.)

It is said the Montreal & Southern Counties Ry. Co., which was incorporated by Dominion legislation in 1897 to build a railway operated by electricity or any other power except steam, from the northern limit of the county of Chambly to Sherbrooke, is intended to connect with the Sherbrooke St. Ry.

American St. Railway Association.—The annual meeting will be held in Chicago, Oct. 17-20 next. The subjects for discussion will be: Maintenance of car equipment—Modern street railway shops; their design, machinery & shop practice—Train service & its practical application—Construction & maintenance of street railway tracks—Investments in street railways; how can they be made secure & remunerative?

B.C. Electric Ry. Co.—The Vancouver City Council has granted leave for a double track extension on Davie Street to English Bay for 11 years on a percentage basis. Beginning this month, drawings will be made at the rate of £2,400 a year to redeem the registered bonds of 1897. Considerable additions are being made to the plant & equipment.

The Co. is having 6 motor cars built in the east.

The Gorge Line.—The Niagara Falls & Lewiston R. R. Co., otherwise known as the Gorge road, went into the hands of a receiver Feb. 16, on the application of a majority of the directors. Justice Childs granted an order appointing J. R. Megrue, of New York city, temporary receiver. All creditors are directed to show cause before G. G. Davidson, referee, in June, why the corporation should not be dissolved, as petitioned by the directors. In the schedules of the assets & liabilities filed the total assets are figured to be about \$1,125,000, & the liabilities about \$1,140,000. The principal assets are the construction account, \$537,801, & the value of lands & right of way \$532,295. The liabilities consist of notes, bonds, mortgages & smaller accounts. Capt. J. M. Brinker, one of the stockholders, & until recently President of the Co., said that the road did not make any money last year, & this fact, with heavy losses from damage suits, was responsible for the insolvency of the Co. It is said the Co. will be reorganized as soon as plan can be agreed upon.

Street Railway Mileage.—At the end of 1898 there were 673 miles of electric railways in Canada, against 510 in 1897. The no. of cars in 1898 was 1,711, against 1,245 in 1897.

Winnipeg Electric Street Ry.—At the recent annual meeting the following directors were elected: J. Ross, Sir Wm Van Horne, R. B. Angus, D. D. Mann, W. Whyte, F. M. Morse & A. M. Nanton.

It is said that, in consequence of recent fatal accidents, the Co. will equip its cars with fenders.

Another dynamo has been added to the Co.'s plant. The plant is also being improved by the addition of a vertical engine of the direct connected type, in the designing of which a number of novelties have been introduced. The engine is 30 ft. long, 15 ft. wide, 22 ft. high, & weighs 60 tons. The high pressure cylinder measures 13 ins. diameter, & 24 ins. stroke, the admission valve being of the pinion balance type, operated by a shaft governor. The exhaust valves are of the Corliss type, operated by a positive eccentric. The low pressure cylinder is 36 ins. in diameter & 34 ins. stroke. The valves on this cylinder are all of the Corliss type, the steam & exhaust being operated by separate eccentrics. The eccentrics & generator are driven from a reduced extension of the main shaft, by which system the eccentrics are reduced to the smallest possible diameter, thus reducing friction to a minimum, also reducing the distance between high & low measure cylin-

ders, & preventing all possibility of oil coming in contact with the generator. The fly-wheel is 15 tons in weight, & is designed with a solid rim and arms, cut separate at the centre & secured to a solid hub, by this means preventing internal strain. Its strength is 500 horse power; velocity, 150 revolutions a minute; initial pressure, 125 lbs. The engine, which represents \$10,000, stands on an iron base plate weighing about 8 tons.

TELEGRAPHS & CABLES.

Winnipeg Office C.P.R. Telegraphs.

On the evening of Jan. 26 the C. P. R. Telegraph Department at Winnipeg shifted its main office from the old quarters at 471 Main St. to the corner of McDermott & Main Sts. The interior of the building, which is a 4-story one, was entirely rebuilt & an extension added to the rear. The ground floor is occupied by the telegraph & ticket offices, the next 2 floors are divided up into offices & leased to outside parties. On the top floor is located the operating room & its adjuncts. On the ground floor the counter, partition & fittings are all quartered oak, the floor is laid with small tiles, the base & the tops of the counters & desks for customers are all of polished marble. The two offices are separated at night by a handsome metal iron gate. The lighting fixtures are arranged for both Auer & electric lights, & are of oxidized copper of a very handsome design. The ceiling is covered with pressed steel plates. It is really the finest office of any description in Winnipeg. Communication is maintained with the operating room by means of pneumatic tubes, the compressed air being supplied by means of a blower & electric motor in the basement. The messengers are located in the rear, having a separate entrance. The offices of B. S. Jenkins, Telegraph Superintendent, & Inspector S. Edwards, on the 3rd floor, are very tastefully furnished, & are connected by tubes & wires with the operating room & the public offices down stairs.

In the operating room the floor is of hard maple, polished & oiled. There are 9 quartered operating tables, providing space for 36 operators, equipped with 7 sets of duplex, 1 quadruplex, 2 half sets of single repeaters & 16 sets of single-line instruments. The tables are of white wood with cherry tops, & are cut so that a portion in front of each operator can be removed & placed at a lower level to permit of the use of a type-writer. All the operators in this office are expert type-writers, & the bulk of the business is received on that machine. Formerly the sound of the different instruments on each table was separated by means of glass partitions, & the instruments raised on small shelves, the top of the table being also cut in 4 parts so as to prevent it acting as a sounding board. This has all been done away with in the new office, the reading instruments (sounders) being placed in small boxes (resonators) elevated on an iron standard; these boxes have a curved top, & are open at the side next to the operator so that the sound is thrown out to him only, & does not become confused with that from other instruments. On the side of the resonators are brass straps for the purpose of holding received telegrams until the office boy collects them. Messages intended for transmission are hung in front of the operator on hooks supported by a brass standard; after being sent over the wire the messages are filed on a hook on the standard of the resonator, & are collected every half hour; they are then checked over carefully to see that they have been properly forwarded & sorted out in a set of pigeon holes.

The desk of the Chief Operator is placed on a raised platform beside the door, so that he

can oversee the whole of the operating room. Beside him is the cabinet containing the battery switches & motor-generators; next to this is the main switch case, which is extended up to the ceiling, forming a small room behind it, into which all the wiring of the office is concentrated. The outside wires are brought in through a window in 19 conductor cables; each conductor ends on a porcelain fuse block, to protect against any abnormal current which may be brought in the office by outside contact with electric light or power wires. These fuse blocks are connected by short wires with earth arresters, intended to intercept any heavy charge of lightning, & short cables connect the ground arresters with the main switch. By following this plan any changes made in the outside wires are straightened out by means of the short pieces between the fuse blocks & the earth arresters.

Each table is connected with a distributing board, by means of 2 cables of 7 conductors each. Underneath the tables these conductors end in a row of binding posts which are connected by short wires to the various instruments on the table. At the distributing board the conductors are arranged in rows of binding posts, one row for each table; these connections take up half of the distributing board. The other half is placed at right angles & contains similar rows of binding posts which are connected through cables with the local switch, main switch, lamp resistances, etc., etc., the terminals running in the same consecutive order at each end of all cables. Connection is made from the table cables by means of short wires bridged across the angle in the distributing board to the cables running to the switch or other desired connection. By the use of this distributing board all terminals are made permanent, & any changes that are required on the tables or switches are made by means of the short wires in the distributing board. The main switch is made specially for this office, all metal parts being separated from the wood work by non-combustible material. Connection is made from the various battery circuits, through a series of incandescent lamps placed at the top of the cabinet. The primary object of these lamps is to, electrically, lengthen out the lead to the battery, so as to avoid any chance of the same being short circuited. Incidentally the lamps are also an indication in case of 2 outside wires coming into contact with each other, or a wire becoming grounded, as they will light up if such happens within a distance of 50 or 100 miles, according to the nature of the wire. Normally the lamps do not show any light, as telegraph currents are not of sufficient quantity. Beside the main switch is the local switch, by means of which any two duplexes or single wires can be connected together in such a manner that they will work through. For instance, a duplex between Montreal & Winnipeg can be connected with a duplex between Winnipeg & Vancouver, so that the operators at Montreal & Vancouver work direct with each other. Over the local switch are a series of small lever switches which are used for the purpose of increasing or decreasing the force required on each duplex set. In the centre of the cabinet is the time transmitter, by means of which the time signals (transmitted daily from Montreal), are automatically given on all the wires radiating from Winnipeg. The usual testing instruments are placed on a cherry shelf in front of the switch.

Inside of the battery switch cabinet are placed 2 motor generators, transforming the 500 volt current down to 120 volts, for the purpose of charging the banks of main batteries. The other machine transforms the 500 volts to 7 volts, for charging the local batteries which are used for working the sounders, transmitters, etc.; these machines are practically noiseless. The face of the cabinet is provided with switches for chang-

ASSESSMENT SYSTEM.



THE BEST FRATERNAL BENEFIT SOCIETY IN THE WORLD.

THE SPLENDID RECORD OF THE I. O. F.

The Magnificent Benefits Paid.

Benefits paid last Year (1897).....	\$ 992,225 60
Benefits paid last Five Years.....	3,401,515 92
Benefits paid last Ten Years.....	4,395,353 72
Benefits paid from organisation to 31st Dec., 1897.....	5,107,867 70

The Growth of the Membership

Membership 1st July, 1881.....	381	Date of Reorganization.....	
Membership 31st December, 1881.....	1,019	Increase in Six Months.....	650
Membership 31st December, 1886.....	5,804	Increase in First Five Years.....	4,785
Membership 31st December, 1891.....	35,303	Increase in Second Five Years.....	26,499
Membership 31st December, 1896.....	142,845	Increase in Third Five Years.....	70,535
Membership 31st December, 1897.....	144,085	Increase during Year 1897.....	21,847

The Expansion of the Surplus.

Surplus 1st July, 1881.....	\$ 0	Date of Reorganization.....	
Surplus 31st Dec., 1881.....	4,508 55	Increase in Six Months.....	\$ 4,568 55
Surplus 31st Dec., 1886.....	53,981 28	Increase in 1st Five Years.....	49,412 73
Surplus 31st Dec., 1891.....	408,798 20	Increase in 2nd Five Years.....	354,816 92
Surplus 31st Dec., 1896.....	2,015,484 38	Increase in 3rd Five Years.....	1,606,686 18
Surplus 31st Dec., 1897.....	2,558,832 78	Increase during Year 1897.....	543,348 40

The Members and Their Assurance.

At 31st December Each Year.

Year.	Total Membership.	Insurance Carried.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,140,000	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	1,276,000	2,967 93	2 61	11.00
1883	2,210	2,490,000	10,857 65	4 91	4.73
1884	2,558	2,923,000	23,081 85	9 01	4.23
1885	3,642	2,283,000	29,802 42	8 18	7.76
1886	5,804	6,764,000	53,981 28	9 30	4.85
1887	7,811	9,120,000	81,384 41	10 44	5.78
1888	11,800	13,714,000	117,821 96	9 98	6.43
1889	17,349	20,478,000	188,130 36	10 84	5.85
1890	24,604	28,498,000	283,967 20	11 54	5.18
1891	32,303	39,495,000	408,798 20	12 65	6.40
1892	43,024	53,243,000	580,597 85	13 49	6.25
1893	51,184	67,781,000	858,857 89	15 76	5.17
1894	70,055	86,306,500	1,187,225 11	16 94	5.47
1895	86,521	108,927,500	1,560,373 46	18 03	5.67
1896	102,838	128,701,000	2,015,484 38	19 60	5.50
1897	124,685	151,310,000	2,558,832 78	20 52	5.36

For Further Information Respecting this Great Fraternal Benefit Society, Apply to

Oronhyatekha, M.D., S.C.R., Toronto, Ont.

James Marshall, 24 Charing Cross, London, Eng.

John A. McGillivray, Q.C., S.S., Toronto, Ont.

A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.

Or Any Officer or Member of the Order.

ing the various banks of the battery from the charging circuit to the discharging circuits, etc. It is also equipped with automatic safety appliances, meters, etc.

The office is well lighted by windows on 2 sides, a light well on the 3rd, & a skylight in the centre, & presents a bright, cheerful appearance. Off the operating room is a small room for storing stationery & typewriters which are not in use, next to this are the women's toilet rooms.

Immediately in the rear of the operating room is the battery room. This is equipped with 301 small cells of chloride accumulator storage battery, divided into 7 equal banks. There are also 8 cells of a larger size working the sounders, 2 cells being in use while another bank of 2 are being charged, the remaining 4 cells are used for the purpose of extending the duplex circuits to the station, about 1 mile away. Although this room is only about 9x17 ft., this is sufficient space for double the plant now in use. In the old office the whole basement was filled up with gravity batteries, some 2,000 cells being required, while with the present plant at least double the number of wires can be worked. Next to this room is the men's cloak, lunch room & lavatories.

In the rear are the rooms of the C.P.R. Telegraphers' Institute. This is a small club formed amongst the operators, officered & run by themselves. There is a small reading room & bookcase, & a fair sized billiard room equipped with a combination billiard & pool table. The furnishing was done by subscription, the officials of the Co. assisting with contributions. It is the intention, as soon as funds warrant, to add a piano to the furniture.

The new office was fitted up & the transfer made under the personal supervision of the Co.'s Chief Electrician, W. J. Camp.

Great North-Western Telegraph Co.

On Mar. 1, the rate to Belgium and Holland was reduced to 25c. a word.

The Co. expects very soon to start gangs at work to make permanent repairs along the routes affected by the great sleet storm in December last, & lines will be put in better shape than ever before.

There is nothing new in regard to the proceedings instituted against the Co. by H. M. Morrow & W. A. Clark, which were fully detailed in our Jan. issue, pg. 29. The case has not been set down for hearing, & it may never go any further.

President Dwight says that the general increase in Canadian business has caused a marked improvement in the business of the G.N.W. Co. all over the country. People are busy, and in consequence are using the telegraph wires to a greater extent.

A line has been built along the Souris River extension of the Northern Pacific Ry. in Manitoba, & offices of the Co. will shortly be opened at Ninette, Dunrea, Margaret, Minto, Fairfax, Elgin & one or two other points. Poles along the route are planted 30 to the mile, with no. 9 gauge wire.

On Feb. 15 the rate to Havana, Cuba, was reduced to 30c. instead of 45c. a word. To Cienfuegos, Casilda & Tunas, Cuba, 20c. a word added to Havana rate. To Jucaro, Santa Cruz, Manzanillo, Santiago de Cuba, 25c. a word added to Havana rate. The Puerto Rico through rate is 75c. instead of \$1.17.

The following offices have been opened: Alton, Ont.; Anson, Ont.; Bamberg, Ont.; Jonquieres, Que.; Renton, Ont.

The following offices have been closed: Barnston, Que.; Cap Chat Light, Que.; Chaudiere Basin, Que.; Little Metis L.H., Que.; Muskoka Wharf, Ont.; Myrtle, Man.; Oakville, Man.; Port Elmsley, Ont.; Roberval

Hotel, Que.; Rockliffe, Ont.; Rosebank, Man.; Seeley's Bay, Ont.; Tyrconnell, Ont.

The Co. has recently entirely renovated its offices in Montreal—re-arrangement of space has been made & new fittings of a handsome pattern have been placed throughout the offices, the result being that there is probably not a more complete & handsome telegraph office in Canada. The Winnipeg office has also lately been refitted, & is in better shape than ever before. New counters & other fittings of the latest design have been put in, & the office presents a most attractive appearance.

C.P.R. Company's Telegraph.

The C. P. R. Co.'s telegraph has now reached Fort Steele, B.C.

The railway telegraph line is being extended from Robson, B.C., west towards Midway.

Owing to increased business, another through wire has been completed between Montreal & Toronto.

The following offices were opened Feb. 1: Cowan, Man.; Makinok, Man.; Estevan, Assa.; Alexandria Station, Ont.; Corunna, Ont.; Millbridge, Ont.

The following changes in rates to Cuba and Porto Rico, via Bermuda, took effect Feb. 15: From all points in Ontario & east of Cienfuegos, Casilda, & Tunas de Zaza, 50c.; Jucaro, Santa Cruz del Sur, Manzanillo & Santiago de Cuba, 55c.; Porto Rico, 75c. a word.

A second wire has been completed through the Crow's Nest Pass—from Swift Current, Assa., to Nelson, B.C. The erection of this wire now gives a first-class telegraph service to Fort Steele, Cranbrook, Wardner, Fernie, etc., besides giving a first-class alternate circuit to Nelson & other Kootenay offices.

The Postal Telegraph Co. has begun proceedings in the U. S. Federal Court for an alternate writ of mandate directed against the Union Pacific Co., to obtain rights of way for its lines along the Union Pacific Ry.

The Commercial Cable Co. now allows names of persons, streets or places in addresses or signatures of all cables to be charged at the rate of 15 letters or fraction thereof to a word, instead of 10 letters as heretofore.

The Western Union Co. has completed the construction of a second wire into Victoria, B.C., from Seattle, Wash. The new line follows the same route as the other, going from Victoria to William's Head, thence to Port Angeles and from there to Seattle.

The London Times says that as an instrument designed to further the unity & prosperity of the empire, the utility of the proposed Pacific cable will many times outweigh the trifling cost to the taxpayers. The scheme only waits the sanction of the Imperial Government to be at once put in operation.

The President of the Charlottetown Board of Trade, in his annual report for 1898, says: "The question of improved telegraphic communication between P.E.I. & the mainland is still under consideration, but owing to the absence from Ottawa of Sir L. H. Davies, who has the matter in hand, no improvement has yet taken place, but I feel assured that some important changes will be made in the near future."

U. S. Attorney-General Griggs upholds the right of a military commander to cut a cable within the territorial waters of an enemy without making his country liable for damages. The question rose upon the cutting, by Admiral Dewey at Manila, of the cable of the British Eastern Extension, Aus-

tralia, Asia & China Telegraph Co., which filed a claim with the State Department for \$36,000 damages. Attorney-General Griggs contends that under the law of nations there is no ground for claim for indemnity.

It is announced from Ottawa that the Dominion Government has decided to construct a telegraph line to connect the Yukon territory with British Columbia. A party of engineers has left to commence the work. The plan of the Minister of Public Works is to construct the line between Lake Bennett & Dawson City at once. Surveyors will at once proceed to examine the country northward from Quesnelle, B.C., which is the terminus of the present Government system, the old Cariboo line, & see how to connect with the line to Dawson. It is said the ministers have decided that the franchise for the telegraph line to Dawson is too valuable & too important from the standpoint of the national safety to be allowed to go into any but Government hands.

TELEPHONE MATTERS.

The Bell Telephone Company.

At the annual meeting, Feb. 23, the following report was presented:—

1,637 subscribers have been added during the year, the total number of sets of instruments now earning rental being 32,082. The Co. now owns & operates 343 exchanges & 340 agencies. 666 miles of wire were added to the long distance system in 1898; of these 326 miles are in the Ontario Department & 340 miles in the Eastern. The long distance lines owned & operated by the Co. comprise 17,233 miles of wire on 6,096 miles of poles. In July the Directors, acting under the power conferred upon them, offered to the shareholders, at par, 7,920 shares of new stock, in the proportion of 1 share of new for each 4 of old, all of which, with the exception of 160 shares, were promptly subscribed for. The 160 shares referred to consisted principally of fractions of shares & of certain shares for which the parties had unintentionally omitted to subscribe. It being the wish of the directors that all shareholders should share equally in any advantage to be derived from the new issue, it was decided to sell those 160 shares & divide the premium pro rata among those for whose benefit they were sold. This was done, & with satisfactory results. The new building in Quebec is practically completed, & the new apparatus is now being installed. The new building at London is progressing favorably, & will be occupied early in the coming summer.

REVENUE ACCOUNT, DEC. 31, 1898.	
Receipts.—Exchanges	\$ 935,703 52
Long distance lines	294,455 39
Private lines	12,743 32
Miscellaneous	90,041 71
	\$1,302,944 04
Expenses. Operating	\$ 807,138 73
Legal	9,582 22
Insurance	13,740 20
Bond interest	17,042 10
Miscellaneous	4,288 99
	\$ 951,792 30
Net revenue for 1898	\$ 331,151 74
Less dividends (inc. Jan. 14, '99)	263,779 93
	\$ 67,371 81
Balance revenue from 1897	82,094 17
Carried forward to 1899	\$ 149,735 98

BALANCE SHEET, DEC. 31, 1898.	
Stock account	\$3,556,000 00
Bond account	941,000 00
Contingent fund	800,000 00
Revenue account	149,735 98
Unearned rental reserve	173,136 16
Insurance reserve	71,414 71
Accident reserve	17,003 76
Bond interest reserve	17,702 30
Sundry creditors	125,141 00
Bond premium	6,750 00
	\$5,889,534 79

Profit on operations Dec. 31, 1888 \$1,000,000.00
 Dividend 1888 125,000.00

Profit on operations Dec. 31, 1889 \$1,000,000.00

Dividend 1889 125,000.00

Stock in other companies 257,731.50

Surplus 1888 85,000.00

Dividend 1888 10,625.00

Surplus 1889 85,000.00

Dividend 1889 10,625.00

Surplus 1890 85,000.00

Dividend 1890 10,625.00

Surplus 1891 85,000.00

Dividend 1891 10,625.00

Surplus 1892 85,000.00

Dividend 1892 10,625.00

Surplus 1893 85,000.00

Dividend 1893 10,625.00

Surplus 1894 85,000.00

Dividend 1894 10,625.00

Surplus 1895 85,000.00

Dividend 1895 10,625.00

Surplus 1896 85,000.00

Dividend 1896 10,625.00

Surplus 1897 85,000.00

Dividend 1897 10,625.00

Surplus 1898 85,000.00

Dividend 1898 10,625.00

Surplus 1899 85,000.00

Dividend 1899 10,625.00

Surplus 1900 85,000.00

Dividend 1900 10,625.00

Surplus 1901 85,000.00

Dividend 1901 10,625.00

Surplus 1902 85,000.00

Dividend 1902 10,625.00

Surplus 1903 85,000.00

Dividend 1903 10,625.00

Surplus 1904 85,000.00

Dividend 1904 10,625.00

Surplus 1905 85,000.00

Dividend 1905 10,625.00

Surplus 1906 85,000.00

Dividend 1906 10,625.00

Surplus 1907 85,000.00

Dividend 1907 10,625.00

Surplus 1908 85,000.00

Dividend 1908 10,625.00

Surplus 1909 85,000.00

Dividend 1909 10,625.00

Surplus 1910 85,000.00

Dividend 1910 10,625.00

Surplus 1911 85,000.00

Dividend 1911 10,625.00

Surplus 1912 85,000.00

Dividend 1912 10,625.00

Surplus 1913 85,000.00

Dividend 1913 10,625.00

Surplus 1914 85,000.00

Dividend 1914 10,625.00

Surplus 1915 85,000.00

Dividend 1915 10,625.00

Surplus 1916 85,000.00

Dividend 1916 10,625.00

Surplus 1917 85,000.00

Dividend 1917 10,625.00

Surplus 1918 85,000.00

Dividend 1918 10,625.00

Surplus 1919 85,000.00

Dividend 1919 10,625.00

Surplus 1920 85,000.00

Dividend 1920 10,625.00

Surplus 1921 85,000.00

Dividend 1921 10,625.00

Surplus 1922 85,000.00

Dividend 1922 10,625.00

Surplus 1923 85,000.00

Dividend 1923 10,625.00

Surplus 1924 85,000.00

Dividend 1924 10,625.00

Surplus 1925 85,000.00

Dividend 1925 10,625.00

Surplus 1926 85,000.00

Dividend 1926 10,625.00

Surplus 1927 85,000.00

Dividend 1927 10,625.00

Surplus 1928 85,000.00

Dividend 1928 10,625.00

Surplus 1929 85,000.00

Dividend 1929 10,625.00

Surplus 1930 85,000.00

Dividend 1930 10,625.00

Surplus 1931 85,000.00

Dividend 1931 10,625.00

Surplus 1932 85,000.00

Dividend 1932 10,625.00

Surplus 1933 85,000.00

Dividend 1933 10,625.00

Surplus 1934 85,000.00

Dividend 1934 10,625.00

Surplus 1935 85,000.00

Dividend 1935 10,625.00

Surplus 1936 85,000.00

Dividend 1936 10,625.00

city extends & new districts are opened up it will be necessary to erect poles if the residents of those districts are to be supplied with the service which they require. As the poles which we propose putting up on the streets mentioned in our application to the Council will be more than 45 ft. in height we respectfully request the consent of Council to their erection."

Tom Innitt: "What did the telephone girl say to you when she broke the engagement?" Jack Potts: "Ring off."

Application has been made for the incorporation in New Brunswick of the Tracadie Telephone Co., capital \$2,000.

An interim dividend on the ordinary shares of the British Columbia Telephones, Limited, has been declared at the rate of 8% per annum.

The Victoria & Esquimalt Telephone Co. is putting in a metallic circuit, replacing iron wires with copper & making other improvements.

The Union Telephone Co., Ltd., has been organized at Taylorville, N.S., with the following officers & shareholders: E. Archibald, President; H. C. Taylor, Vice-President; S. Lindsay, Sec.-Treas.; W. Bentley, A. J. Reid, J. Annand, P. G. Archibald.

A. Dickie, a large lumber operator at Ship Harbor, N.S., proposes to build a telephone line from that place to Musquodoboit Harbor, where it will connect with the Nova Scotia Telephone Co.'s system. The distance is about 18 miles. It is expected the line will be completed by June next.

The injunction which was recently granted to the Chesapeake & Potomac Telephone Co. in Washington against the general use of the telephone by the guests of a Washington hotel, has been made permanent. The judge ordered that the telephone must be used only for legitimate business of the hotel and for the private business of the manager. It might also be used for the convenience or accommodation of guests in sending for a wagon to call for their baggage, but not for other purposes, such as calling for stock

reports, ordering theatre tickets, making social or business engagements, etc. In the course of the opinion, the judge said that the hotel guest does not have a telegram sent free of charge, nor does he receive messenger service free, or the use of carriages without pay; why should he, then, expect to have the use & service of the telephone without pay?

Express Companies Items.

The Dominion Ex. Co. has opened an office at the foot of Moyie Lake, B.C.

A special circular of the Western Ex. Co. states that notes, drafts, accounts or bills in amounts of \$400 or under may be received for collection between all offices of this Co., & offices of Great Northern, Northern Pacific & Dominion Ex. Cos. Notes, drafts, accounts or bills in amounts of \$100 or under may be received & forwarded to offices of American, Canadian, National, Pacific, Southern, United States, except to common points of United States with Adams Express Co. only, & Wells, Fargo & Co.'s Express, except to exclusive offices of Wells, Fargo & Co. west of Salt Lake, Utah, Albuquerque & Deming, New Mexico. An outward prepaid charge of 10c. upon each item will be made. If not collected there will be no additional charge.

The irregularities in the accounts of Sec.-Treas. Metcalf, of the Canadian Expressmen's Mutual Benefit Association, have not affected the status of the Association. According to a circular recently issued, "the Association proposes to pay every claim in full, & shall endeavor to do so without putting the members to the expense of an extra assessment; but should it be found necessary to do so, we trust that each & every member will pay the same & stand loyally to our Association. Under the management of E. Allen, President, & W. T. Murphy, Sec.-Treas., we feel satisfied that this Association shall prosper, & on their behalf, we appeal to every member to retain his membership, endeavor to get acceptable employees to become members, & success is assured."—Express Gazette.

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OFFICE STATIONERY
AND ACCOUNT BOOKS.

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Steel Forgings. Case Hardening Steel.

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Agent for Canada,

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The franchise embraces the whole of the C. P. R. System, including all branches and leased lines, comprising 7,178 miles of railway, 690 stations, and a number of ticket agencies and hotels.

Advertising on the C. P. R. is like every department of that Company's service, modern, up-to-date and reliable.

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BRANCH OFFICE:

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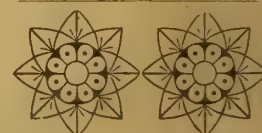
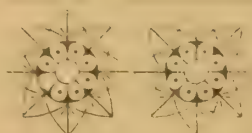
The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Steamship, Express, Telegraph & Telephone supplies, &c.

Accident Insurance Canadian Ry. Accident Ins. Co. Ottawa, Ont. Travelers' Insurance Co. Montreal.	Foghorns Rice Lewis & Son. Toronto.	Rope Rice Lewis & Son. Toronto. The Hudson's Bay Company.
Aerated Waters E. L. Drewry. Winnipeg.	Forgings Rhodes, Curry & Co. Amherst, N.S.	Semaphore Arms Acton Burrows Co. Toronto.
Air Brakes & Fittings Westinghouse Mfg. Co. Hamilton, Ont.	Gates Page Wire Fence Co. Walkerville, Ont.	Shafting Rice Lewis & Son. Toronto.
Ales E. L. Drewry. Winnipeg.	General Supplies The Hudson's Bay Company.	Shipbuilders' Supplies Rice Lewis & Son. Toronto.
Aluminum Rice Lewis & Son. Toronto.	Grease Eureka Min. Wool & Asbestos Co. Toronto.	Ship Carpenters' Tools Rice Lewis & Son. Toronto.
Anchors Rice Lewis & Son. Toronto.	Groceries The Hudson's Bay Company.	Ships Polson Iron Works. Toronto.
Anti-Friction Metal Canada Metal Co. Toronto.	Half Tones Acton Burrows Co. Toronto.	Shovels Rice Lewis & Son. Toronto. The Hudson's Bay Company.
Axles Rhodes, Curry & Co. Amherst, N.S.	Hardware Rice Lewis & Son. Toronto. The Hudson's Bay Company.	Signal House Numbers Acton Burrows Co. Toronto.
Babbit Canada Metal Co. Toronto. Rice Lewis & Son. Toronto.	Headlights Noah L. Piper & Sons. Toronto.	Signals Noah L. Piper & Sons. Toronto.
Beams Rice Lewis & Son. Toronto.	Hose Rice Lewis & Son. Toronto.	Signs Acton Burrows Co. Toronto.
Bellows Rice Lewis & Son. Toronto.	Illustrations Acton Burrows Co. Toronto.	Snow Ploughs Rhodes, Curry & Co. Amherst, N.S.
Bells Rice Lewis & Son. Toronto.	Iron Rice Lewis & Son. Toronto.	Solder Canada Metal Co. Toronto.
Belting Eureka Min. Wool & Asbestos Co. Toronto. Rice Lewis & Son. Toronto.	Iron Signs Acton Burrows Co. Toronto.	Speed Indicators Rice Lewis & Son. Toronto.
Blankets and Bedding The Hudson's Bay Company.	Jacks F. E. Came. Montreal.	Spikes Rice Lewis & Son. Toronto.
Block & Tackle Rice Lewis & Son. Toronto.	Japans McCaskill, Dougall & Co. Montreal.	Springs Rhodes, Curry & Co. Amherst, N.S.
Blocks Rice Lewis & Son. Toronto.	Lager Beer, &c. E. L. Drewry. Winnipeg.	Station Name Signs Acton Burrows Co. Toronto.
Boat Fittings & Hardware Rice Lewis & Son. Toronto.	Lamps Rice Lewis & Son. Toronto. Noah L. Piper & Sons. Toronto. The Hudson's Bay Company.	Steamboats Polson Iron Works. Toronto.
Boiler Covering Eureka Min. Wool & Asbestos Co. Toronto. Mica Boiler Covering Co. Toronto.	Lanterns Rice Lewis & Son. Toronto.	Steamboat Signs Acton Burrows Co. Toronto.
Boilers Polson Iron Works. Toronto.	Launches Polson Iron Works. Toronto.	Steam Whistles Rice Lewis & Son. Toronto.
Boiler Tubes Rice Lewis & Son. Toronto.	Life Insurance Independent Order of Foresters. Toronto. Travelers' Insurance Co. Montreal.	Steel W. G. Blyth. Toronto. Rice Lewis & Son. Toronto.
Bolts Rice Lewis & Son. Toronto.	Linoleum and Floor Coverings The Hudson's Bay Company.	Switch Targets Acton Burrows Co. Toronto.
Bridge Numbers Acton Burrows Co. Toronto.	Locomotives Baldwin Locomotive Works. Philadelphia.	Telegraph Office Signs Acton Burrows Co. Toronto.
Buckets Rice Lewis & Son. Toronto.	Lubricators Rice Lewis & Son. Toronto.	Telegraph Spoons Rice Lewis & Son. Toronto.
Bunting Rice Lewis & Son. Toronto. The Hudson's Bay Company.	Matches E. B. Eddy Co. Hull, Que. The Hudson's Bay Company.	Telephone Office Signs Acton Burrows Co. Toronto.
Carpets The Hudson's Bay Company.	Milepost Numbers Acton Burrows Co. Toronto.	Tobacco and Cigars The Hudson's Bay Company.
Cars Rhodes, Curry & Co. Amherst, N.S.	Mohair Lister & Co. Manningham, Eng. The Hudson's Bay Company.	Toilet Paper Rice Lewis & Son. Toronto. The Hudson's Bay Company.
Car Wheels Rhodes, Curry & Co. Amherst, N.S.	Numbers Acton Burrows Co. Toronto.	Tools Rice Lewis & Son. Toronto.
Castings Rhodes, Curry & Co. Amherst, N.S.	Oakum Rice Lewis & Son. Toronto. The Hudson's Bay Company.	Track Jacks Duff Manufacturing Co. Allegheny, Pa.
Chains Rice Lewis & Son. Toronto.	Oils Eureka Min. Wool & Asbestos Co. Toronto. Galena Oil Co. Franklin, Pa.	Track Tools Rice Lewis & Son. Toronto.
Curtains The Hudson's Bay Company.	Office Signs Acton Burrows Co. Toronto.	Trucks Rice Lewis & Son. Toronto.
Cuts Acton Burrows Co. Toronto.	Packing Eureka Min. Wool & Asbestos Co. Toronto.	Uniform Caps W. H. Coddington. Hamilton, Ont.
Door Signs Acton Burrows Co. Toronto.	Pipe Rice Lewis & Son. Toronto.	Valves Rice Lewis & Son. Toronto.
Dry Goods The Hudson's Bay Company.	Pipe Covering Eureka Min. Wool & Asbestos Co. Toronto. Mica Boiler Covering Co. Toronto.	Varnishes McCaskill, Dougall & Co. Montreal.
Electric Car Route Signs Acton Burrows Co. Toronto.	Plushes Lister & Co. Manningham, Eng. The Hudson's Bay Company.	Vessels Polson Iron Works. Toronto.
Electric Car Trucks Baldwin Locomotive Works. Philadelphia.	Porter E. L. Drewry. Winnipeg.	Waste Rice Lewis & Son. Toronto. Eureka Min. Wool & Asbestos Co. Toronto. Noah L. Piper & Sons. Toronto.
Enameled Iron Signs Acton Burrows Co. Toronto. Rice Lewis & Son. Toronto.	Portland Cement Rice Lewis & Son. Toronto.	Water Meters Westinghouse Mfg. Co. Hamilton, Ont.
Engines, Stationary & Marine Polson Iron Works. Toronto.	Printing The Hunter, Rose Co. Toronto. Mail Job Printing Co. Toronto.	Wheelbarrows Rice Lewis & Son. Toronto.
Engraving Acton Burrows Co. Toronto.	Pumps Rice Lewis & Son. Toronto.	Window Blinds The Hudson's Bay Company.
Express Office Signs Acton Burrows Co. Toronto.	Rails Rice Lewis & Son. Toronto.	Wines and Liquors The Hudson's Bay Company.
Fencing Page Wire Fence Co. Walkerville, Ont.	Rivets Rice Lewis & Son. Toronto.	Wire & Wire Rope Rice Lewis & Son. Toronto.
Ferry Signs Acton Burrows Co. Toronto.		Yachts Polson Iron Works. Toronto.
Flags Rice Lewis & Son. Toronto. The Hudson's Bay Company.		

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KAMLOOPS
LOWER FORT GARRY
LETHBRIDGE
MACLEOD
MATTAWA
MORDEN
NELSON
PINCHER CREEK
PORTAGE LA PRAIRIE
PORT SIMPSON
PRINCE ALBERT
QU'APPELLE
QUESNELLE
RAT PORTAGE
SHOAL LAKE
TOUCHWOOD HILLS
VANCOUVER
VERNON
VICTORIA
WHITEWOOD
WINNIPEG
YORKTON

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BEST GOODS AT MODERATE PRICES, imported
direct from all the principal markets of the World.

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ONE-TWENTIETH OF THE

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AND THE

Great North-West of Canada

IN ALL ABOUT

7,000,000 Acres

THESE COMPRISE SOME OF THE BEST

Farming Stock - Raising and Coal

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They are offered For Sale at MODERATE PRICES ON EASY
TERMS OF PAYMENT, and without any
CONDITIONS OF SETTLEMENT.

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WINNIPEG RAT PORTAGE ROSEMOUNT
FORT QU'APPELLE EDMONTON
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PRINCE ALBERT

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MONTREAL.

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McCaskill Standard Railway Varnishes and Japans,

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Westinghouse
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THE IDEAL FABRIC
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 Cars and Steamship
 Saloons.

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TORONTO, CANADA, APRIL, 1899.

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\$1 A YEAR.

RAILWAYS & CANALS.

Annual Report of the Department.

The annual report of the Department of Railways & Canals for the year ended June 30, 1898, has been issued. Following is a summary of the report of the Deputy Minister & Chief Engineer.

The number of railways in actual operation, including the 2 Government roads, the I.C.R. & the P.E.I.R., was 146: some of these, however, are amalgamated or leased; making the total number of controlling companies 84, not including the Government railways. The number of companies absorbed by amalgamation is 34, & the number of leased lines is 33.

The number of miles of completed railway was 16,870, an increase of 183, besides 2,248 miles of sidings. The number of miles laid with steel rails was 16,622, of which 553 was double track. The number of miles in operation was 16,718.

The paid-up capital amounted to \$941,297,037, an increase of \$19,439,805. The gross earnings amounted to \$59,715,105, an increase of \$7,361,829, & the working expenses aggregated \$39,137,549, an increase of \$3,968,884 compared with those of the previous year, leaving the net earnings \$20,577,556, an increase of \$3,392,945. The number of passengers carried was 18,444,049, an increase of 2,272,711, & the freight traffic amounted to 28,785,903 tons, an increase of 3,485,572. The total number of miles run by trains was 50,658,283, an increase of 4,977,432. The accident returns show 5 passengers killed.

The Government expenditure on railways prior to & since 1867 amounts, on capital account, to \$123,551,091.77 (including a payment of \$25,000,000 to the C.P.R. Co.), & for railway subsidies charged against the Consolidated Fund the further sum of \$17,619,222.11, making a total expenditure of \$140,834,731.29. In addition there has been an expenditure since Confederation for working expenses of \$73,029,631.74, covering the maintenance and operation of the Government roads, or a grand total of \$213,863,363.03; all of which, with the exception of \$13,881,460.65, has been expended on railways during the past 31 years. This does not include an annual subsidy of \$186,600 to the Atlantic & Northwest Ry. Co. for 20 years from July 1, 1889, nor interest at 5% on \$2,394,000, payable to the province of Quebec for the line from Quebec to Ottawa, which has been transferred to the Public Debt. The revenue derived from the Government roads during the same period amounts to \$64,510,650.18.

Canadian Pacific Railway.—Of the \$579,255.20 awarded to this Co. in 1891 by the arbitrators in respect of transferred works in British Columbia, and to be expended by the

Co. under Government supervision in certain specified directions, the total value of the work executed up to Nov., 1898, is \$579,022.53, which includes the expenditure, \$202,675.20, prior to the date of the award, leaving still to be expended \$233.67.

It should be noted that for the year ended on the 30th June, 1898, the Company had under traffic in Canada 6,334 miles of railway, including leased lines, & 36 miles over which it has running powers. Its gross earnings were \$25,470,796.18 (as against 6,314 miles of railway, & earnings \$21,242,638.75 the previous year). The total expenditure for working expenses was \$14,684,790.65, making the net earnings



JAMES OSBORNE,
GENERAL SUPERINTENDENT WESTERN DIVISION, C.P.R.

\$10,786,005.53, an increase of \$2,120,167.20 over the net earnings of the previous year.

The construction of the Crow's Nest Pass Ry., being considered a necessity for the successful development of the mining interests of B.C., Parliament granted a subsidy of \$11,000 a mile in aid of it. Under the act the C.P.R. Co. undertook the work of construction & entered into a contract, breaking ground July 15, 1897, since which the works of construction have been vigorously prosecuted. The length of road under contract is: Lethbridge to Kootenay Lake, 290 miles; Kootenay Lake to Nelson, 54 miles; total, 344 miles. The supervision of the location of the line has evidently been entrusted

to competent hands, as the ground has been carefully selected & as good alignment as the physical features of the country will admit of obtained. The maximum grade is 1%, or 52⁸⁰/₁₀₀ a mile, the severest curves being 10 & 12 degrees, except in one instance, where a 15 degree curve has been introduced. The work of construction has so far been confined to the section between Lethbridge & Kootenay Landing, 290 miles, over which the track laying was completed on Oct. 8, 1898, & at this date of writing the line over this section is in safe condition for public traffic. A train transfer landing has been constructed on Kootenay Lake at Kootenay Landing, so that cars with their loads can be transferred without transshipment from that point to Nelson, which will greatly assist mining operations through the Kootenay district. The amount of subsidy paid up to Nov. 1, 1898, is \$2,162,190.

It is only proper here to note that amongst the various works & undertakings of the Co. for the substantial improvement of its railway in the directions of steel bridge construction, the formation of solid embankments & the adaptation of the most recent appliances to its rolling stock in order to secure safety & comfort to its passengers & employees, it has now equipped with self couplers 8,456 freight cars, & has fitted 6,601 freight cars with automatic brakes.

Government Railways in Operation.

—The lines maintained by the Government are: The Intercolonial, the Windsor Branch (maintained only), & the Prince Edward Island Rys. The gross earnings of all the Government roads for the fiscal year were \$3,313,847.10, an increase of \$253,772.72. The gross working expenses were \$3,577,248.88, an increase of \$399,979.27. The net loss on the operations of the year was \$263,401.78. These figures include \$70,000 rent, paid for the extension of the I.C.R. into Montreal.

Intercolonial Railway.—In Mar., 1898, the operations of the I.C.R. were extended to Montreal by means of leases obtained from the G.T. & Drummond County Ry. Cos., making an addition of 169.81 miles to the operation of the Government line, its length being 1,314 miles instead of 1,145. During the fiscal year there was an addition of \$252,756.80 to capital account expenditure, making the total expenditure chargeable to capital, on the whole road as amalgamated under the act of 1891, \$55,668,913.95. The additions made during the year included \$56,651.93 for increased accommodation at Halifax, \$93,943.08 for increased accommodation at Montreal, \$19,820.48 for the extension to deep water at North Sydney, & \$65,510.92 on rolling stock.

The gross earnings of the year amounted to \$3,117,669.85, an increase of \$251,641.83, & the working expenses (exclusive of \$70,000 rent paid for the extension to Montreal)

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NEXT ANNUAL MEETING at Winnipeg, Oct. 13, 1899.

to \$3,257,648.51, an increase of \$331,679.84,
making the excess of expenditure \$139,-
978.66, or, including the rent mentioned,
\$209,978.66.

Comparing the earnings with those of the
previous year the passenger traffic produced
\$1,053,864.64, an increase of \$74,859.07; the
freight traffic \$1,857,740.06, an increase of
\$170,689.74, & the carriage of mails & ex-
press freight \$206,065.15, an increase of \$6,-
093.12. The earnings per mile were \$2,594.-

53, an increase of \$91.45. These figures are
based on an average mileage of 1,201.63 in
1897-98, & an average mileage of 1,145 in
1898-97.

The number of passengers carried was
1,528,444, an increase of 26,754 in through &
local traffic, & 1,434,576 tons of freight were
carried, an increase of 138,548 tons. Of flour
987,408 barrels were carried, an increase of
139,707. Of grain 1,551,372 bus. were carried,
an increase of 457,873; of this, 8,000 bus.
was for shipment at Halifax. Lumber
showed an increase of 10,738.091 superficial
ft., the total carried being 254,093,816 ft.
There was an increase of 17,219 in the num-
ber of live stock, of which 89,301 were car-
ried. 369,949 tons of coal, a decrease of 13,-
413, were carried. Of raw sugar, none was
carried. Of refined sugar, 26,434 tons, an
increase of 5,714, were carried, of which 15,-
445 was for points west of the road. 8,330
tons of fresh fish, an increase of 622 tons, &
5,005 tons of salt fish, a decrease of 875 tons,
were carried. Of ocean borne goods to &
from Europe via Halifax the aggregate was
26,220 tons, an increase of 6,064. Of this,
18,633 was local traffic.

In the winter of 1897-98 the removal of snow
& ice entailed an expenditure of \$58,370.90,
about \$25,000 more than the cost the previous
year. The permanent way & all structures
& works are in good order.

The train mileage (or number of miles run
by trains) of the year was 3,955,009, an in-
crease of 175,726. The cost per train mile
was 82.37c., 4.95c. higher than in the previous
year. The working expenses per mile of rail-
way amounted to \$2,711.02, an increase of
\$155.59 a mile.

The Windsor Branch is 32 miles long, ex-
tending from Windsor Jct., on the I.C.R., to
Windsor. It is operated by the Dominion
Atlantic Ry. Co., which pays all charges in
connection with the working of the traffic, $\frac{2}{3}$
of the gross earnings being allowed the Co.,
the Government taking the remaining $\frac{1}{3}$, &
assuming all costs of maintenance of the road
& works. This arrangement is carried out
under an agreement dated 1892, which ex-
tends, for a further term of 21 years, ar-
rangements similar to those made in 1871.
All charges for superintendence & supervision
of maintenance of works are borne by the
Government; the duty of supervision being
performed by the chief officers of the I.C.R.
The gross earnings of the Government ($\frac{1}{3}$ of
gross receipts) were \$37,226.64, a decrease
of \$3,376.59. The expenses of maintenance
were \$18,181.63, an increase of \$7,360.59,
leaving the profit to the Government \$19,-
045.01. The road has been maintained in
good order.

Prince Edward Island Railway.—The
total cost of the road & equipments charge-
able to capital account at the close of the
fiscal year was \$3,768,107.26; there being an
addition during the year of \$17,541.88 on ac-
count of new works, including the shortening
of the line between North Wiltshire & Col-
ville & a survey for a branch from South
Port to Murray Harbor.

The gross earnings were \$158,950.61, & the
working expenses \$231,418.74; the expendi-
ture in excess being \$72,468.13. Compared
with the previous year, the gross earnings
increased \$5,507.48. The railway carried 126,-
511 passengers, an increase of 4,021, produc-
ing \$63,734.71, an increase of \$1,039.54. Of
freight there was carried 57,539 tons, an in-
crease of 5,388, producing \$75,845.60, an in-
crease of \$5,972.94. The earnings from mails
& sundries were \$19,370.40, a decrease of
\$1,505. Compared with the previous year,
the working expenses were less by \$9,069.16.
The train mileage was 252,894, a decrease
of 1,135 miles. The cost per mile run by
trains was 91.51c., a decrease of 3.16c.; &
per mile of railway \$1,101.99, a decrease of
\$43.20 per mile. The road, with its buildings

& rolling stock has been maintained in a satis-
factory condition.

Canals.—The expenditure charged to
capital account on the original construction
& the enlargement of the several canals of
the Dominion up to June 30, 1898, was \$72,504,-
401.85. A further sum of \$15,067,096.31 was
expended on the repairs, maintenance &
operation of these works, making a total of
\$87,571,498.16. These figures are the aggre-
gate expenditures on specific canals & do not
comprise certain items charged to "Canals in
general." The total revenue derived, includ-
ing tolls & rentals of lands & water-powers,
amounted to \$11,710,240.08. The expenditure
for the fiscal year was: On construction &
enlargement, \$3,207,249.79, & \$624,755.96 for
repairs, renewals & operation, making a total
of \$3,832,005.75. The net revenue for the
fiscal year was \$407,662.81, an increase of
\$22,882.28. The net canal tolls were \$344,-
057.13, an increase of \$22,429.80, & the rents
were \$44,050.39, a decrease of \$549.25. The
expenditure on canal staff & maintenance,
repairs & renewals amounted to \$624,755.96,
a decrease of \$8,520.20; & the net receipts
amounting as above to \$407,662.81, the amount
of expenditure in excess of receipts was \$217,-
093.15, compared with an excess expenditure
the previous year of \$248,495.63.

The following features of the principal canal
traffic during the season of navigation of 1897
will be of interest:—On the Welland Canal,
1,274,292 tons of freight were moved, a de-
crease of 5,695 tons; of which 824,485 tons
were agricultural products, an increase of
31,123, & 181,817 produce of the forest. 1,050,-
093 tons passed eastward & 224,199 west-
ward; 1,244,750 were through freight, of
which 1,026,458 passed eastward. Of this
through freight Canadian vessels carried 345,-
977 tons, an increase of 4,847, & United
States vessels 898,773, a decrease of 3,692.
The total freight passed eastward & westward
through this canal from U.S. ports to U.S. ports
was 564,694 tons, a decrease of 88,519 com-
pared with 1896. The quantity of grain pass-
ed down this & the St. Lawrence canals to
Montreal was 560,254 tons, an increase of 99,-
205 compared with the previous year: of this
89,659 were transhipped at Ogdensburg as
against 461,049 carried down in 1896, of
which 77,355 were transhipped at Ogdens-
burg. The further quantity of 43,023 tons of
grain passed down the St. Lawrence Canals
only, to Montreal, making the total 603,277
tons. The rate of toll on grain for passage
through the Welland (giving free passage
through the St. Lawrence canals) was 10c. a
ton.

On the St. Lawrence canals 1,231,365 tons
of freight were moved, an increase of 117,675;
of which 813,638 were east bound through
freight, & 23,831 west bound through freight;
746,537 were agricultural products, 331,620
merchandise, & 94,496 forest products.
Seven cargoes of grain, aggregating 2,324
tons, were taken down direct to Montreal
through the Welland & St. Lawrence canals.

On the Ottawa River canals the total quan-
tity of freight moved was 562,370 tons, an in-
crease of 60,324, of which 551,700 were pro-
duce of the forest. On the Chambly Canal
352,136 were moved, an increase of 7,201, of
which 237,653 were the product of the forest.
On the Rideau Canal 77,276 were carried, an
increase of 3,969, 47,010 being the product of
the forest. On the St. Peter's Canal 67,093
were carried, an increase of 1,585, of which
50,013 were merchandise. On the Murray
Canal 13,231 passed, an increase of 175, &
5,467 of this were the product of the forest.
On the Trent Valley Canal 36,141 were moved,
of which 35,294 were product of the forest.

On the Sault Ste. Marie Canal the total
movement of freight was 4,947,063 tons, an
increase of 369,664, carried in 4,268 vessels,
the number of lockages being 2,604. Of
wheat 17,924,802 bus., & of other grain

3,253,405 bus. were carried; 1,093,456 barrels of flour, also 3,572,854 tons of iron ore, & 7,799,156 ft., b.m., of lumber; all these items show a considerable decrease. The total traffic at this point, accommodated by the 2 canals, the Canadian & U.S., amounted to 18,986,689 tons, an increase of 1,730,266, carried in 17,080 vessels, a decrease of 1,497. The total quantity of wheat carried was 55,931,779 bus., a decrease of 7,532,097, & of other grain 24,968,136, a decrease of 2,747,129. Of lumber the total was 802,240,156 ft., b.m., an increase of 113,366,356.

As having an interesting bearing on the question of canal versus railway transport of grain from the west, it may be noted that whereas grain & peas passed down to Montreal through the St. Lawrence canals to the extent of 560,254 tons, an increase of 64,386 over the previous year, the quantity carried to Montreal via the C.P. & G.T. Rys. amounted to 228,586 tons, an increase of 74,869. The quantity of grain carried to tide-water on the New York State canals was 569,362 tons, a decrease of 183,677, while the quantity carried by the railways of the State to tide-water amounted to 4,132,740 tons, an increase of 267,980. Of the total freight carried by the canals & railways of the State of New York, respectively (amounting in 1897 to 43,711,512 tons—less by 44,539 than in 1896), the proportion carried by the canals has fallen steadily from 68.9% in 1859 & 47.0% in 1869 to 8.3% in 1897. The results which may follow on the approaching completion of the enlarged system of Canadian canals remain to be seen.

The Department is strenuously endeavoring to secure the completion of the enlarged canal systems on the River St. Lawrence to such extent as to admit of their use during the season of 1899. Emphasis is laid on the fact that though the dimensions of the enlarged locks are: length 270 ft., width 45 ft., with 14 ft. of water on the sills, the length of the vessels to be accommodated is limited to 255 ft.

G. T. R. SEMI-ANNUAL MEETING.

The ordinary general half-yearly meeting was held at the City Terminus Hotel, London, Eng., Mar. 29, when the following report was presented:—

The following summary shows a comparison of the ½-year's revenue account with that of the corresponding ½-year ended Dec. 31, 1897:—

Dec. 31, '97.		Dec. 31, '98.
£2,247,151	Gross receipts	£2,140,579 17 10
1,434,804	Deduct—	
	Working expenses, including taxes, being at the rate of 66.71%, as compared with 63.84% in 1897.....	1,427,999 14 ..
812,347	Net traffic receipts	712,580 3 10
16,013	Add—	
	Received from the International Bridge Co.	1,030 12 9
5,570	Interest on Toledo, Saginaw & Muskegon bonds.....	4,741 15 7
3,088	Interest on bonds, etc., of Central Vermont Ry.	3,087 10 8
64,821	Interest on securities of controlled lines & on St. Clair Tunnel bonds acquired by the issue of G. T. 4% debenture stock	64,781 3 6
18,397	Balance of general interest account	20,138 3 3
£920,236	Net revenue.....	£818,259 9 7

Following are the net revenue charges for the ½-year:—

Rents (leased lines)	£ 73,474 8 3
Interest on debenture stocks & bonds of the Co.	438,102 4 6
Interest on debenture stock & bonds of lines consolidated with the G. T. Co.	71,955 .. 4
Interest on Michigan air line bonds.....	7,750
	590,281 13 1

Amount advanced to Chicago & G. T. Co. under traffic agreements towards payment of interest on its bonds, ½-year to Dec. 31, for which interest coupons are held.....14,555 11 7
Amount advanced to Detroit, Grand Haven & Milwaukee Co. towards payment of interest on its bonds, under agreements, ½-year to Dec. 31.....3,880 12 8

Leaving a surplus of

£609,417 17 4
208,841 12 3
£818,259 9 7

The surplus of £208,841 12s 3d, added to the balance from last ½-year of £2,271 3s 11d, makes £211,112 16s 2d, available for dividend.

The directors recommend the declaration of the ½-year's dividend on the 4% guaranteed stock, amounting to £104,395 17s 6d, & a dividend of 3% on the 1st preference stock, amounting to £102,504 18s 0d, leaving £4,212 0s 8d, to be carried forward to the next ½-year's accounts.

GROSS RECEIPTS.—This table exhibits a comparison of receipts for the ½-years ended Dec. 31, 1898 & 1897.

	1898.	1897.	Increase.	Decrease.
	£	£	£	£
Passengers.....	581,429	619,788		38,359
Mail & Express.....	104,632	110,583		5,951
Freight & Live Stock	1,388,711	1,480,391		97,680
Miscellaneous	65,808	30,380	35,419	
	2,140,580	2,247,151		106,571

The increase of £35,419 in the miscellaneous receipts arises from the additional rental received from the Wabash Co. in respect of running powers granted over the G. T. line between Windsor & the Niagara Frontier, & from the rental received from the Dominion Government for the use by the Intercolonial Ry. of the line between Ste. Rosalie & Montreal.

The decrease in the passenger & freight & live stock receipts is largely attributable to the deviation of traffic consequent on the above-mentioned running arrangements for which compensation is obtained in the additional rentals received from those Cos. included in miscellaneous receipts; the passenger receipts have also been adversely affected by the reduction in local passenger fares, which, however, were restored on Nov. 28 last to their normal basis.

TRAFFIC STATISTICS.

	Half-year, Dec. 31, 1898.	Half-year, Dec. 31, 1897.	Increase.	Decrease.
Passengers carried.....	3,833,611	3,641,761	191,850	
Average fare per passenger	3s. 0½d.	3s. 3d.		1½d.
Tons of freight and live stock.....	4,756,205	5,136,328		380,123
Average rate per ton	5s. 10d.	5s. 9½d.		1½d.
Earnings per train-mile	59.92d.	59.61d.		3½d.

THE WORKING EXPENSES, including taxes, amounted in the ½-year to £1,428,000, or 66.71% of the gross receipts, as compared with £1,434,804, or 63.84%; a decrease in amount of £6,804, but an increase in the proportion to the gross receipts of 2.87%.

This table exhibits a comparison of the revenue expenditure, excluding taxes, as now classified, for the ½-years ended Dec. 31, 1898 & 1897.

Description of Expenditure.	1898.	1897.	Increase.	Decrease.
Maintenance of way & structures.....	397,100	413,130		72,560
Maintenance of equipment.....	11,413	11,113		300
Conducting transportation.....	730,247	780,114		49,867
General expenses.....	5,117	5,117		
Total.....	£1,143,877	£1,009,574		134,303
Percentage of gross receipts.....	65.24	60.31		4.93

It will be seen from the above statement that the amount charged in the past ½-year's accounts for maintenance of way & structures was £72,560 in excess of the expenditure in the corresponding ½-year. A large amount of additional ballasting was done during the ½-year at an extra expense of £12,932, & in continuation of the policy indicated in the last ½-year's report of gradually improving the line, an increased amount of £61,405 for renewal of bridges & culverts has been charged, of which £30,805 was on account of the revenue proportion of the expenditure for the reconstruction of the Victoria Jubilee Bridge, & of the cost of renewing the bridges between Montreal & Portland, & on the Southern Division. The remainder of the additional expenditure was incurred on account of the renewal of several bridges on other portions of the line, indispensable for the prompt & economical conduct of the traffic. The reduction in the expenses for conducting transportation is a satisfactory feature in the accounts of the past ½-year.

THE TRAIN MILEAGE of the ½-year compares with that for the ½-year ended Dec. 31, 1897, as follows:—

	1898.	1897.	Increase.	Decrease.
Passenger.....	3,270,604	3,237,813	32,791	
Freight	4,758,402	5,136,328		377,926
Mixed trains.....	514,519	598,000		83,481
Total	8,543,525	9,048,134		474,609

ROLLING STOCK.—The stock of cars has been increased during the ½-year by the purchase of 750 box freight cars of 60,000 lbs. capacity, & 250 double-deck stock-cars, & the construction in the Co.'s shops of 250 refrigerator cars, the cost of which, amounting to £123,054, has been charged to capital account. The reduction of £26,140 in the amount paid during the ½-year for the use of cars belonging to other companies, is partly attributable to the additional equipment recently provided.

Thirteen engines have been sold or broken up, 18 passenger cars & 527 freight cars have been broken up, & 2 first-class & 6 second-class cars have been converted into boarding cars. Two passenger engines were constructed in the Co.'s shops. Seven passenger & 126 coal & flat cars were also built in the Co.'s shops during the ½-year, at the cost of revenue, in part replacement of cars out of service.

There remained at Dec. 31, 1898, 3 locomotives in excess, & 34 passenger & 405 freight cars short of the official stock. To replace this deficiency in the stock of cars there was at the end of the ½-year £88,733 10s. 11d. at the credit of car renewal fund, & there was also £28,118 13s. 6d. at the credit of locomotive renewal fund.

CAPITAL ACCOUNT.—The total outlay on capital account amounted for the ½-year to £205,133 16s. 4d., of which £123,054 was expended in increasing the equipment of the Co. by the construction in the Co.'s shops & by purchase of 1,250 new freight & cattle cars. The remaining expenditure mainly consists of £26,039 for necessary additions & improvement to the rolling stock, & £46,186

for additional sidings & other new works required for the accommodation of the traffic.

RENEWAL OF BRIDGES.—An amount of £30,805, being the proportion of the expenditure chargeable to revenue for the reconstruction of the Victoria Jubilee Bridge & of the cost of renewing the bridges between Montreal & Portland & on the Southern Division, on the basis mentioned in the last report, has been included in the maintenance of way charges for the past ½-year. There was an amount of £33,853 10s. 11d. standing at the debit of renewal of bridges suspense account on Dec. 31, 1898. The directors are glad to report that trains commenced to run over the double track of the Victoria Jubilee Bridge in Dec. last. The completion of the bridge & of the roadway, footpaths & approaches has been retarded by the severity of the weather, but it is expected that all the works in connection with the new structure will be finished during the current ½-year.

CHICAGO & GRAND TRUNK RAILWAY.—The gross receipts for the ½-year to Dec. 31, 1898, amounted to £373,555, against £338,320 in 1897, an increase of £35,235. The working expenses were £299,355, against £299,995, a decrease of £640; the net profit being £74,200, against £38,325, an increase of £35,875. The net revenue charges for the ½-year were £88,755, against £87,792 in 1897. There was, therefore, a deficiency in meeting the net revenue charges in 1898 of £14,555, as compared with a deficiency for 1897 of £49,467, being an improvement, compared with the corresponding ½-year of £34,912. The deficiency of £14,555 is payable by the G.T. Co. under traffic agreements. The number of passengers carried during the ½-year was 622,847, against 575,416, an increase of 47,431, or 8.24%, & the passenger train receipts, including mails & express receipts, were £115,068, against £110,747, an increase of £4,321, or 3.9%. The quantity of freight moved during the ½-year was 1,005,054 tons, against 925,569 in 1897, an increase of 79,485, or 8.59%, & the receipts from this traffic were £258,175, against £227,226 in 1897, an increase of £30,949, or 13.62%.

DETROIT, GRAND HAVEN & MILWAUKEE.—The gross receipts for the ½-year to Dec. 31, 1898, were £106,379, against £117,073 in 1897, a decrease of £10,694; the working expenses were £72,492, against £81,838, a decrease of £9,346; leaving a balance of £33,887, against £35,235, & showing a decreased net revenue of £1,348, compared with the corresponding ½-year of 1897. The net revenue charges for the ½-year were £37,768, against £37,409 in

1897, so that there was a deficiency in meeting the net revenue charges of £3,881 as compared with a deficiency of £2,174 for the corresponding period of 1897. This deficiency of 3,881 is payable by the G.T. Co. The number of passengers carried during the ½-year was 330,357, against 333,781, a decrease of 3,424, or 1.03%; & the passenger receipts, including mails & express receipts, were £51,153, against £50,120, an increase of £1,033, or 2.06%. The quantity of freight moved was 285,202 tons, against 307,857 in 1897, a decrease of 22,655, or 7.36%; & the receipts from freight traffic were £54,318, against £58,759 in 1897, a decrease of £4,441, or 7.56%.

The directors have the satisfaction to record that the negotiations with the C.P.R. Co., to which reference was made in the last ½-year's report, resulted in an agreement embracing the settlement of all points at issue between the two companies. The new agreement concluded Nov. 22, 1898, provided for the re-establishment of interchange traffic facilities, via North Bay, & for the re-adjustment of rates & fares in connection therewith on a satisfactory basis.

It was announced at the last ½-yearly meeting that an arrangement had been virtually completed with the Committee of Bondholders of the Consolidated R.R. of Vermont, & other parties interested in that Co. That agreement with certain modifications has since been acknowledged in the new charter granted Nov. 16, 1898, to the Central Vermont Ry. Co. by both houses of the Vermont State Legislature. So soon as the legal procedure of the Courts under the decree of foreclosure & sale dated Feb. 1, 1899, will permit, the re-organization of the Central Vermont Ry. Co., as constituted in the new Act of Incorporation, will be completed, & the agreement between the two companies definitely settled & submitted in due course for the approval of the proprietors.

The retiring Directors at the forthcoming meeting are Sir C. Rivers Wilson, J. Price, G. Allen, & J. A. Clutton-Brock, all of whom are eligible, & offer themselves for re-election. G. B. Newton, one of the auditors in London, & W. Ramsay, one of the auditors in Canada, also retire, & offer themselves for re-election.

ENGINEERING DEPARTMENT.—The Chief Engineer states that on the G.T.R. system east of the Detroit & St. Clair rivers, & on the Detroit & Michigan Air Line division, west of these rivers, the charges for maintenance & renewals during 1898 were \$473,969.16 greater than in 1897. Of this, \$324,169.95 was for repairs

and renewals of bridges, exclusive of the Victoria Bridge; the remaining \$149,799.21 was divided in various proportions among the other items of expenditure, except superintendence and labor for repairs of roadway, which showed a decrease.

The bridge expenditure is high, & must continue to be so, until the light structures which were built when the railway was made, & for some years afterwards, have been renewed in a form strong enough to meet present requirements, with a reasonable surplus of strength for further probable increase in weights of rolling stock & car loads.

The masonry of the piers of the Victoria Bridge was finished April 2, 1898, & the trusses of the last span were so far completed on Aug. 19 that they became self-supporting. On Dec. 13 the first train passed over the second or new track, & the bridge, as a double-track structure, was brought into service. A good deal of work remained to be done at the end of the year, but it was of a character that would not appreciably interfere with the running of the trains. The carriage and footways, & their approaches, are not yet finished, & will not be until the opening of spring. The total expenditure on the work during 1898 was \$845,642.20.

Sidings have been more or less re-arranged & greatly improved at 41 stations. Their aggregate length has been increased 10¼ miles.

New offices for the Motive Power Department, & a freight shed, have been built at Montreal, & a station at Merriton. Round-houses, each of which will hold 30 locomotives, are in course of erection, one at Sarnia & one at Port Huron, & are well advanced towards completion.

The materials used for repairs of main tracks & sidings were:

80-lb. new steel rails in main tracks.....	26,462 tons.
Partially worn rails in branch lines and sidings.....	24,074 "
New ties.....	1,591,426
Ballast.....	343,523 cubic yds.

The Co.'s permanent way & works have been carefully maintained & are in good condition.

MOTIVE POWER.—The Superintendent of Motive power gives these figures:

Half-Year Ended	Dec. 1898.	Dec., 1897.
Total expenditure.....	\$2,082,913	\$2,157,521
Train mileage.....	8,573,525	9,048,134
Expenses per mile—	cents.	cents.
Train.....	24.29	23.84
Engine.....	19.56	19.81
Car.....	1.50	1.40

The decrease in expenditure was \$74,608, or 3.5%, with a decrease in miles of 474,609 or

MICA BOILER COVERING

For Locomotive, Marine and Stationary Boilers

Tested by Mechanical Experts of the C.P.Ry. Co., G.T.Ry. Co., M.C.Ry. Co., Boiler Inspection Insurance Co., and proved to be the

= = Best of All Non-Conductors = =

All Steam users should see the Mica Boiler and Pipe Covering—Flexible, Durable and Highest non-Conductor of Heat in the Market.

Full particulars, reports of trials, testimonials, prices, etc., from

Mica Boiler Covering Co., Limited, 9 Jordan St., Toronto, Ont.

McGill University Lecture.—In the course of the annual university lecture recently delivered in Montreal, Prof. R. B. Owens, chief of the Electrical Department, said: "By the introduction of electric traction, not only has the sanitary conditions of our cities been improved, but healthy country homes have been substituted for the overcrowded tenement. Electric traction is not dangerous at higher speeds than is possible with horses, & the small cost of electric operation permits of low fares being charged. The effect of rapid transit on urban architecture is also plainly seen. The question is often asked, Will electricity eventually supersede the locomotive on the present steam railways? I may reply that careful estimates show no economy of electricity over steam for handling heavy freight traffic where the number of trains operated per day is small, but for passenger service, where trains must be operated at frequent intervals on small headway, the advantage is with electricity, & it is probable that because of the smaller cost, as well as increased speed, such cities as New York, Baltimore & Washington will be connected by through lines in the near future."

Toronto, Hamilton & Buffalo Ry.

In our last issue we gave copious extracts from a prospectus issued in New York offering \$1,250,000 1st mortgage gold bonds of the Co., payable July 1, 1940, interest payable bi-annually. There were also embodied in the prospectus letters from C. M. Depew, Chairman of the boards of the New York Central & Hudson River R.R. Co., & of the Michigan Central, & from Sir Wm. Van Horne.

Mr. Depew says:—The construction of the T., H. & B. Ry. was promoted by the New York Central & Hudson River R.R. Co., in connection with the C.P.R. Co., the Michigan Central R.R. Co. & the Canada Southern R. Co., as a connecting link between the C.P.R. & the Vanderbilt railway systems. It was expected that its principal traffic would be derived from interchange business between these systems, but it was also foreseen from the beginning that the territory local to the road would supply important & valuable business. At the outset of the enterprise careful calculations were made on behalf of the contributing companies by experienced engineers & traffic men as to the ability of the road to earn the interest upon its capitalized cost, & these calculations warranted the belief that as soon as the road was in full operation it would without trouble take care of its own fixed charges; but to guard against a contingency of a lack of remunerative business in times of depression, the 4 promoting companies agreed to guarantee the payment of the interest accruing upon the bonds in any ½ year by contributing, if necessary, up to 25% of their entire gross earnings upon the traffic delivered to and received from the T., H. & B. R. Co. in that ½ year by each of these companies. This possible contribution was considered more than sufficient to insure the payment of the interest under any circumstances that could be anticipated. During the first 14 months of the operation of the road, its own earnings, beyond the cost of operation, were entirely expended in construction & betterments, & the entire interest

upon the bonds for that period was promptly & readily made up by the contributing companies. Since Aug. 1, 1898, the T., H. & B. R. Co. has fully earned its interest, & the guaranteeing companies have no expectation of being called upon to make up a deficiency hereafter. The capital stock of the T., H. & B. R. Co. is distributed so that 51% of it is owned by the Vanderbilt lines, & is voted, on their behalf, by the N.Y.C. & H.R.R. Co.; 19% is voted by the C.P.R. Co. & 30% is owned & voted by others. The board of directors consists of 7 members, of whom 4 represent the interest of the Vanderbilt lines & 1 represents the C.P.R. Co. I think the facts briefly set forth above will indicate to you very clearly that the two great railroad systems to which I have referred are fully committed to friendly relations with the T., H. & B.R. Co., & that their interests are such as to insure their financial support under all circumstances up to the full limit expressed in the agreement of July 9, 1895.

Sir Wm. Van Horne says:—In reply to your inquiry as to my views on the situation & prospects of the T., H. & B. Ry. as affecting its ability to meet the interest on its bonded debt, I beg leave to say that as the connecting link between the New York Central, Canada Southern & Michigan Central railways on the one hand, & the C.P.R. system on the other (the latter system now embracing about 9,500 miles of railway), and with a traffic contract securing to the T., H. & B. all of the traffic interchanged between the Vanderbilt lines named & the C.P. systems, to the extent that it can be legitimately sent that way, & with an agreement on the part of all these lines to contribute 25% of their earnings on the traffic so interchanged in any ½ year towards making good any deficit which may occur in that ½ year in the interest on the bonds of the T., H. & B. R. Co., its position ought to be perfectly safe, & I so regard it. In addition to the through traffic assured to it by the traffic contracts referred to, the T. H. & B. R., traversing as it does one of the richest districts in Canada, commands a large & valuable local traffic. The ownership of 70% of the stock of the T.,

H. & B. Co. by the Vanderbilt interests & the C.P. Co. together should be a strong additional assurance.

Edward Sweet & Co. inform us the bonds were taken up at the subscription price, viz., par & interest, but that they are not at liberty to mention the names of the purchasers to anybody.

Irondale, Bancroft & Ottawa Ry.

A writ has been issued by Beatty & Co. solicitors, Toronto, on behalf of certain shareholders in the Irondale, Bancroft & Ottawa Ry., against J. H. Plummer, A. D. Benjamin, H. S. Mara, Z. A. Lash, the Trusts Corporation of Ontario & the Bank of British North America, to prevent the sale of bonds of the road which are held by the first-named defendants to the Bank of British North America. The writ is based on two clauses in the charter of the Co., which provide that every director of the road must hold at least 5 shares of stock therein, & that at least 4 directors, bodily present, shall be necessary to a quorum at any meeting, even where proxies are invoked. The statement of claim sets forth that at a so-called special general meeting of shareholders, held April 24, 1894, it was resolved to bond the road for \$15,000 a mile on those portions of it constructed or under construction. On Jan. 11, 1895, a meeting of directors was held in Toronto, at which it was decided, pursuant to instructions given at the earlier meeting of shareholders, to bond the road for 30 miles & to appoint the Trusts Corporation of Ontario trustees for the issue of the bonds. At this meeting 4 were present, C. J. Pusey, C. H. Williams, L. B. Holland, & R. G. Kingan, but it is alleged that Mr. Holland was not, & never had been, a director, & did not become a shareholder until long afterwards. Subsequently, at a meeting held again in Toronto, on Aug. 13, 1897, the President, C. J. Pusey, was authorized to enter single-handed into whatever agreement he thought proper in connection with the sale of the bonds. At this meeting C. J. Pusey, G. H. Williams, L. B. Holland, & F. C. Jones were present,

MANITOBA

Population..... 200,000.
Number of Farmers.. 27,000.

Look Up Its Advantages

Before Going Elsewhere.

CROP OF 1895. A Favorable Season.	CROP OF 1896. An Unfavorable Season.
Average yield per acre.	Average yield per acre.
WHEAT.....27.86 bushels	WHEAT.....14.33 bushels
OATS.....49.71 "	OATS.....28.25 "
BARLEY.....39.69 "	BARLEY.....24.80 "
FLAX.....16.68 "	FLAX.....12.30 "

Over 10,000,000 acres in Manitoba that have never been cultivated. Price of land from \$2.50 to \$6.00 per acre. On easy terms.

Settlers coming to Manitoba should always

DROP OFF AT WINNIPEG

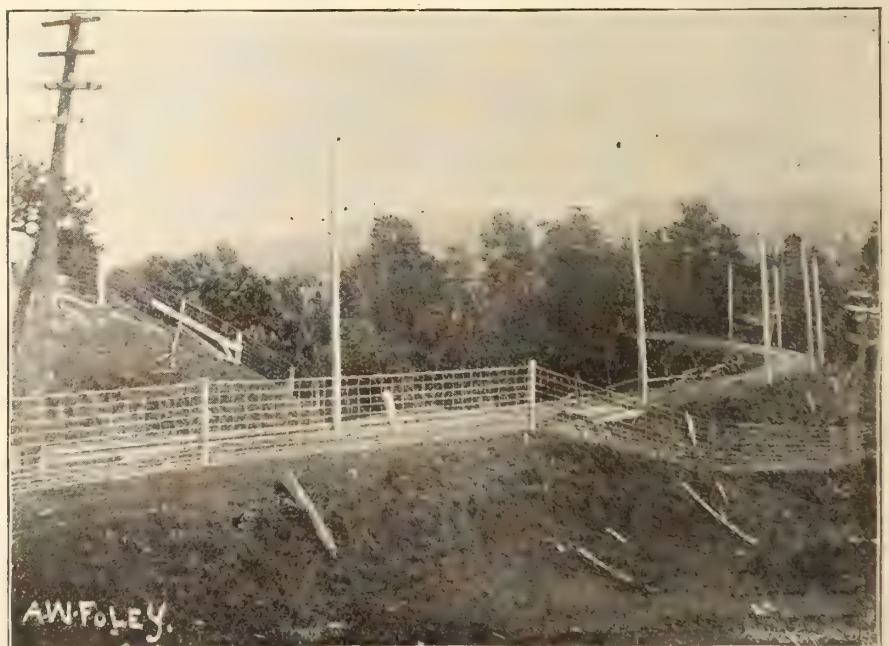
for a few days, and secure reliable information about settlements, free homesteads and lands for sale, from the heads of departments located in Winnipeg. For latest information and maps, all free, address

THOMAS GREENWAY,

Minister of Agriculture and Immigration
WINNIPEG, MANITOBA.

W. D. SCOTT,

Manitoba Immigration Agent,
30 York St., Toronto, Ontario.



The following leading railroads of Canada are using Page fencing in quantities of from 1 mile to 100: Canadian Pacific; Grand Trunk; Intercolonial; Lake Erie & Detroit River; United Counties; Canada Atlantic; St. Lawrence & Adirondack; Michigan Central; Manitoba & Northwestern; East Richelieu Valley; } Toronto, Hamilton & Buffalo; Thousand Islands; Crow's Nest Pass.

For further particulars send to the Page Wire Fence Co., Ltd., Walkerville, Ont.

but it is alleged that neither of the latter two was a director or shareholder. On Sep. 1, 1897, Mr. Pusey entered into negotiations for advances on the road, which were made by the defendants. Incidentally notes were given which total \$103,500, & which fall due Sep. 1, 1899. Other advances have also been made which amount to \$33,600. The Bank of British North America holds these notes, & will claim payment of them. It, however, wishes to buy the \$450,000 bonds issued by the Co. 4 years ago. The plaintiffs wish to have the bonds declared invalid, on the ground that authority given for their issue was not sufficient according to the terms of the charter. They also wish to prevent the transfer of the same to the Bank of British North America, or in any event to permit it only in such an amount as will cover the notes held by the bank.

An Up-to-date Atlas.

Rand, McNally & Co.'s enlarged Business Atlas & Shippers' Guide for 1899, which is the 29th edition, consists of 425 pgs., 20 x 14 ins. Among the new features is a commercial map of the U.S. on a large scale, in 3 sections, showing only railways and important towns. There are also large scale maps of all states & territories in the U.S., in most cases each state or territory being given two full pages. These maps show in detail the entire railway system—the different railways being distinguished by different figures, with a ready reference index giving express company doing business over each line, & accurately locating all islands, lakes, rivers, mountains, counties, parishes, cities, towns, post-offices, railway stations, villages, etc., together with complete reference maps of all countries with marginal index, the maps being printed from type-lettered plates, which produce the clearest typographical effect of any known engraved plates. There are also guide maps, showing the streets, transportation lines, & public buildings of the large cities in the U.S.

Canada is well represented by 9 large maps of British America, British Columbia, the Northwest Territories, Manitoba, the Maritime Provinces, Ontario, Quebec & the cities of Montreal & Toronto. That they are up-to-date is evidenced by the fact that last year's railway construction is given, including in British Columbia the Crow's Nest Pass line; in Manitoba, the C.P.R. Stonewall & Pipestone branch extensions; the N.P. Souris Valley branch, the Lake Manitoba Ry. & Canal Co.'s extension, & the Manitoba & Southeastern, while in Ontario the Pembroke Southern is given. The only suggestion we can offer for the improvement of the Canadian section of the work is, that in future editions two full pages, instead of one, be given to the Maritime Provinces, so as to show them on a larger scale.

Although this work has been in our office but a few days, we have already found it of great value, & have tested the accuracy of the maps to our entire satisfaction. It is simply indispensable for transportation offices & will be found valuable in every business office. Having once used it we would not be without it on any consideration. It is published by Rand, McNally & Co., of Chicago; price, \$7.50 in full canvas binding, & \$10 in half-leather.

The Railway Diary & Officials' Directory for 1899, published by McCorquodale & Co., London, Eng., price 1s., maintains the reputation of preceding editions, which is really all that need be said about it. In addition to the diary, there is a very complete directory of railway directors & officials in Great Britain, with copious details of traffic returns, accounts & dividends—the whole forming a convenient book of reference.

Railway Statistics for Year Ended June 30, 1898.

In this table the minus mark (—) before figures in the net earnings column shows that there was a deficit in the operations of the line to the extent of the figures given. Where (E) appears after the name of a railway it signifies that it is an electric line. The figures given for net earnings of the Intercolonial do not include the \$70,000 rent of the Montreal extension, so that the actual deficit is \$209,978.66. The Drummond County figures are for the 8 months ended Mar. 1, 1898. The earnings of the Fredericton & St. Mary's Ry. Bridge Co. consist of tolls on trains run by the Canada Eastern Ry. The St. Clair tunnel receipts consist of tolls on passenger cars, freight cars and new locomotives hauled. The figures are confined to lines in Canada and do not include any mileage operated in the U.S.

Name of Railway.	Mileage.	Gross earnings.	Net earnings.	Proportion of earnings to working expenses.	Earnings per train mile.	Operating per train mile.
		\$ cts.	\$ cts.	p. c.	Cts.	Cts.
Alberta Railway & Coal Co.	64'62	130,249 14	52,828 28	108	391'54	232'73
Albert Southern.....	19'00	3,106 06	504 30	122	62'13	58'83
Atlantic & Lake Superior.....	98'00	29,402 33	6,440 66	128	48'63	37'98
Bay of Quinte Ry. & Nav. Co.	64'82	142,593 31	57,918 50	108	112'44	66'77
Berlin & Waterloo (E).....	3'00	9,522 70	1,382 25	117	13'97	11'18
Brockville, Westport & Sault Ste. Marie.....	45'00	28,198 20	704 37	97	84'47	86'76
Buctouche & Moncton.....	32'00	16,362 43	2,012 20	114	78'71	69'03
Calgary & Edmonton.....	295'07	362,914 13	199,706 25	122	207'27	93'21
Canada Atlantic.....	176'00	714,566 02	178,934 68	133	130'54	97'84
Canada Eastern.....	136'00	127,530 10	41,176 48	147	62'57	42'37
Canada Southern.....	382'10	4,458,629 32	1,411,114 72	146	116'00	79'29
Canadian Government Rys.—						
Intercolonial.....	1,145'46	3,117,669 85	139,978 66	95	78'83	82'36
Prince Edward Island.....	210'00	158,950 61	72,468 13	68	61'43	93'80
Canadian Pacific.....	6,298'35	25,470,790 18	10,786,005 53	173	143'88	82'95
Caraguet.....	68'00	21,333 47	9,320 09	90	53'12	76'32
Carillon & Grenville.....	13'00	1,911 74	1,568 86	55	32'40	58'00
Central Ontario.....	113'60	99,962 12	13,957 16	116	95'04	82'58
Central of New Brunswick.....	45'66	12,198 73	8,510 98	59	37'00	64'35
Coast Ry. of Nova Scotia.....	30'80	14,719 70	4,317 05	77	52'03	68'07
Cumberland Ry. & Coal Co.....	32'00	95,549 55	45,409 67	100	155'34	81'41
Dominion Atlantic.....	220'50	579,053 74	118,581 67	125	120'11	95'51
Drummond County.....	133'53	83,772 89	37,908 53	182	139'85	76'30
Elgin & Havelock.....	27'00	7,271 11	1,506 60	83	43'43	52'43
Erie & Huron.....	76'75	115,616 84	31,124 13	137	74'33	54'33
Esquimalt & Nanaimo.....	78'00	122,209 71	16,517 46	43	68'92	101'15
Fredericton & St. Mary's Ry. Bridge Co.....	1'33	3,862 64	2,127 54	222		
Grand Trunk.....	3,146'98	18,396,010 41	6,859,302 41	159	115'05	72'15
Great Northern.....	28'00	6,023 67	275 43	96	31'84	33'30
Great Northwest Central.....	50'93	49,358 75	1,188 73	102	306'88	209'49
Gulf-Shore.....	16'78	2,108 66	180 45	100	91'83	56'54
Hamilton, Grimsby & Beams-ville (E).....	23'00	43,000 00	20,649 10	102	18'11	9'41
Hamilton & Dundas (E).....	7'25	19,667 65	8,899 23	183	95'59	35'89
Hamilton Radial (E).....	11'00	27,502 65	14,540 47	212	18'35	8'64
Hampton & St. Martins.....	30'00	3,543 34	2,082 41	63	25'30	10'18
Hull (E).....	13'63	49,494 28	10,939 57	107	112'26	7'92
Hereford.....	53'30	35,825 38	27,350 00	57	50'05	88'28
Irondale, Bancroft & Ottawa.....	50'00	12,905 57	2,345 67	122	35'58	20'11
Canada Coals & Ry. Co.....	12'00	27,947 94	17,770 19	274	177'11	64'49
Kaslo & Slocan.....	31'86	140,026 13	77,544 53	223	381'50	17'41
Kent Northern.....	34'00	10,168 32	2,641 32	135	85'30	40'08
Kingston & Pembroke.....	112'85	130,982 76	5,167 39	101	98'70	91'81
L'Assomption.....	3'00	984 82	1,153 01	46	15'39	33'13
Lake Erie & Detroit River.....	111'80	214,609 54	76,266 81	155	94'40	60'85
Lake Manitoba Ry. & Canal Co.....	123'24	83,946 54	37,012 35	179	180'01	105'00
Lotbiniere & Megantic.....	30'34	9,094 07	2,053 62	83	104'09	60'30
Manitoba & Northwestern.....	249'97	305,816 59	104,300 00	110	225'40	188'75
Massawippi Valley.....	36'00	118,200 17	28,137 28	123	88'00	60'53
Montfort Colonization.....	33'00	4,991 26	990 72	84	48'71	18'77
Montreal & Atlantic.....	163'40	200,493 14	63,534 88	82	92'44	112'05
Montreal Island Belt Line (E).....	12'67	32,070 58	11,658 86	157	77'00	8'73
Montreal Park & Island (E).....	40'88	100,178 50	23,831 81	138	71'00	10'10
Montreal & Province Line.....	40'60	44,495 26	6,740 14	108	76'03	65'88
Montreal & Vermont Jct.....	23'60	163,321 06	58,137 72	155	141'03	60'56
Nelson & Fort Sheppard.....	59'40	110,000 33	37,602 19	138	52'30	108'08
New Brunswick & P.E.I.....	36'00	21,656 67	6,527 30	117	60'62	41'00
Niagara Falls Park & River (E).....	13'68	50,842 75	96,733 47	191	22'74	12'00
Northern Pacific & Manitoba.....	295'11	315,870 00	7,651 00	108	137'40	12'00
Nosbonsing & Nipissing.....	5'50	58,762 00	10,000 00	100	441'48	180'00
Central of Nova Scotia.....	71'00	47,269 62	50,733 00	100	101'00	80'00
Nova Scotia Steel Co.....	12'30	19,939 66	3,003 97	108	68'00	68'41
Orford Mountain.....	26'50	15,866 08	3,333 33	117	31'00	43'75

RAILWAY STATISTICS FOR YEAR ENDED JUNE 30, 1898.—Continued.

Name of Railway.	Mileage.	Gross earnings.	Net earnings.	Proportion of earnings to working expenses.	Earnings per train mile.	Operating per train mile.
		\$ cts.	\$ cts.	p. c.	Cts.	Cts.
Oshawa (E)	8'50	22,887 99	4,838 85	127	38'31	30'21
Ottawa & Gatineau	50'50	52,578 70	5,640 64	112	94'16	84'05
Ottawa, Arnprior & Parry Sound	263'80	479,954 58	111,749 53	130	80'52	61'77
Philipsburg Ry. & Quarry Co.	7'50	1,610 64	33 75	98	160'10	163'45
Pontiac Pacific Jet.	70'60	37,516 81	2,853 65	108	75'78	70'02
Port Arthur, Duluth & Western	85'50	15,847 22	723 49	105	92'83	88'59
Qu'Appelle, Long Lake & Saskatchewan	253'96	79,642 02	2,582 78	103	138'75	134'25
Quebec & Lake St. John	298'00	258,730 09	40,837 37	119	107'32	90'38
Quebec Central	213'50	439,935 62	126,649 21	141	103'50	73'64
Quebec, Montmorency & Charlevoix	30'00	54,533 70	16,347 89	143	97'71	68'42
Red Mountain	9'53	45,801 73	12,104 19	136	176'76	130'05
Salisbury & Harvey	45'00	21,169 49	1,297 54	107	75'14	70'54
Shore Line of New Brunswick	82'50	30,353 43	3,093 61	111	57'66	51'78
Stanstead, Shefford & Chambly	43'00	64,831 56	6,404 30	111	84'53	76'18
St. Clair Tunnel	2'23	250,955 50	139,524 84	225		
St. Catharines & Niagara Central	12'35	29,062 18	1,375 57	105	145'31	138'43
St. Lawrence & Adirondack	33'00	124,213 23	41,959 06	151	82'45	54'59
Sydney & Louisburg	65'90	336,057 06	166,941 44	199	246'08	123'84
South Shore	44'67	37,258 91	7,854 62	127	61'62	48'63
Temiscouata	113'00	61,675 02	2,753 86	105	62'31	59'53
Tilsonburg, Lake Erie & Pacific	20'00	6,273 12	779 12	114	33'01	28'91
Thousand Islands	4'33	17,790 22	5,396 88	144	111'32	77'55
Toronto, Hamilton & Buffalo	84'62	259,843 38	16,641 70	94	104'31	110'99
United Counties	61'00	46,232 93	943 28	98	54'61	55'73
Victoria & Sydney	16'26	18,671 79	3,937 78	127	77'36	61'04
Total	16,717'64	59,715,105 52	20,577,556 47			

"Sirkarka Hookum."

Here is a good story from India. Scene, a railway station on the main line of the East Indian Railway. A train from Delhi stops; a tester is going round with his hammer striking the wheels. An officer of the Royal Engineers who has been watching him from a carriage window says:—

"Why do you beat the wheels like that?"

Answer—"Sirkarka hookum." ("It is the order of the authority.")

Officer—"But what is the use of so striking the wheels?"

Answer—"Khodar jani. Hum i-sa thees burrs-si Kurthani. Sirkarka hookum." ("God knows! I have been doing this for thirty years; it is the order of the authority.")

A Kipling Poem.

Several years ago F. D. Underwood, now General Manager of the Baltimore & Ohio R.R., & recently of the Minneapolis, St. Paul & Sault Ste. Marie Ry., named two stations in the upper peninsula of Michigan "Rudyard" & "Kipling," one being in an agricul-

tural country & the other in an iron ore district. On Mr. Kipling hearing of this he sent Mr. Underwood his photograph with the following lines on the back:

"RUDYARD" AND "KIPLING."

"Wise is the child who knows his sire,"

The ancient proverb ran,
But wiser far the man who knows
How, where and when his offspring grows,
For who the mischief would suppose
I've sons in Michigan?

Yet am I saved from midnight ills,

That warp the soul of man;
They do not make me walk the floor,
Nor hammer at the doctor's door;
They deal in wheat and iron ore,
My sons in Michigan.

Oh, tourist in the Pullman Car

(By Cook's or Raymond's plan),
Forgive a parent's partial view;
But, maybe, you have children too—
So let me introduce to you
My sons in Michigan.

RUDYARD KIPLING.

Chignecto Ship Canal.—N. A. Belcourt, M.P. for Ottawa, who has recently been in England, said in an interview on his return: "I was very sorry to find the bad impression created in London by that most unfortunate Canadian scheme, the notorious Chignecto Ship Canal. Everywhere about the city the unfortunate thing would be met. It was something like Banquo's ghost, it would not down. I know of nothing which has so much hurt Canadian interests in Britain as this project. I don't know what, if anything, the present Government can do to compensate the people who invested in the scheme, but if anything can be done consistent with our means, I would strongly support any measure having that object in view, because it is bound to hamper & hinder Canadian affairs in London."

The Bonaventure Station Restaurant. Montreal, has been taken over by the Canada Ry. News Co., which has for some years leased the restaurant privileges at the Toronto Union, & at a number of G.T.R. stations, & which can be depended on to give a first-class service. A number of alterations have been made, including the providing of an up-to-date bar, & a handsome news & cigar stand.

F. B. POLSON

J. B. MILLER

The POLSON IRON WORKS

TORONTO, - - CANADA.

STEEL BOILERS

✿ The Best Equipped Boiler and Engine Works ✿
✿ in Canada. ✿

We Manufacture

The Brown Automatic Engine
Single, Compound and Triple Marine Engines
Hoisting and Mining Engines
Steel Steam Vessels of every description
Steam Yachts and Launches

..... Get Our Prices Before Ordering.

Esplanade East, Foot of Sherbourne Street, -:- TORONTO.

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profit & increases or decreases over 1898, from Jan. 1, 1899, are as under:

	Earnings.	Expenses.	Net Profit.	Increase or decrease.
Jan. \$1,864,570.36	\$1,247,036.50	\$617,533.86	\$101,006.27+	
Feb. 1,753,392.82	1,153,631.34	599,701.48	176,034.12+	

\$4017,084.18 \$2,400,717.84 \$1,017,235.34 \$777,040.50
Mileage increased to 6952.
+ Increase. - Decrease.

Approximate earnings for Mar., \$2,098,000, against \$2,050,000 in Mar., 1898, an increase of \$48,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.
Approximate earnings for Mar., \$160,007, compared with \$139,007 for corresponding period, increase \$24,810.

Net earnings for Jan., \$51,849, against \$35,060 for Jan., 1898.

MINERAL RANGE, HANCOCK & CALUMET.
Approximate earnings for Mar., \$26,720, compared with \$23,919 for corresponding period, increase \$2,801.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Approximate earnings for Mar., \$336,523, compared with \$311,427 for corresponding period, increase \$25,096.



CANADIAN PACIFIC RY. STEEL TANK ELEVATOR, FORT WILLIAM, ONT.

2,200,000 acres, of which 370,130 had been sold to the end of 1898. The expenses per acre sold in 1898, exclusive of taxes, were only 10c. an acre, an almost nominal figure, much to the credit of the management. 1898 started with a debit to profit & loss account of \$5,535.65. This was wiped out & 1899 started with a credit balance of \$12,231.39.

The following directors were re-elected:—Sir Wm. Van Horne, President; E. B. Osler, Vice-President; R. B. Angus, J. Burns, W. Hendrie, W. B. Scarth, T. G. Shaughnessy, T. Skinner, Lord Strathcona & Mount Royal.

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.:

	1899	1898	Decrease	Increase
Jan.	\$1,956,281	\$1,916,332	.....	\$39,949
Feb.	1,821,434	1,974,453	153,019	
Mar.	1,180,350	1,048,070	132,280	
	\$5,057,065	\$5,038,855		\$18,210

The following figures are issued from the London, Eng., office:

GRAND TRUNK RAILWAY**Revenue statement for Jan., 1899.**

	1899	1898	Increase	Decrease
Gross receipts....	£315,400	£318,703	.....	£3,300
Working expenses....	207,400	213,700	6,300	
Net profit	£108,000	£105,000	£3,000	

CHICAGO & GRAND TRUNK RAILWAY**Revenue statement for Jan., 1899.**

	1899	1898	Increase	Decrease
Gross receipts....	£72,000	£60,600	£11,400	
Working expenses....	20,000	17,400	2,600	
Net profit	£52,000	£43,200	£8,800	

DETROIT, GRAND HAVEN & MILWAUKEE.**Revenue statement for Jan., 1899.**

	1899	1898	Increase	Decrease
Gross receipts....	£14,600	£14,400	£200	
Working expenses....	1,200	1,000	200	
Net profit	£13,400	£13,400	£0	

RECEIPTS OF THE SYSTEM.

From Jan. 1 to Feb. 28, the traffic receipts were:

	1899.	1898.	Increase.	Decrease.
Grand Trunk....	£613,033	£501,536	£21,497	
Chicago & G.T.	137,487	114,700	22,787	
D., G. H. & M.	26,339	27,227	888	
Total.....	£776,859	£733,463	£43,396	

DETAILS OF G.T.R. RECEIPTS JAN. 1 TO FEB. 28.

	1899.	1898.	Increase.	Decrease.
Passengers, number	28,435	28,435		
Immigrants, number	1,000	1,000		
Mails, express, &c., amount	£24,228	£24,207	£21	
Freight, tons	1,000	1,000		
Miscellaneous receipts.....	£21,165	£10,542	£10,623	
Total receipts.....	£613,033	£501,536	£111,497	

The Shedden Forwarding Co., Ltd., has been incorporated under the Dominion Companies Act with a capital of \$700,000, the incorporators being R. Mackay, J. Beattie, H. Paton, D. Macmaster, Montreal, & C. MacKenzie, Toronto.

Liability for Crossing Accident. In the Ontario Court of Appeal in the recent case of Henderson v. Canada Atlantic Ry. Co., it was held that as the defendant had failed to give the statutory warning near crossing, by which the plaintiff's horses, which had been driven close to the line, were frightened, the plaintiff should recover. The court held that damages for mental shock were recoverable.

Canadian Pacific Railway Land Sales.

	Acres.	Amount
	1899	1898
Jan.	14,718	22,044
Feb.	13,717	20,050
Mar.	21,015	33,191
	52,510	76,115

The officials report business as much more brisk with the opening of spring. The Moose Mountain district, which is being opened up by the extension of the Pipestone branch of the C.P.R., is one about which many inquiries are being made.

CANADA NORTHWEST LAND CO.

For the past 4 or 5 years the lands of this Co. have been managed by C.P.R. Land Commissioner Hamilton, the Winnipeg office of the Co. being in the C.P.R. Land Department. The report presented at the annual meeting in Toronto Mar. 29, shows the farm land sales for 1898 to have been 71,640.03 acres for \$383,051.88, against 38,994.07 acres in 1897 for \$210,549.99. The original purchase by the Co. from the C.P.R. comprised



CANADIAN PACIFIC RY. ELEVATORS A, B AND C, FORT WILLIAM, ONT.

RAILWAY FINANCE, MEETINGS, &c.

Brockville, Westport & Sault Ste. Marie.

Notice is given of application to the Dominion Parliament to incorporate a company to acquire this line from any purchaser & to operate it.

Calgary & Edmonton net earnings for Feb., \$9,201.58, against \$18,824.71 in Feb., '98.

Canada Atlantic.—A special general meeting of shareholders will be held in Ottawa, May 1, to consider & sanction a deed amalgamating this Co. with the Ottawa, Arnprior & Parry Sound Ry. Co. On May 22 application will be made to the Governor-General-in-Council to sanction an agreement entered into between the two companies for their amalgamation, when all persons may appear & be heard. Application will be made to the Dominion Parliament this session for an act to confirm the deed of amalgamation between the two companies & to incorporate them into one corporation under the name of the Canada Atlantic Ry., & to give certain powers as to the issue & redemption of bonds, &c.

Caraguet.—It is said 600 shares of this N. B. Ry. were recently sold for \$10.

Cobourg, Northumberland & Pacific.—Application will be made to the Dominion Parliament this session for an Act extending the time for the commencement & construction of the line to the 31st days of Dec., 1901 & 1903 respectively; to validate the issue of stock & bonds issued by the Co., & for other purposes.

Drummond County.—Conservative papers say the arrangement between the Dominion Government & this Co. will be brought up again at this session of Parliament, & that an effort will be made to secure parliamentary consent to the purchase of the line.

The Columbia & Western Ry. Co. is applying to the Dominion Parliament for authority to issue 1st mortgage bonds on its main line & branches, not exceeding \$35,000 a mile, & for other purposes.

Dominion Atlantic.—Receipts for Feb., \$35,348, against \$27,580 for Feb., 1898. Receipts Jan. 1 to Feb. 28, \$77,638 against \$60,715 for corresponding period.

Grand Trunk.—A Montreal despatch says: This Co. has taken an action in warranty for \$22,500 against J. J. C. Thompson, contractor, of Hamilton, Ont. The suit arises out of one

taken by G. P. Magann, contractor, of Toronto, against the Co. for the same amount. Magann alleged that he had some 75,000 ties around Wiarton, Ont., which were delivered to the company by Thompson in fulfilment of an arrangement with Magann. The Co. claims that it had a contract with Thompson, who was to supply the quantity of ties mentioned, & that he did so, & received payment for all but some 25,000. The action taken by the G.T.R. is to protect itself against loss in the litigation between the two.

J. Bicknell, Toronto, has issued a writ against the G.T.R. Co. on behalf of the Niagara Falls International Bridge Co. & the Niagara & Suspension Bridge Co., to compel the issuance of annual passes to the directors of both bridge companies over all railway lines using the bridges. The companies are respectively the Canadian & U.S. owners of the single arch steel bridge spanning the Niagara River below the falls. Under an agreement made in 1855, the G.T.R. leases all rights of way over the bridge for \$59,000 annually. In the agreement the issuance of annual passes to the directors is stipulated, & passes over the G.T.R. annually provided. The directors of the companies claim, however, that the stipulation covers all other railways using the bridges under sub-leases from the G.T., & by this action expect to compel the G.T. to procure passes from their sub-lessees for the plaintiff directors. There are 20 directors in the 2 companies, & the railways over which passes are asked are the Lehigh Valley, New York Central, Michigan Central, Rome & Watertown, & several minor lines. The suit has been set down for trial at Ottawa on June 19.

Great Northern.—Application will be made to the Dominion Parliament this session for an act amending the several acts incorporating this Co. extending the time for the completion of the railway, changing its name, ratifying agreements made for the purchase or lease of connecting lines, authorizing the issue of bonds, debenture stock & other securities required to carry out the conditions of such purchase for lease, authorizing the construction & working of branch lines & of grain elevators, warehouses, hotels & wharfs, & the building & operating of steamboats & steamships on navigable waters touched or reached by the railway & its connecting lines, & for other purposes.

The Great Northwest Central Ry. Co. will apply to Parliament this session for amendments to the act it secured last year. Among the amendments asked is to repeal the provision which declared all issues of new bonds under the act to be void, unless 10 miles of the westerly extension were completed by Dec. 31, 1898, also to extend from Aug. 1, 1899, to Aug. 1, 1900, the date for the completion of an extension of 20 miles.

A London, Eng., cable of April 1 says the affairs of the Co. are to be investigated by the Court of Chancery in England in a suit brought by Messrs. Codd & Armstrong, plaintiffs for the shareholders, v. Delap, Charlebois, G. M. Clarke et al, defendants. The claim involves the ownership of the shares, & covers the history of the road from 1883. Justice North will preside. Efforts to dismiss the action have entirely failed.

The Hudson's Bay & Yukon Railways & Navigation Co. will apply to Parliament this session for an act amending the act incorporating the Co. by authorizing it to construct wagon roads to be operated as stage & mail routes along, connecting with, or near to the proposed railway lines, to enter into agreements for amalgamating with or leasing from other companies, or for transportation purposes, to construct telegraph & telephone lines, to carry on the business of general traders including business connected with the fishing industry, to issue special bonds or debentures, to mortgage the revenues, to guarantee the revenues therefrom & otherwise to extend the powers of the Co., to extend the time for construction of the railways & works of the Co., & for other purposes.

Kingston & Pembroke.—Notice was recently given that this Co. would on Mar. 30 last, be prepared to pay the interest due on 1st preference bonds.

Kootenay Ry. & Navigation Co.—Application has been made to the London, Eng., Stock Exchange Committee to appoint a special settlement in and to grant a quotation to the £480,000 5% debenture stock.

Lehigh Valley.—It is stated in New York that J. Pierpont Morgan has now absolute control of the Lehigh Valley R. R. Company. Since Mar., 1897, he has held an option on a block of 150,000 shares of stock, belonging to the Packer estate. The right to purchase this stock has been exercised & \$3,000,000,



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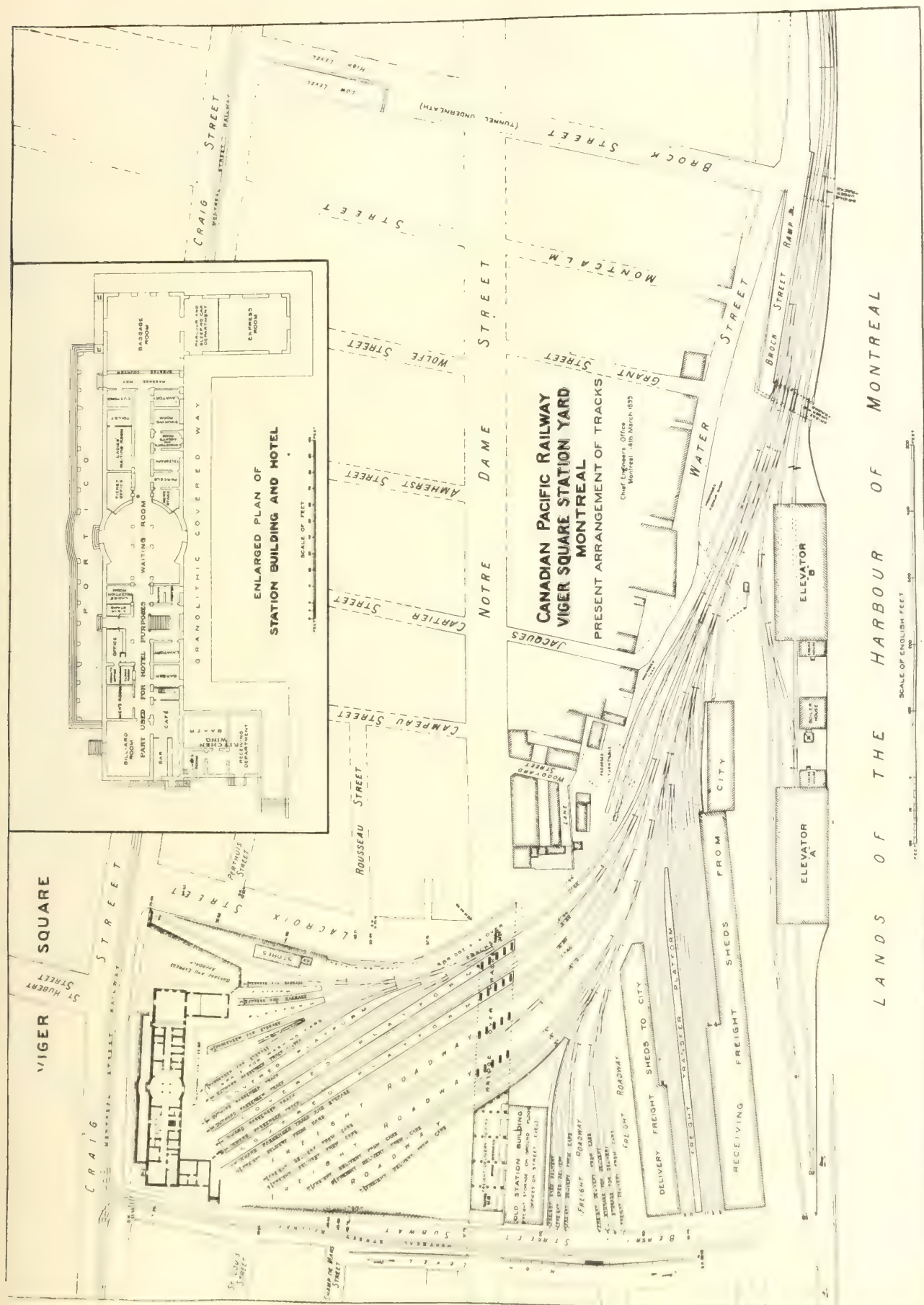
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The Canadian Pacific Railway's East End Terminals, Montreal.

(For Description see page 117.)

the cash covering the transaction, has been paid to the trustees of the estate in Philadelphia by Drexel & Co.

The Newfoundland Ry. contract came up in the British House of Commons recently, when Colonial Secretary Chamberlain, in reply to questions of regard to R. G. Reid's contract with Newfoundland, said that to have disallowed or delayed it would have been a tremendous interference upon the part of the Imperial Government with a self-governing colony, & either course would have brought the colony into bankruptcy, for which he would have been held responsible. Although he shared largely in the opinion in regard to the financial unsoundness of the contract, possibly he might be mistaken & the government of the colony might be right. Its government, however, had made a painful admission that it was incapable of efficiently carrying out large operations, which were handed over to a contractor, whom he believed to be competent & successful.

Qu'Appelle, Long Lake & Saskatchewan net earnings for Feb., \$290.53, against \$89.55 in Feb., '98.

Quebec Central. Traffic receipts Feb., \$26,983.40; increase over Feb., '98, \$4,823.28. Traffic receipts Jan. 1 to Feb. 28, \$54,113.01, increase over corresponding period \$7,649.07.

Temiscounta.—The Quebec Court of Appeal has confirmed the judgment of the Court of Review in the case of A. R. Macdonald, ex-District Superintendent of the I.C.R., vs. C. Riordan & the estates of E. D. Boswell & J. J. Macdonald, in which the plaintiff claimed \$193,000 as due him out of the construction of the Temiscouata Ry. Judge Ouimet, in the Superior Court, in the first instance gave a judgment favorable to the plaintiff, but this judgment was reversed by the Court of Review. The Superior Court held that Macdonald, having been one of the promoters of the railway, was entitled to enter into the covenants which he had. The judgment of the Court of Review reversing the judgment of the Superior Court was based on the illegality of the agreements in question. The Court held that the plaintiff, by entering into these agreements was guilty of an act which is declared by Parliament to be a misdemeanor, & that these agreements are in consequence unenforceable. This latter judgment has now been confirmed. Counsel for Macdonald applied for leave to appeal to the Imperial Privy Council, which was granted.

Wabash.—An influential director of this Co. says that the floating debt still stands at

the amount printed in the last annual report—\$400,000. The failure to reduce this obligation is on account of the heavy expenditures that have been made by the management in improvements on the property, including large additions to the equipment. The amount paid to other companies for hire of cars is being considerably reduced, but the item will not be completely extinguished, as the Co. always has to pay sums of money of varying amounts to the palace car companies & for the use of refrigerator cars. Nearly \$1,000,000 has been disbursed since June 30, 1898, for these improvements, which include 1,500 coal cars & 1,500 box cars. The large increase in operating expenses is on account of the fact that the Co. has over 250 miles of new road to handle, the section from Buffalo to Detroit. In addition to the equipment mentioned, a number of new engines have been purchased. Operating expenses have been swelled by the large aggregate of first payments for this equipment, but hereafter disbursements will be made monthly. Since 1889 the Wabash has expended for equipment, including new engines & rolling stock, an aggregate sum of \$6,418,000, which has been charged to operating expenses.

C.P.R. ANNUAL MEETING.

At the annual meeting in Montreal, April 5, as usual the attendance of shareholders was small, & the greatest possible unanimity prevailed, the irrefragable J. Morrison being the only one who caused the slightest departure from the usual routine. When he looked round the board room at noon & noted the paucity which marked the attendance, he asked if such indifference was not criminal. One of the directors having remarked that the chief thing to be considered was the dividend, Mr. Morrison replied that dividends were only one of the things which should be regarded—the good management was to be considered, primarily, & that it seemed a waste of time to prepare such an elaborate report as that which had been submitted to the shareholders if there was no one to criticize it. "Well," said Mr. Matthews, laughingly, "we depend on you, you know, Mr. Morrison." "I will do my best," was the reply.

President Sir Wm. Van Horne, who occupied the chair, in moving the adoption of the report for 1898, which was published in full in our last issue, said:—"The annual report deals so fully with the year's operations of the Co. that it seems hardly necessary to

supplement it with any remarks on this occasion beyond a reference to the measures which will be submitted for your approval relating to the Minneapolis, St. Paul & Sault Ste. Marie Ry., the so-called Soo Line, the most important of your subsidiary lines. These measures were not fully stated in the report, because the details were not definitely settled at the time it was issued. The Soo Co. can hardly be said to be in default to you in its interest obligations. The deficits which your Co. has been called upon to make good have been entirely due to expenditures for equipment, terminal facilities & general improvements such as are incident to a new & growing property; indeed, the expenditures for equipment & terminal facilities were almost entirely made at the instance of your Co., with the object of improving the joint earnings. The total advances to the Soo by your Co. amount to \$1,431,663, while the expenditures for equipment, terminal facilities & general improvements during the years in which these advances were made, foot up \$1,748,041; but as our accounts stand, the advances of interest charged against our income account appear to have been \$963,846, & for other purposes, as shown in the balance sheet, \$467,817. The Soo Co. has coming due in the immediate future certain interest bearing obligations which were outstanding at the time your Co. became interested in that property, & it is necessary to provide for these, & at the same time provision should be made for all the floating obligations of that Co., & also for additional equipment & facilities required at once as well as for some years to come. It is proposed that the Soo Co. shall issue second mortgage bonds to the extent of \$5,000,000, the interest on the bonds to be guaranteed by your Co. It is only intended that \$3,500,000 of these bonds shall be guaranteed & disposed of in the immediate future; & the remainder are to be held subject to the control of your Co. for the possible later requirements of the Soo Co. This arrangement will enable the Soo Co. to devote its net earnings to the payment of its interest charges, & at the same time to repay in annual instalments the interest which has been advanced by your Co. Its improved earnings justify the belief of your directors that it will not only be able to do this, but to make a return on its capital stock, of which your Co. holds more than one-half. The arrangement is fully set out in the resolution which will be submitted for your approval, & in the agreement with the Soo Co., which will be laid on the table."

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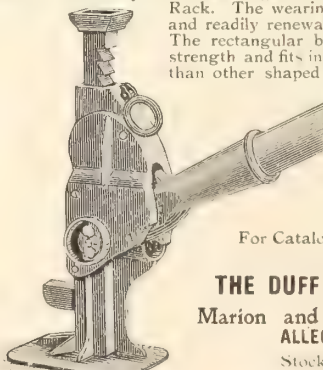
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Mr. Morrison said he was not sure the Soo line would pay back to the C.P.R. all the moneys which the latter had advanced, but was assured by the President that the arrangements made for the issue of debentures to the amount of \$5,000,000, was, among other things, for the purpose of repaying the C.P.R. Suppose, however, that the Soo Co., as a matter of fact, did not pay the C.P.R. back, would the Soo line revert to the former? asked Mr. Morrison. To this Sir William replied that the Soo line was practically a part of the C.P.R. at present, both as to its stock & its management.

Mr. Morrison wanted to know how the Duluth, South Shore & Atlantic Ry. was doing, & the President replied that they were confident that in the near future the line would be self sustaining. This line was also an integral feature of the C.P.R. System.

Then Mr. Morrison started in to criticize the book-keeping of the Co. He said a conglomerate mass of figures had been presented, which was mystifying to a degree. He did not charge that anything was wrong, but he wanted simplicity; he did not want that figures should be thrust backwards & forwards so that their right relation could not be easily ascertained. It would be better for the President himself, better for the officials, & better for all concerned if everything were plainly stated, so that all could understand Mr. Morrison went into particulars to show in what respect he considered the figures misleading, though not intentionally so.

Sir William rather thought that the bookkeeping was tolerably clear, & they were rather chary of changing their system, though doubtless Mr. Morrison was competent to give them some enlightenment on the point. He thought, however, that anybody

interested in the affairs of the Co. could understand what the figures meant.

Mr. Morrison said that doubtless it was better to continue an old error than to start a new one, but he reminded the President that for the want of a nail the shoe was lost, for the want of a shoe the horse was lost, & for the want of a horse the rider was lost, & he expressed the conviction that with respect to a certain item of \$1,400 which had not been accounted for, that Sir William never put his hand into his own pocket & produced it. Mr. Morrison stepped up to the table, report in hand, &, approaching the President in familiar conversational style, asked where was this million, or what had been done with that surplus—to the huge amusement of the meeting, including the President himself.

The report was then unanimously adopted.

AYLMER BRANCH.—The President submitted & explained an agreement between the Co. & the Hull Electric Co., providing for the sale of the Aylmer Branch to the latter Co., & for the interchange of traffic between

the two lines, & it was resolved that the agreement dated Jan. 9, 1899, between the C.P.R. Co. & the Hull Electric Co., providing for the sale to the latter Co. of the Aylmer Branch of the C.P.R., extending from Hull to Aylmer, for \$100,000, & providing also for the permanent interchange of traffic between the two companies, be & the same is hereby approved, ratified & confirmed.

STONEWALL & PIPESTONE BRANCHES.—It was resolved that, whereas the Co. has applied to the Dominion Parliament at its present session for an act authorizing the Co., amongst other things, to construct & operate a railway from or near the north terminus of its Stonewall Branch to Foxton, Man., thence northerly & north-easterly to the west shore of Lake Winnipeg between Gimli & Arnes; & also a railway from a point on the one last named, in a direction generally north-west to the east shore of Lake Manitoba between Marsh Point & the north boundary of township 25; & also a railway from a point at or near Reston, on the Co.'s Pipestone Branch, thence

pendent not exceeding in the aggregate \$20,000 a mile thereof, & at the same rate for any portion of a mile, bearing interest at the rate of 4% per annum, payable at the times & places & in the same manner as on the stock heretofore issued, provided that if the Co. issue bonds creating a lien on the said railways or any portion or portions thereof, then the amount of consolidated debenture stock which may be issued as aforesaid in respect thereof shall be diminished to the extent of the amount of such bonds.

COLUMBIA & WESTERN RY.—A lease in perpetuity of the C. & W. R. to the C.P.R. Co. of its property & franchises was submitted & explained, & it was resolved that the lease submitted to this meeting dated July 12, 1898, whereby the C. & W. R. Co. demises in perpetuity to this Co. with the option of purchase, the lessor's railway from Rossland to Midway, B.C., by the route therein described, & the branches therefrom whether constructed or to be constructed, be & the same is hereby approved, ratified & confirmed; the yearly rental being an amount equal to the interest on the capital of such bonds as the lessor may from time to time issue, such capital not at any time to exceed the maximum limit of \$35,000 for each mile of the railway & branches which shall then have been completed, or be under contract to be completed, & such interest, not exceeding 5% per annum payable 1/2-yearly, to be guaranteed by his Co., by way of rental.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE RY.—The following resolution relating to an agreement with the M., S. P. & S. S. M. R. Co., providing for extended traffic arrangements & for the guarantee by the C.P.R. Co. of the interest on an issue by that Co. of 2nd mortgage bonds, was submitted & the agreement having been



C. P. R. STATION AND HOTEL, PLACE VIGER, MONTREAL.

in a general westerly direction to the Moose Mountain District, thence westerly & north-westerly to or near Regina, with power to issue in aid of the construction & equipment of the said railways or any one or more of them, or any part thereof, bonds which will be a first lien & charge thereon, with the same effect as if the same were being built by the Co. as a branch of its railway within the meaning of section one of Chap. 51 of the statutes of 1888, or in lieu of such bonds consolidated debenture stock conferring on its holders equal rights in all respects & a rank pari passu with holders of such consolidated debenture stock as the Co. has been heretofore authorized to issue; therefore the shareholders do hereby resolve, that if the said Parliament do pass an act empowering the Co. to issue consolidated debenture stock for the purpose of aiding the construction or the construction & equipment of the said railways, or any one or more of them, or any part or parts thereof, then for that purpose the Directors may issue consolidated debenture stock of the Co. to such amounts as they deem ex-

plained & laid on the table, the resolution was adopted, viz.: Whereas, this Co.'s Board of Directors consider it advantageous to enter into an agreement with the M., S. P. & S. S. M. R. Co., hereinafter called the Soo Co., for a further working arrangement on the terms & conditions set out in a draft thereof now submitted to this meeting, & whereas the agreement provides, amongst other things, for interchange of traffic between the said companies & the division of earnings & other matters relating to such traffic, as therein more particularly set forth, & that the Soo Co. shall make an issue of its corporate bonds to be denominated 2nd 4% fifty year gold bonds to an aggregate of \$5,000,000, or its equivalent in sterling money, & shall secure the payment of the same by a second mortgage to the Central Trust Co. of New York as trustees of all its railways & other properties therein described, & that this Co. shall guarantee the payment of the interest on the bonds at the rate of 4% per annum, payable 1/2-yearly; all of the said bonds to be executed by the Soo Co. & delivered to the trustees, after which the pro-

thereof, viz., \$3,500,000, or its equivalent in sterling money, is to be in the first instance certified by the trustees & delivered back to the Soo Co. for issue, the proceeds thereof to be applied approximately as follows, that is to say: For terminal yards & facilities at Minneapolis, increased accommodation at divisional & intermediate points, permanent bridges & general additions & improvements, \$950,000.00; for redemption of interest bearing securities coming due, & for payments on account of rolling stock equipment already purchased, & for additional equipment estimated to be required, \$1,675,000.00; for payment of floating debt incurred for additions & improvements to the property, including amount advanced by the C.P.R. Co. for that purpose, but not including amount advanced by that Co. on account of interest on bonds which will be distributed over a term of years, \$875,000.00; total, \$3,500,000.00. The remainder of the said bonds, namely, \$1,500,000, or its equivalent in sterling money, to be afterwards certified by the trustees from time to time in such amounts as the Soo Co., by resolution of its Board of Directors may direct, the written concurrence & approval of this Co. having been first obtained; provided that the remainder of the said bonds or any part thereof shall not be disposed of, or the proceeds thereof applied, except as this Co. shall from time to time first authorize & approve of in writing; now therefore it is resolved that the shareholders do hereby approve of the transaction embodied in the said agreement, & do authorize the Board of Directors to cause the said agreement to be executed on behalf of this Co. under its corporate seal & the signa-

tures of such of its officials as they may appoint for that purpose, & from time to time to do whatever may be necessary in order to carry out & give effect to the terms thereof.

CAPITAL EXPENDITURE.—The President submitted & explained estimates approved by the directors of proposed capital expenditure to be incurred during the current year on construction & improvement account; & it was resolved that the shareholders hereby authorize expenditures on capital account during the current year, as recommended by the directors, as follows:

Improvement permanent way.....	\$1,150,979
Additional station yard & terminal facilities.....	788,187
Completion of air brake & automatic coupler equipment.....	305,010
Branch lines to mines in connection with Crow's Nest Line (as required).....	300,000
Rolling stock (as required).....	1,000,000
	\$3,544,176

SOLICITING ON TRAINS.—The following by-law, passed by the Board of Directors, was submitted & approved; by-law 76, "The C.P.R. Co. hereby enacts as follows: Any person who does any of the following acts without the written consent of the Co. in or upon any passenger car of the Co. or in any station or premises occupied by the Co. shall be & is hereby subjected to a penalty not exceeding \$40, that is to say: Advertising, soliciting custom or canvassing for any hotel, lodging house, restaurant, or other like places; or soliciting the transportation of passengers or baggage or selling or exhibiting for sale any goods, wares or merchandise; & if any person while on any passenger car continue to do any of the said acts after being forbid-

den by the conductor, then he may be put off the train in the same way as a passenger who refuses to pay his fare may be."

The following directors were re-elected by unanimous vote: Lord Strathcona & Mount Royal, Sir Wm. Van Horne, R. B. Angus, T. G. Shaughnessy, E. B. Osler, Sir Sandford Fleming, Sir Geo. Kirkpatrick, Gen. S. Thomas, G. R. Harris, W. D. Matthews, Hon. D. MacInnes, T. Skinner, J. W. MacKay. At a subsequent meeting of the Board, Sir Wm. Van Horne was re-elected President & T. G. Shaughnessy, Vice-President, & the following were appointed the executive committee: Sir Wm. Van Horne, T. G. Shaughnessy, Lord Strathcona & Mount Royal, R. B. Angus.

The Central Vermont Sale.

The sale of this line at St. Alban's, Vt., Mar. 21, placed the principal railway of the State of Vermont definitely & decisively under the control of the Grand Trunk. W. Wainwright, General Assistant, & R. S. Logan, Secretary to the General Manager of the G. T. R., were present & witnessed the purchase by E. H. Baker, of Boston, on behalf of the purchasing committee, in the interest of the bondholders, for the purpose of carrying out the reorganization agreement of Nov. 29 last. Mr. Baker's bid was the only one made. It was \$7,000,000, the upset price named by Judge N. M. Wheeler of the U. S. court in the decree ordering the sale of the property.

After the sale, the President of the road, Governor E. C. Smith, did not care to speak

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$3 to \$4 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

Write for maps and full particulars.

L. A. HAMILTON, Land Commissioner,
F. T. CRIFFIN, - Asst. Land Commissioner,

WINNIPEG.

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Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

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in detail of the road's future, but expressed the opinion that the road was now placed on a basis which would be to the benefit of all interests concerned. He said General Manager Hays, of the G. T. R., was a brilliant railroad man, & that Vermont interests would be well looked after under the reorganized management.

Attorney C. M. Wilds, who has practically had charge of the reorganization, was asked what effect a protest made by the New York Central interests against the sale would have upon the situation, & replied as follows: "Mr. Young, who presented the objection to the sale, represents bondholders holding about \$316,000 of bonds made by the Ogdensburg & Lake Champlain R.R. Co. & guaranteed by the Central Vermont R.R. Co., which are in default. These bondholders have contested their rights in court & their principal grounds of objection, as well as the protest that the New London Northern lease is not subject to the mortgage, & that the second mortgage is not valid, have already been passed upon in court adversely to the contentions of Mr. Young's clients. The other grounds of objection were to the sale of various parcels of land acquired since the mortgages were executed, & which were

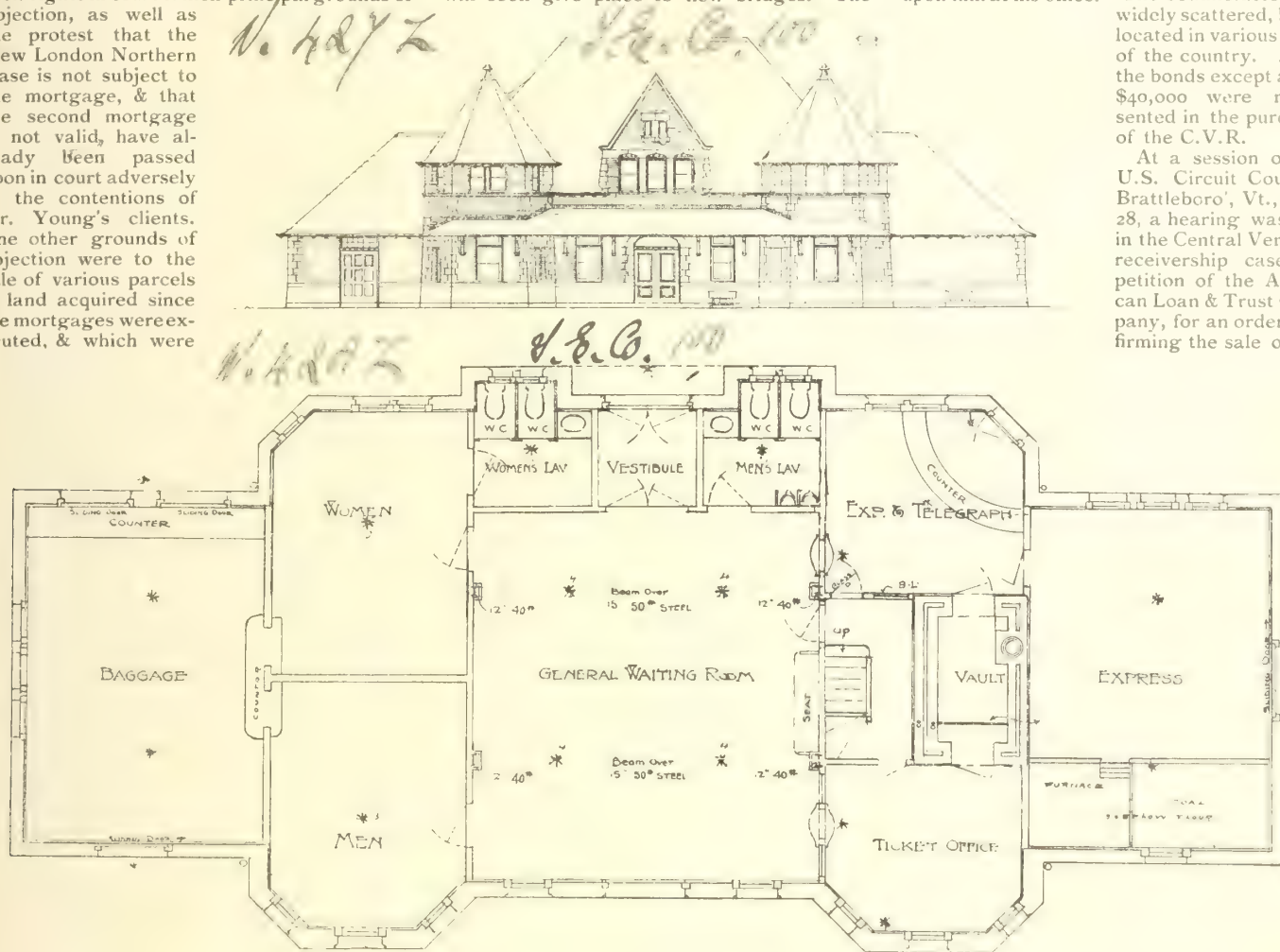
The close relations which have hitherto existed for many years between the C. V. & the G. T. will be perpetuated. The interchange of traffic between the two roads will be provided for by traffic agreement. What change there will be in the management is not at present disclosed. All conflict between the security holders has been adjusted & the litigation over the C.V.R. is practically concluded."

In reply to a question regarding the policy of the new management regarding improvements & the quality of service to be expected by the people of Vermont, Mr. Wilds said:—"Some weeks since the court authorized the receivers to purchase 5,000 tons of steel rails, which when laid will complete the relaying of the main line with 75 lbs. rails. Most of the wooden bridges have been replaced with iron structures, & it is expected that the remainder will soon give place to new bridges. The

of their bonds in the stock of the new company for defaulted interest. These old bonds, by the way, are now selling in Boston at 94. The second mortgage bonds were generally held as collateral security, & their holders will receive new bonds for the face of their loans. The sale of a railway at auction is unusual in Vermont, but the mortgages having provided for a sale in the event of default, Judge Wheeler thought that the foreclosure proceedings should be completed by such a sale of the property. It was sold as a single parcel, & the conveyance by the master will be direct to the new company.

Mr. Baker, of the purchasing committee, made a number of interesting statements with reference to the bondholders. He said the bondholders were over 1,300 in number, & it seemed that nearly all of them had called upon him at his office. The bondholders were widely scattered, being located in various parts of the country. All of the bonds except about \$40,000 were represented in the purchase of the C.V.R.

At a session of the U.S. Circuit Court at Brattleboro', Vt., Mar. 28, a hearing was had in the Central Vermont receivership case on petition of the American Loan & Trust Company, for an order confirming the sale of the



TRACK ELEVATION AND FLOOR PLAN, C. P. R. STATION, NEW WESTMINSTER, B.C.

claimed not to be covered by the mortgage. These parcels of real estate are of small value. It is expected that the confirmation of the sale will promptly follow, & that upon the return about the middle of April of Mr. Hays, who is now abroad, & who is one of the corporators of the Central Vermont Ry. Co., the new company, chartered at the last session of the Vermont Legislature, will be organized & that the receivers will turn over the property to the new corporation about May 1. The G. T. R. Co. is to guarantee the payment of interest on the new bonds, which will be issued to the amount of \$12,000,000, & it will own something more than two-thirds of the entire capital stock of the new company, which will be \$3,000,000. It will, therefore, be able to name the directors of the new company, although three of the board are to be chosen on the nomination of the bondholders.

somewhat radical improvements in management inaugurated on the G.T.R. since Mr. Hays took the management warrants the prediction that the future management of the C. V. under the controlling influence of the G.T. will not be lacking as to efficiency & satisfaction to the public. It will be operated under its new charter as a Vermont institution."

Turning to the subject of the action of the bondholders Mr. Wilds said that less than 1/3 of the entire issue of bonds of both classes had failed to come into the reorganization, the entire balance of the bonds being represented by Mr. Baker, the successful bidder at the sale. The first mortgage bondholders will receive new 4% bonds in exchange for their holdings of the old bonds & interest at the rate of 4% per annum since Feb. 1, 1898. This interest has already been advanced by the G.T.R. They also receive 8% on the face

road by the special master, whose report has been filed, & after such hearing the prayer of the petition was granted & an order entered accepting & confirming the master's report & confirming the sale to E. H. Baker & H. B. Day.

The C.V.'s main line runs from Windsor, Vermont, to Rouse's Point, N.Y., 158 miles. There are 3 branches, between Montpelier, Jct., & Montpelier, Vermont; between Essex Jct. & Burlington, Vermont; & between Swanton Jct. & Province Line, Que., making a total mileage of 178. The Montpelier & White River R.R., from Montpelier to Williamstown, Vt., is 13 miles, & there are 318 miles of leased lines, making the total length of lines operated 510. The leased lines are—Burlington & La Moille Valley, 26 miles; Missiquoi Valley, 28; Montpelier & Vermont Jct. 23; Stanstead, Shefford & Chambly, 43;

Montpelier & White River Line. 40; New London, Northern 121; Brattleboro' & Whitehall, 35. In passing from Windsor to Brattleboro' the C.V.R. uses the tracks of the Sullivan County R.R. from Windsor to Bellows Falls, & of the Vermont Valley R.R. from Bellows Falls to Brattleboro'. The C.V. Co. was formed by a consolidation in 1891 of the Central Vermont, the Vermont & Canada, & the Montpelier & White River R.R. Companies. In Mar., 1896, E. C. Smith & C. M. Hays were appointed receivers in a suit in equity brought by the G.T.R. Co. In April, 1896, default was made on interest due under the lease of the Ogdensburg & Lake Champlain R.R., & shortly afterwards default was made in rental due to the Rutland R.R. Co. The latter road was surrendered to its owners in May, 1896. The Ogdensburg & Lake Champlain R.R. was turned over to a separate receiver in Mar., 1897. Suits in foreclosure proceedings were brought under both of the consolidated Vermont R.R. Companies' mortgages. The C.V.R.'s net earnings for the year ended June 30, 1897, were \$705,139.04.

Canadian Pacific Betterments, Etc.

St. John, N.B., Terminals. In reference to the rumor quoted in our last issue to the effect that the Co. had in contemplation the construction of a large extension or addition to the terminal facilities at West St. John, at a cost of about \$150,000, we were officially informed on Mar. 11 that nothing had been definitely decided, though steps had been taken to decide upon the best location for a deep water coal wharf should one be required.

Eastern Lines.—Among the principal works to be done this year on the lines east of Lake Superior are the erection of a roundhouse & turn table at McAdam, N.B., & of a passenger station at Joliette, P.Q., the completion of the double track between Western Jct. & St. Anne's, Que., the improvement of the coal & engine handling facilities at Havelock & Smith's Falls, Ont., the providing of additional siding room at Havelock & Toronto Jct., the completion of the bridge over the Grand River at Galt, Ont., the reduction of the grade in its vicinity, the erection of a passenger station at Woodstock, Ont., the putting in of compressed air plants at the principal terminal & divisional points, & the providing of additional crossings at a number of points. In addition to the foregoing a large number of bridges will be replaced with permanent work, either by filling or with masonry & iron, & there will be considerable ballasting done, principally on the St. John, N.B., section, between London & Windsor,

Ont., & on the Lake Superior section. Improvements contemplated to the Montreal terminals include a freight delivery yard at Mile End, the re-arrangement & enlargement of Outremont, Hochelaga & Place Viger yards, & additional freight shed room at Place Viger station.

Fort William-Winnipeg Double Track.—As stated in our last issue an engineer will go over the line between Fort William & Winnipeg this year & prepare an estimate of the cost of double tracking throughout. When the double tracking will be done will depend altogether on the traffic. If there should be a rapid increase in the acreage under cultivation, by reason of a large increase in immigration which would also mean an increase in other traffic besides wheat, a double track will become a necessity. (Mar. pg. 71.)

Rat Portage.—It was stated in our Feb. issue that provided satisfactory arrangements could be made with the Town Council, it was probable a handsome station would be built, & that a considerable sum would be spent in remodelling the divisional yard. It is understood that the arrangements have been concluded & that the work will go on.

Winnipeg Station.—Local papers have had a good many items recently alleging that the Co. has been purchasing land for the erection of a larger station & possibly on a new site altogether. So far no decision has been come to & the rumors are mere talk.

Crow's Nest Pass Railway.—Manager Whyte, of the Western Lines, went over this line on a recent trip of inspection which extended to the Pacific Coast. On arriving at Vancouver he said:—"I came west through the Crow's Nest Pass. Trade is busy through there. Parts of the lines in that section are not completed, & I was looking specially over those. There is more traffic almost than the road can accommodate, & the arrangements that have been made for shipping goods through to Nelson work well. All stuff from the east bound for Kootenay points is now sent in by way of the Crow's Nest line." Questioned as to when the line would be completed from Kootenay Landing, its present terminus, to Nelson, he replied that he preferred to say nothing. The general idea is that this work will not be done this year.

At the recent annual meeting of the Co. the expenditure of \$300,000 was authorized to be made as required for branch lines to mines in connection with the Crow's Nest Pass line. Nothing definite appears to have been decided yet in this connection, but the building of a branch to Fort Steele has been considered. There is a good deal of speculation in East Kootenay as to the route which

will be chosen for this branch, Cranbrook, Fort Steele Jct. & Wardner, all being mentioned as possible starting points. The people at Fort Steele seem to feel satisfied it will go their way & on to Windermere, eventually joining the main line at Golden, & that a branch will be run to the North Star mine.

Columbia & Kootenay Branch.—A considerable sum will be spent this year in filling trestles & improving the alignment.

Columbia & Western.—In the purchase of this line from F. A. Heinze, the C.P.R. Co. acquired the narrow gauge line between Trail & Rossland, the physical characteristics of which make it of more than ordinary interest. It is 13.8 miles in length, & rises 2,360 feet from Trail to the Le Roi mine, the average rise per mile being 171 feet. The grade on tangents is 4% curves, being compensated .04 per degree, making it one of the greatest inclines in the world. There are 38 curves 25°, & 6 of these contain 180 degrees of curvature each. There are 2 switch-backs, so that the line is a succession of loops & switch-backs, which is made doubly apparent on account of the fact that Rossland & Trail are only 4½ miles apart as the crow flies. The track was laid with 28 lbs. steel, on 6 ft. ties, so that the Co. is compelled to build practically a new line between these points, in the work of standardizing this line, which they started in August last, completing the grading & bridging last fall, but on account of the early winter, it was impossible to lay the track, which of necessity had to lay over until this spring, when everything will be in readiness, so that the new track can be substituted for the old & traffic not interfered with, which will be done by laying a narrow gauge rail between the standard rails, & thus allow both standard & narrow gauge trains to operate on the new track. By this method the change in the gauge will be made without any interference with traffic.

The Co. is removing all the 25° curves, taking out the present tiger switch-back, & providing for a single loop at the upper switch, & a complete spiral at the lower switch, as well as filling all the bridges except 6, which have been strengthened to carry safely the heavy engines, which are to handle the Rossland traffic, when this work is complete. In addition to standardizing this line the Co. is making many marked improvements & extensions, the most prominent of which are, 1st, the extension to the Center Star & War Eagle mines. This branch is ½ a mile in length, crossing the Center Star Gulch with a bridge 600 ft. long and 130 ft. high. In the construction of this line valuable ore deposits were discovered on the Idaho & Center Star mining claims.

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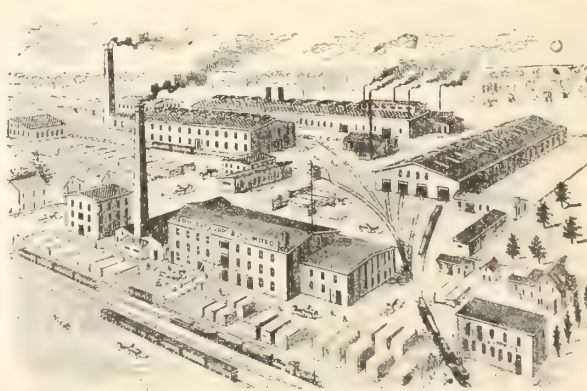
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2nd, the new Rossland terminal & station buildings, which will be located on the Nickel Plate Flat, half-way between the centre of the City of Rossland & the Red Mountain Ry. station. The buildings will consist of a passenger station, a freight station & a 2-stall engine-house. The entire work will be finished about June 1.

A correspondent of the News Advertiser, Vancouver, writing from Midway, B.C., Mar. 14, respecting the line from Robson to Midway, which the C.P.R. Co. is building under the C. & W. R. Co.'s charter, says: "On parts of the line just above Midway men are working night & day at grading, so it is evident that it is intended to complete the grade between Boundary Falls & Midway (where occurs the heaviest work west of the summit of the divide between the North Fork of Kettle River & Boundary Creek) as expeditiously as is practicable. Yesterday the C.P.R. survey party, which, under the direction of G. G. Odell, has for several months past been engaged in surveying the projected branch line from Midway up the main Kettle River & thence up the West Fork to Beaver Flat, returned to Midway. It is understood the men are required for work on the branch lines from several of the Boundary Creek mining camps to the main line at the summit."

On returning from a recent inspection trip over the Western lines Manager Whyte said that although he did not go over the Robson-Midway line, he had a long talk with the engineer in charge & learned that work is being carried on very satisfactorily. Some delay was caused in the work on the big tunnel west of Robson by the severity of the weather, the water used to drive the compressor plant which works the steam drills being frozen. Of the 30 drills on the ground only 2 could be operated. This, however, will not delay the completion of the line as a switchback is being constructed & will be used until the tunnel is completed.

In a recent interview in Winnipeg, after returning from a trip to British Columbia Traffic Manager Kerr, of the C.P.R. Western Lines, is reported to have said: "The railway is now being built through the Boundary Creek district from the Columbia River at Robson in a southwesterly direction to Cascade, west to Grand Forks (now called Columbia) thence taking a sharp curve up north, then down again to Midway, west to Rock Creek & from there northwest to Penticton & up along the Okanagan Lake to Vernon where it joins the branch from Sicamous Jct., thus forming a complete circle around West Kootenay."

We are inclined to think that Mr. Kerr has been misreported or else that he intended to refer to what may be done, rather than to what is under way. At present the line from Robson to Midway is all that is under construction, though possibly the line may be extended to Rock Creek this season. Nothing has been done about the extension to Penticton. It was expected it would have been built by Mackenzie, Mann & Co., under the Vancouver, Victoria & Eastern charter, but their contract with the B.C. Government was cancelled at the recent session of the B.C. Legislature & although the B.C. Government took power to enter into another contract no intimation has been given that such action has been taken. As to rail connection between Penticton & Vernon, by building along the east side of Okanagan Lake, we do not think anything is likely to be done for some time at least, certainly not in the near future.

Branch to Republic.—Rumors have been afloat to the effect that the C.P.R. Co. will build a branch from the Robson-Midway line to cross the International Boundary, & run down the San Poil Valley to the new mining camp at Republic, Wash. No official confirmation of the rumors is obtainable.

Smelting Works.—It is announced that the C.P.R. Co. will commence this spring the

construction of a large reduction plant in the Boundary Creek region of B.C. This scheme is in the line of the general policy of the Co., to give to the miners in this section of B.C. the benefit of the lowest possible smelting charges on all classes of ores, thus placing them, as regards the cost of reduction, upon the same footing with the miners of the older camps in the U.S. At Trail this has been already accomplished by the establishment of charges of \$7 a ton (and, in some cases, even less) for the treatment of refractory ores requiring roasting, & containing a high percentage of silica & alumina, while running very low in copper. It may be doubted whether more favorable rates are offered to miners of such ores even in Colorado or Montana.

Arrowhead to Kootenay Lake.—A survey is being made for this proposed extension, but nothing has been decided in regard to construction.

Nakusp & Slocan Branch.—Some B.C. papers have stated that a large sum is to be spent on this line this year. We are informed that nothing has been included in the estimates for this, & only ordinary maintenance work will be done this year.

New Westminster.—The illustrations on pg. 111 show the track elevation & ground floor plan of the stone & brick station which is to be built on the site of the one destroyed by fire last year. It will be 90 x 40 ft., 2 stories high, & with stone filling on the river side will cost about \$40,000. The architect is E. Maxwell, Montreal. Work has been started on it. The 25 ft. railway reserve is to be filled in & protected with cribbing on the river side. The present track will be moved over several feet towards the water front, & a siding will be laid beyond for the accommodation of the wharves, etc.

Vancouver Terminals.—Tenders were recently asked for 40,000 cubic yards of rock filling required at the Vancouver wharves. When at Vancouver recently Manager Whyte said that the work of filling in all the docks & wharfage extensions laid out in detail & presented to the City Council a year ago, would be gone right on with & he expected to see a large increase of trade in consequence.

It is said the plans for the extension of the Hotel Vancouver are elaborate, & embrace a 7 story addition towards Howe St. which will make the hotel the largest on the whole Pacific Coast.

The Minneapolis, St. Paul, & Sault Ste. Marie will probably build new freight terminals at Minneapolis in the near future. The plans have not as yet been fully perfected.

The Mineral Range built 9 miles of road last year from Boston, Mich., southeast & southwest to Arcadian Mine, & from Grosse Point, on Portage Lake, northwest to Dollar Bay, leaving a gap of 4 miles between the 2 lines to be completed this year. Work is now in progress on this gap, & it will be completed by July 1.

Grand Trunk Betterments, Etc.

The Work of 1898.—General Superintendent McGuigan states that 255 miles of steel rails, of the standard 80 lbs. weight, were laid during 1898. Over 400 miles of the road were greatly strengthened & improved. Sixty-six miles of new track, & 20 miles of sidings intended for the use of manufacturing establishments, were laid. 85 light iron, steel & wooden bridges were replaced by steel structures of the best & most modern description, their total length being 21,236 ft., or 116 ft. in excess of 4 miles. The number of running feet embraced in this achievement includes the 25 spans, or 6,592 ft. of the Victoria Jubilee Bridge, but does not include the splen-

did new structure spanning the Niagara gorge. Other bridges were likewise looked after, & the G.T. record for 1898 also shows that 35 wooden pile bridges & trestles, possessing a total length of 2,361 ft., as well as 10 overhead wooden waggon bridges, the whole being 1,108 ft. long, were completely rebuilt, most of these being on the branch lines.

The G.T. laid during 1898 1,759,833 cross ties, an increase over 1897 of 500,000. 312 miles of ballasting has also to be placed to the credit of the road for this period, 262 having been done with gravel, & the remaining 50 with cinders, the latter being considered excellent material where the line passes over wet land, or where drainage is difficult. 61 wooden, stone & pipe culverts were renewed in stone during the year, while fine new buildings of all kinds went up all along the lines. Sixteen stations, 8 freight sheds, 2 coal chutes & 12 motive power buildings were erected, while 60 stations, 9 freight sheds & 9 motive power structures were remodelled, painted & repaired during the same time. Eleven of the 16 new stations were built in Ontario & Quebec, 1 in Maine, & 5 in Michigan.

Victoria Jubilee Bridge. It is frequently asked if provision has been made for an electric car service across this bridge, connecting with the south shore, & opening up all the districts & municipalities in this region to prompt communication with the metropolis. The interest in this question is not confined to the proprietors, who naturally look for an enhancement of values. It extends to several corporations & syndicates, who see in such opening up great possibilities for future expansion & profit. Charters have been obtained for operating electric power along the south shore as well as throughout the Eastern townships. The question hitherto has been the connection across the river. It may be said that the G.T.R. management, while alive to the question, has not made any provision for an electric service at present. This is a matter which will, in the near future, be the subject of negotiation with all the parties interested, & doubtless electric cars will run across the reconstructed bridge with advantage to the districts of country to be served, as well as profit to those who are willing to invest their money in the project of placing a gridiron across a stretch of country which has hitherto been cut off from vital connection with the city. The new bridge, however, will be opened without such service, & it may take some time before arrangements can be made for its introduction. Those who have noticed the laying of wires below the rails & who believed that electricity was virtually an accomplished fact are a little sanguine—signal wires are being laid to make connection with either shore. Electricity will doubtless come in time, as an influential official recently remarked; but it cannot be immediately arranged for.—Witness.

Montreal Offices.—The directors have approved of the plan of the new general offices as submitted by the architect, who has received instructions to proceed at once with the letting of contracts, & it is expected that the foundation will be commenced early in May. In so far as possible local firms will be preferred, but it is claimed there are several features in connection with the building which can only be supplied in the U.S. Nevertheless, the large features of the work will be offered to local contract & the disbursement of over \$500,000 will be an encouraging feature at the beginning of a new season. When once the work is commenced, it will be proceeded with with the utmost energy, but it is not expected the building will be finished before Sept., 1900.

Western Division. For some time the management has contemplated laying a double track between Port Huron & Chicago, & there is a possibility that the work may be

commenced this season. Engineers have been employed for a considerable period surveying the line & estimating the cost of the additional track, & are still working at the surveys & estimates.

It is said a branch will be built from Port Huron, Mich., south to the Jenks Ship Building Co.'s yards if sufficient business is guaranteed.

Surveys are said to be in progress for a new line from the west into Battle Creek, Mich., to avoid a steep grade.

Place Viger Station, Montreal.

The subject of the enlargement of the old Quebec Gate Barracks station yard, & the building of a combined station & hotel, was first taken up by the City Council of Montreal & the C.P.R. Co. in 1893. Several sites were proposed, & finally it was arranged that the City should expropriate the block bounded by Craig, Berri, Notre Dame & Lacroix sts., should sell the buildings thereon, & hand over to the Co. the vacant ground, comprising a total area of 208,450 ft., inclusive of parts of streets in the block.

The City also agreed to erect a bridge to carry Notre Dame st. & a part of Lacroix st. over the new yard, & to subscribe \$150,000 towards the cost of a building not less than 4 stories high to be used as a station & hotel, on condition that the Co. should spend not less than \$350,000 on the building & its appurtenances, & should cede to the City several valuable properties comprising an area of 184,836 ft. By Nov., 1895, the City had acquired the entire block & had removed all the buildings therefrom, except a fire station at the corner of Notre Dame & Lacroix sts. In Jan., 1896, the Notre Dame st. bridge was completed. In May, 1896, the deed was passed conveying the new block to the Co., & the properties above mentioned to the City.

The surface of the new block was very irregular, being at an elevation above city datum of about 64 ft. next Notre Dame st., & 29 ft. adjoining Craig st.

As the level of the new yard is about 34 ft., the excavation amounted to about 75,000 yards, exclusive of the excavation required for the erection of the bridge under Notre Dame st. & part of Lacroix st. In July, 1896, the Co. began the erection of the new freight shed in the old Quebec Gate Barracks yard, now called the Barracks yard, & work was commenced on the station building in Aug., 1896, & was carried on continuously until Aug. 15, 1898, when the station was opened for traffic. The hotel was opened a few days later.

The new yards being at right angles to the tracks which led to the old station, it was necessary to lay out the new tracks oblique to the new station in order to provide a sufficient length of straight track next the station. These tracks are shown on the plan on pg. 107. At present track no. 1 leads past the

stores building & the end is used for repairs. Tracks nos. 2 & 3 are for baggage & express cars, which are, in the future, to be loaded opposite the baggage & express platforms, & pulled out & coupled to front of outgoing trains a few minutes before train time. At present, however, the baggage is taken on trucks up to baggage cars at their place in front of trains. Tracks nos. 4 & 5 are for passenger car storage. Nos. 6, 7 & 8 are outward passenger tracks, & nos. 9, 10 & 11 are inward passenger tracks. Tracks nos. 12 to 17, both inclusive, are for delivery of freight direct from cars to trucks. These are all the tracks in the new Place Viger yard.

There are at present no passenger tracks in the old yard, now called the Barracks yard. Tracks nos. 1 & 2 of this yard are for freight delivery from cars into the lower storey of the old station building, which is to be used for freight storage, while the space below Notre Dame st. bridge, next the old station, is being closed in & connected with the old building by four 8-ft. doors, & will be used for delivery of freight to trucks. The top storey of the old station, at the level of Notre Dame st., is fitted up as offices for the Division Engineer & his staff, the Superintendent of Terminals, the Roadmaster, & the Stationery Department & stores. It is proposed to put in an intermediate floor between the two storeys above mentioned for freight storage. Tracks nos. 3 & 4 are for unloading freight direct from cars into trucks, nos. 5 & 6 are for storing cars of freight for delivery to city, & no. 7 is for freight delivery direct from cars to trucks. Tracks nos. 8 to 16, both inclusive, are for delivery from cars into freight sheds. No. 17 is for car storage, no. 18 is for freight delivery direct from cars to trucks, & nos. 19 & 20 are grain elevator tracks.

There is a complete system of water, steam & air pipes laid across the entire head of the Place Viger yard, the pipes also extending from the head of the yard for about 210 ft. between tracks 5 & 6, for about 350 ft. between tracks 7 & 8, & for about 670 ft. between tracks 9 & 10, & between tracks 11 & 12. These pipes are laid from 5 to 6 ft. below base of rail, & are enclosed in a wooden box of 2-inch plank. At the head of the yard, between each pair of tracks, and also at intervals of about 100 ft. along the lines of pipes between the tracks above described, there are vertical shafts, $2\frac{1}{2} \times 2\frac{1}{2}$ ft. clear inside, rising to the level of the top of the rail, made of 3-in. plank. Stand pipes for water, steam & air, with the usual rubber pipe connections, are set in these shafts. The boxes in which the pipes are laid have a grade of $2\frac{1}{2}$ ins. per 100 ft. towards the head of the yard, so that any water collecting in them may drain off into a 10-in. pipe running under the station building opposite the end of track 4.

The platforms between the tracks have an umbrella-roof covering the full width of the

platforms, supported on a single row of cedar posts along the centre line of the platforms. This arrangement of the posts is much more convenient than the double row adopted by some railways, as it does not interfere with passengers getting on or off trains, & as it separates the passengers coming from or going to trains on either side of the platform. These covered platforms are lighted by an incandescent lamp between each pair of posts.

The station & hotel building is the early 16th century style of French Renaissance. The exterior face of the walls, up to the sill of the first floor windows, is of pick-faced, grey Montreal limestone, plainly treated. The remainder of the exterior face is of Glenboig firebrick of buff color with dark mottling, the quoins, heads, string courses, etc., etc., being of Montreal grey limestone. There is a covered portico, 16 ft. wide, on the Craig st. face, extending along the entire length of the main building, having a stone colonnade in front, & being approached by five stone steps running the whole length of the portico. The roof of this portico is used as a promenade during the summer. The roof of the entire building is of slate with copper flashing.

The whole of the work was carried out under the supervision of the Co.'s Chief Engineer, P. A. Peterson, J. P. O'Leary being inspector of works. We are indebted to Mr. Peterson for the foregoing description, which was written by H. Irwin. A plan of the yards & a view of the station & hotel building appear on pages 107 & 109.

The Crow's Nest Pass Railway.

Some interesting particulars about this line are given in a report made by the Government Superintending Engineer, G. R. L. Fellowes, under date of Dec. 1 last, as follows:—

The railway was given under contract to the C.P.R. Co. to be constructed & equipped for a subsidy of \$11,000 a mile, from Lethbridge to Nelson, the total amount of subsidy not exceeding \$3,630,000. The line was to be opened for traffic on or before Dec. 31, 1898, as far as the south end of Kootenay Lake, there providing train transfer facilities, without transshipment, not later than that date, from that point to Nelson, B.C., the service to be kept up until the balance of the road to Nelson was completed & put in operation for public traffic, the contract allowing the Co. until Dec. 31, 1900, to complete it.

The section of road to Kootenay Lake will be in safe condition to be opened for traffic before the close of the present month; it is equipped with rolling stock sufficient for the requirements of the traffic. Car loads of freight have already been carried from the south end of Kootenay Lake to Nelson, B.C., by water in transfer barges & steamers, thereby giving the public a traffic service before the expiration of the time limit named in the contract.

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The contract specifies that steel rails of a minimum weight of 56 lbs. per lineal yard are to be used for track. The 56 lb. rails have been introduced on the prairie sections & on the river bottoms, where tangents & light curvature occur, the balance of the road-bed is completed with a percentage of 60 lb. rails & fully 26% of the whole 288¾ miles is laid with rails weighing 73 lbs. to the lineal yard.

The truss bridges of large spans on this line, both for through & deck spans are of the Howe truss, of the C.P.R. standard, built of wood, the splicing of the lower chord members being of steel plates. Over the Kootenay River, which is navigable for steamers, an iron swing bridge has been erected over the north channel, which I consider gives ample provision for the passage of craft navigating these waters. The trestle bridging is well designed & of the C.P.R. standard, where necessary rows of piles driven from the mud sill of the embankments, 30 & 45 ft. out, which are framed into the deck system, having diagonal sill braces to ensure greater rigidity.

The position of the culverts, both box & beam, have been well chosen, the structures being strong, well put together & of sound material, in some cases stone is used, & in others cedar & Douglas fir timber. They are similar in design to those in a like country on the main line of the C.P.R.

The surfacing & ballasting of the road has been well advanced from Lethbridge to Jaffray station at the 173½ mile. From this point to Kootenay Lake the road is about half ballasted. At present a large force of men, steam shovels & working trains are employed in completing the work.

Such of the buildings for sectionmen's houses & stations as are built, are roomy, of neat design & suitable for the traffic, & conform to the requirements as specified in the contract. Tanks of the C.P.R. standard design, of a capacity of 40,000 gall. each, have been erected at suitable points between Lethbridge & Kootenay Lake, excepting at Cranbrook, a divisional station, & at Sirdar, at which two points water for the present is being supplied by temporary tanks.

The road-bed throughout is of a solid, substantial character & well built. The embankments have settled down, & become consolidated, which naturally has lessened the original width at formation level; the Co. is now bringing these up to the contract width.

The cuttings have been formed of the widths called for by the contract, but the earth cuttings are now being further widened. In earth cuttings the character of the material largely governs the pitch of the slopes. In gumbo, or running clay, the slopes have been taken out at a flatter angle than 1½ to 1, & to give greater stability to the road-bed, & prevent disturbance of the track, 12 in. sheet piling has been driven at the foot of the slope on the upper side of the cuttings; not only has this been done, but in through cuttings of this material a base of broken rock over the full width of the bottom of the cuttings has been laid in, over 3 ft. in thickness, which has given most satisfactory results. Cemented material has been met with in many of the cuttings, from the Crow's Nest Lake station westward, in such cases a slope of less than 1½ to 1 has been adopted, which appears to meet all requirements, as they are standing well. In some of the cuttings east of the Crow's Nest station, a firm, dry & compact soil is found, in such cases the slopes have been taken out at less than 1½ to 1, & so far they have stood well. In other cuttings between Lethbridge & Macleod a cemented material is found which is so hard & compact that blasting had to be resorted to. As the specification calls for a slope of 1½ to 1, I am, until I have had an opportunity to fully satisfy myself of the sufficiency of these slopes as taken out, re-

taining part of the subsidy to cover the cost of flattening these slopes, if it should be found necessary after a year's experience.

The contract limits the maximum grades to 106 ft. to the mile, but I am pleased to be able to report that the Co. has succeeded in keeping the maximum down below 60 ft. to the mile, which is very satisfactory. Owing to the mountainous character of the country & its general configuration, curves of 10°, 12°, and in one case 14°, had to be introduced, & I see no way in which it could, at reasonable cost, have been avoided.

The Co. at present has 3 steam shovels employed in ballasting, widening cuttings & filling in trestles, which are being served by the necessary trains.

Surveys have been made of the balance of the line subsidized, from the south end of Kootenay Lake to Nelson, but the final plans of location have not yet been filed in the Department, as a revision of the location is in contemplation with a view of reducing the severity of the curves in some cases as now laid out.

C.P.R. Fort William Elevators.

The illustrations on page 105 show the four mammoth elevators erected by the C.P.R. Co. at Fort William, Ont. The following description of them recently appeared in the *Marine Review*:—The Co. began the consolidation of its various interests at Fort William in 1890. Previous to that time its local works were located at West Fort William, & the chief offices & the port for the transshipment of all freight from lake to rail was at Port Arthur. The business had not been greatly developed, however, before the officials of the Co. perceived the natural & economic advantages offered by the Kaministiquia river for the concentration of the entire business on Lake Superior, & a well-defined policy was soon after mapped out for the process of centralization by means of the erection of mammoth elevators, the construction of good docks, etc. Beginning with the spring of 1891 all lake freight & passengers were landed on the wharves of the Kaministiquia, & Fort William was made the connecting point between lake & rail—the northwestern terminus of navigation. All the works & business of the Co. formerly carried on at the west end & Port Arthur were thus brought together at Fort William, where over \$1,000,000 had already been expended in improvements.

Improvements since undertaken have brought the total up to fully \$2,000,000. The 4 elevators alone have entailed an expenditure in excess of \$1,000,000. The elevators, which are the largest in Canada, are designated A, B, C, & D. The 3 first mentioned are each 325 ft. in length by 90 ft. in width, & all are equipped with the latest improved type of machinery. Capacities are as follows:—A, 1,200,000 bus.; B, 1,300,000; C, 1,250,000. The 4th elevator, D, is the new steel tank structure, & has a capacity of 1,500,000 bus., bringing the aggregate up to 5,250,000 bus. as the capacity of the 4 elevators.

The steel tank elevator was erected in 1897-98, & is the first & only elevator of this unique design in Canada. It consists of 24 cylindrical steel storage tanks 60 ft. in height. Eight of the tanks are each 58 ft. in diameter, while the diameter of each of the remaining 16 is 29 ft. They are absolutely fire & damp proof, & have been rendered impervious against rats, insects, etc. The main building, which is of structural steel, contains modern machinery for cleaning, separating, weighing & transferring grain from cars to tanks or vessels. The shipping capacity is 40,000 bus. an hour, & the unloading capacity 400 cars a day. The elevator has attracted considerable attention by reason of the fire-proof arrangement which obviates the necessity of insurance & the very excellent plan for the separation of the stor-

age department from the machinery for handling & weighing the grain.

Other facilities of the C.P.R. are in keeping with the completeness of the elevator equipment. For the storage of package freight delivered by the steamship lines there are 2 sheds, each 500 ft. in length. The company also has an unbroken line of more than 4,000 ft. of docks. The coal docks alone have a river frontage of 1,200 ft., & upon them are landed annually more than 150,000 tons of coal.

The prospects for the future of Fort William as a grain shipping port are of the brightest. During 1895 there was shipped from Fort William 10,587,866 bus. of wheat; during 1896, 12,689,000, & during 1897 17,600,000. Of the quantity of the latter year 12,928,000 bus. were shipped for export by way of Buffalo, the bulk of it in U.S. bottoms, while 2,000,000 found its way to the seaboard via Montreal. The figures for 1898, 9,218,000 bus., show a falling off, but the loss was due to temporary conditions.

A very complete description of the steel tank elevator, with an illustration showing how it will appear in its completed condition, when its present capacity will be doubled, appeared in our issue of April, '98, pg. 37.

Surveys, Construction, Betterment, &c.

Canada Atlantic.—The Ottawa shops are expected to be completed in May, when the manufacture of cars will be commenced. A large amount of machinery is already in position. Provision is being made for running electric cars on the track between the Chaudière & the shops.

In reply to a recent enquiry as to whether the Co. would build from Coteau to Montreal, President Booth said he would in all probability double-track the present road first. "It will next summer make Montreal one of the greatest grain-shipping centres in the world," he added.

Canadian Northern.—This is the new name of the Lake Manitoba Ry. & Canal Co. The line, which was built last year to Cowan, 51.8 miles from Sifton Jct., is to be extended to the Saskatchewan River this year, & W. Mackenzie recently stated he expected it to be completed to Hudson's Bay by the end of 1901. Mr. Mackenzie also stated that from the best information he could obtain he thought Hudson's Straits were open about 5 months in the year. In referring to this Commander Wakeham, who was in charge of the last Government expedition to Hudson's Bay, thinks 3½ months the extreme limit.

Superintendent Hanna reports that a considerable number of settlers have already gone into the Dauphin district this season. (Feb., pg. 40.)

Coast Ry. of Nova Scotia. The first section of this line, from Yarmouth to East Pubnico, 31 miles, is being operated. Last season the 2nd section of 20 miles from East Pubnico to Barrington was graded to Atwood Brook, 17 miles, structures built & ties distributed. During the winter the stone required for the uncompleted masonry on this section was cut & delivered on the sites of the structures, which are incomplete only for about 3 miles, & are principally box culverts, there being only one bridge of 60 ft. span. We are officially informed that if weather permits work will be resumed about May 1 on the completion of the 2nd section, & that in all probability work will be carried on beyond Barrington. The 3rd section of 30 miles between Barrington & Lockport has been surveyed & the timber taken off, & surveys have been made for part of the line between Lockport & Halifax. A stone wharf, 250 ft. long & 60 ft. wide, has been built at Barrington, to which 150 ft. of pile wharf will be added. When the line is completed to Barrington a steamer will run between Barrington & Hal-

... sailing at shore ports. It is said the Co. will survey a branch from Liverpool north to Calcutta, 25 miles. It is intended to change the name of the Co. to The Halifax & Yarmouth Ry. Co. (Nov., '98, pg. 238.)

Edmonton Bridge.—We are officially informed by the Dominion Department of Public Works that a contract has been let by the Department for the construction of the superstructure of this bridge, which will be used by the Edmonton District Ry. to make connection between South Edmonton & Edmonton. A full description & illustration of the bridge appeared in our issue of Dec., '98, pg. 261.

Edmonton District.—One of the directors informs us that until the legislation asked for at this session of the Dominion Parliament is disposed of, there is no definite information to be given. He says surveys have been made, & that preparations are being made for building the line from South Edmonton to Edmonton, & that in all probability the line will be built to Athabasca Landing this year.

Reference was made in our Feb. issue to the work done in respect to a reconnaissance survey from Edmonton towards the Yukon under the Department of Railways. Following is a portion of the report:—Between the junction of the Parsnip & Finlay rivers & Hudson's Hope, Peace River runs between 2 ranges of mountains which have an elevation of between 3,000 & 4,000 ft. above the level of Peace River. The peaks of some of the mountains are bare of vegetation. Mt. Selwyn is the highest point of the eastern range along the rivers, & has an elevation of 6,240 ft. above sea-level. It was ascended by the chief of the expedition, who succeeded in reaching the summit, where he obtained a wide spread view of the surrounding country, presenting to him a grand panorama of mountain peaks capped with snow the year round as far as the eye could reach. Peace River has a fall of about 1½ ft. per mile on an average from the junction of the Parsnip & Finlay to the canyon, & presents no serious obstacles to navigation, with the exception of the Parle Pass & Finlay Rapids, where it is necessary to portage supplies & other freight. Peace River Canyon, which is about 24 miles long,

presents the appearance of a large canal cut through the mountains by the river, the walls of the canyon being 100 to 400 ft. high. It has taken ages to make the channel through which it runs at the present time, the old bed of the canyon being clearly seen over 150 ft. above the river where it now runs. The proof of this is seen in a series of deep wells cut in the solid rock by whirling boulders caused by the eddies of the river, being similar to such wells on the level of the river as it runs now. These wells are 15 to 20 ft. deep, & from 2 to 4 ft. in diameter, their walls being worn smooth & polished by the constant rubbing of the boulders as they turned for centuries. Three miles from the mouth of the canyon there is an island which presents at a distance the appearance of a large ship of war of the old wooden pattern, with its numerous port-holes. This island stands about 30 ft. out of the river, having been cut out in this peculiar way by the river in the years gone by. The fall of the river through the canyon is about 270 ft. in 23 miles, & there is a series of rapids from its mouth to Hudson's Hope. Navigation, although dangerous, is not impossible at certain times of the year to expert boatmen; but there is nothing to be gained by attempting to go through.

Great Northern of Canada.—The rumor published in our Mar. issue, pg. 82, to the effect that a contract has been let for the completion of the 88 miles of this line to be built between Shawenegan, Que., & Hawkesbury has been confirmed. A contract has been made between the Co. & the Great Northern Construction Co., composed of New York, Boston & Quebec people, to whom all subsidies, bonuses, cash subscriptions & a portion of the bonds will be transferred. Bonds have, it is announced, been placed by J. McNaught, of New York, & H. H. Melville, of Boston, for a sufficient amount to complete the line. The Construction Co. has given a contract for the execution of the work to Ross, Barry & McRae, of Toronto, who are well known in connection with C.P.R. and other contracts. The work is to be completed by July 31, 1900. There will be numerous bridges; 3 will be of considerable size; 2 steel

viaducts will each be about 1,000 ft. long & from 140 to 150 ft. high. The bridge over the Ottawa River at Hawkesbury, including the crossing of the canal & trestle approaches, will be about 3,200 ft. long. The character of the line is to be first-class in every respect, the bridges to be of steel of the strongest specification, & the track is to be laid with 70 lb. steel rails. The rails & fastenings for the whole line have already been purchased. The contract includes the erection & equipment of workshops & carshops in Quebec city. The 88 miles now contracted for includes the section between Shawenegan & Montcalm, near Joliette, 53 miles, on which some work has been done, & 35 miles between St. Jerome & Grenville, on the Ottawa River. Between Montcalm & St. Jerome, 28 miles, the G.N. is already in operation, so that the building of the 88 miles will make a continuous line from the Ottawa River to Shawenegan. From Shawenegan the G.N. is already built east 22 miles to St. Tite. From St. Tite eastward to Riviere a Pierre Jct., 33 miles, the Lower Laurentian Ry. is in operation, & from Riviere a Pierre Jct. to Quebec, 58 miles, the Quebec & Lake St. John Ry. is in operation. The Lower Laurentian Ry., as well as the G.N. Ry., is operated by the Q. & L. St. J. Co., so that the whole line between Quebec & the Ottawa River will be under the one management. E. A. Hoare, C.E., Quebec, is Chief Engineer for the Co., & McCarthy & Shanley are engineers for the contractors. (Mar., pg. 82.)

For the information of the Railroad Gazette, New York, which speaks of this line as a Nova Scotia road, we may mention that it is entirely within the Province of Quebec. At Hawkesbury it will connect with the Canada Atlantic Ry., giving another route between Ottawa & Quebec.

It is the intention of the Co. to erect a grain elevator at Quebec with 1,000,000 bus. capacity. It will probably be located between the Customs House & the Point A'Arcy wharf, where there will be splendid loading facilities.

Great Northern, U.S.A.—Surveys, said to be in the interest of this Co., are being made for a line from Moscow, Wash., northwest via

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Davenport, along Hawk Creek & the Columbia River to Hell Gate, & thence north along the San Poil River to the new mining region at Republic. The line would be about 100 miles long.

The Co. is about to give Duluth another great elevator that will be far ahead of the one of 3,000,000 bus. capacity previously built, as the new structure will be of steel, & its capacity will be 6,000,000 bus.

Intercolonial.—During the past fiscal year 19½ miles laid with 58 lb. steel rails were taken up & replaced with 67 lb. rails, & 6½ miles laid with 67 lb. worn rails were taken up & the rails cut & relaid on various parts of the line. 650,135 ordinary ties & 120 sets of switch ties were renewed. 103,166 cubic yards of ballast were placed on various parts of the line where necessary. 42½ miles of barbed & woven wire fence were erected, replacing pole fence & old barbed wire fence. Extensive repairs were made to the old fences on all parts of the line. 7,062 rods of snow fence were renewed in the Central & Northern Divisions.

It is said the Minister of Railways has decided to build a 1,000,000 bus. grain elevator in Montreal, & that the funds will be asked for at this session of Parliament.

Interprovincial Bridge, Hull to Ottawa.—Work is proceeding satisfactorily on the piers. The masonry will be gone on with as soon as the water lowers, & it is expected the superstructure can be put on next fall, by the time the extension of the Pontiac & Pacific Jct. Ry. is completed to Hull. A contract has been let for the superstructure.

Inverness & Richmond.—The prospects for this Nova Scotia line going on this year are very favorable. For some time past P. Ryan & R. H. Bowes, of Toronto, have had an option on the charter from Oakes, Grey & Wheaton, & as stated in our last issue, negotiations have been going on for the sale of this option to Mackenzie, Mann & Co., which have been closed. The I. & R.R. Co. was incorporated by the N.S. Legislature in 1887 to build a line from the Straits of Canso, at or near Port Hawkesbury, to Cheticamp, a distance of about 100 miles, by way of Port Hood, Mabou, Broad Cove & Margaree, with a branch from or near Mabou to Wyecogmah, thence to connect with the I.C.R. at or near Orangedale. For the 1st 58 miles to Broad Cove mines, the Dominion Parliament has voted a cash bonus of \$3,200 a mile, the N.S. Legislature has voted a similar amount, & the County of Inverness has voted \$1,000 a mile. The 58 miles have been surveyed. Some time ago about 15 miles from Port Hawkesbury north were partially graded, & some men have been at work since July last to comply with the Act. It is said Mackenzie, Mann & Co. have secured options on about 60 square miles of coal fields in Inverness county, in the neighborhood of Port Hood, Broad Cove & Chimney Corner, & that they will go extensively into coal mining, shipping the coal to Quebec, Montreal & New England ports, from Cheticamp, at the north end of the line, & from Hastings & Cariboo Cove on the south. (Mar., 98, pg. 82.)

Kootenay Ry. & Navigation Co.—In a memorandum issued from the London, Eng., office of this Co., some references are made to the lines which have been acquired by it. Speaking of the Kaslo & Slocan, it says the capital for its construction was found largely through President Hill, of the Great Northern (U.S.A.) "At Kaslo, the K. & S. Ry. connects with the steamers of the International Navigation & Trading Co., which ply from that point to Nelson, where connection is made with the Spokane Falls & Northern R.R. running to Spokane, at which point the Great Northern & Northern Pacific roads are met. But a considerably shorter & more inexpensive connection with the U.S. roads is offered by the building of 53½ miles of railway from

the southern end of Kootenay Lake (whither the steamers would then run instead of to Nelson) to meet the G.N. at Bonner's Ferry & the N.P. at Sandpoint. This road would run along the valley of the Kootenay river, avoiding any steep gradients or sharp curves or danger of washouts, all of which are difficulties encountered by the Spokane Falls & Northern road. A Co. known as the Bedlington & Nelson R.R. Co. has been formed & incorporated by Canadian Act of Parliament to own & operate so much of the line as lies in Canadian territory, whilst a U.S. Company has been formed to own & operate so much as lies in U.S. territory. During last spring a large engineering force was engaged on the location of the line under N. D. Miller, a chief engineer of the construction of the Great Northern road. A close estimate has been received from him, & he places the approximate cost of construction, equipment, buildings, etc., at £240,000 for the entire work."

J. F. Stevens, who is associated with Foley, Bros. & Co. in the contract for the line between Kootenay Lake & Bonner's Ferry, says rapid progress is being made with the work all along the route, including the bridge & trestle at Bonner's Ferry.

Rumors have been in circulation to the effect that the Privy Council has granted the application of the Nelson & Bedlington for running powers over the Crow's Nest Ry., from Creston to Kootenay Landing, but up to the time of writing (Apl. 14) no decision had been given.

Kootenay & Northwest.—It is stated that C. R. Watson, C.E., & staff left Golden recently for Cranbrook, B.C., to start the survey of this line & work north. The K. & N. Co. was incorporated by the B.C. Legislature in 1898 to build from Golden south along the Columbia River Valley to Canal Flat, thence along the Kootenay River Valley to Cranbrook, also from or near Golden, north through the valleys of the Columbia, Canoe, Fraser & Parsnip Rivers, to the valley of the Liard River, to the northerly boundary of B.C., or to Teslin Lake. The incorporators were L. Hirsch, A. J. Douglass & A. E. Mitchell Innes, of London, Eng., & it is believed the charter was obtained in the interest of the Great Northern (U.S.A.)

Lake Erie & Detroit River. There is nothing new to report respecting the proposed extension of this line from Ridgeway to St. Thomas, Ont. The by-law passed by St. Thomas ratepayers granting a bonus of \$20,000 for the extension has been quashed on the ground that the law had not been complied with, the sinking fund not having been mentioned in the by-law. A bonus of \$7,000 granted by the village of Aldborough is also being attached.

Manitoba & Southeastern. Arrangements are being made for an early start from La Broquerie, to which point the line was built from St. Boniface, 46 miles, last season & it is expected to build to the International Boundary and thence through Minnesota to the mouth of Rainy River, this year.

Michigan Central.—A 3rd truss is to be put on the cantilever bridge over the Niagara River, the truss to be carried by another tower bent and masonry work on each side. The truss is to be placed between the 2 already in position & will strengthen the bridge very much, as is rendered necessary by the increased weight of rolling stock. Work has commenced on the excavations for the foundations.

The new station at Courtright is a frame building, 24 x 62 ft., with spreading eaves 12 ft. high. The room is decorated Gothic, & altogether the building has a very up-to-date appearance.

The Toronto, Hamilton & Buffalo is taking steps to secure right of way for a spur line to the blast furnace. (Mar., pg. 73.)

Railway Appointments, &c.

Canadian Pacific.—F. W. Jones, Assistant to Manager Whyte, of the C.P.R. Western Lines, resigned his position at the end of Mar. to accept the Secretary-Treasurership of the Columbia River Lumber Co., with headquarters at Golden, B.C. Mr. Jones, who has been in the C.P.R. Co.'s service since boyhood, went to Manitoba in 1886 as Private Secretary to W. Whyte, on the latter's appointment as General Superintendent of the Western Division. Subsequently he became Chief Clerk in the General Superintendent's office, & on the creation of the position of Manager, in 1897, he was appointed Assistant to the Manager, with special charge of the operation of the Western Division, in which position he showed marked ability, serving the Co. with zeal & energy, & becoming very popular with the public. On his retirement from the service the railway men & the citizens of Winnipeg presented him with \$1,000 & a \$300 silver tea service as practical testimony of the esteem in which he is held. The Columbia River Lumber Co., of which W. Mackenzie, of Toronto, is the principal stockholder, is among the largest lumber concerns in B.C., having mills at Golden, Beaver, Moberly & Tappen Siding.

On Mar. 30, Manager Whyte issued a circular announcing the appointment of J. Osborne as General Superintendent of the Western Division, with headquarters at Winnipeg, from April 3. Mr. Osborne arrived at Winnipeg Mar. 30, accompanied by his Secretary, G. Graham. On leaving Montreal Mr. Osborne was given an enthusiastic send off at the Windsor St. Station by his colleagues in the general offices. Mr. Osborne, whose portrait appears on the 1st page of this issue, entered the railway service in 1874, the following being his record:—Oct., '74, to July, '83, in Mechanical Department, G.T.R.; July, '83, to July, '86, in Mechanical Department, C.P.R.; July, '86, to Sept., '87, Chief Clerk, Vice-President's office, C.P.R.; Sept., '87, to Oct., '90, Car Accountant, C.P.R.; Oct., '90, to June, '92, Superintendent Car Service, C.P.R.; June, '92, to April, '96, Superintendent Car & Fuel Service, C.P.R.; April, '96, to Mar., '99, Assistant to Vice-President C.P.R. In April, '95, he was elected President of the International Association of Car Accountants.

Vice-President Shaughnessy recently stated that no one would be appointed to succeed Mr. Osborne as Assistant to the Vice-President. It is however, the general impression in C.P.R. circles in Montreal that some other appointment will be made to relieve Mr. Shaughnessy of some of the work he now handles, & it is persistently rumored that the Passenger Traffic Manager, D. McNicol, will receive promotion.

J. D. Chipman, heretofore Travelling Freight Agent, has been appointed City Freight & Passenger Agent at Halifax, N.S. C. S. Phillips having resigned the City Passenger Agency. D. Sutherland, City Cansassing Agent at St. John, succeeds Mr. Chipman as Travelling Freight Agent.

D. Willard, having resigned as Division Superintendent of the Minneapolis, St. Paul & Sault Ste. Marie to take the Assistant General Managership of the Baltimore & Ohio, has been succeeded at Minneapolis by F. C. Batchelder, C. P. Eckels succeeding the latter at Enderlin, N.D.

H. M. McGregor, Travelling Passenger Agent, has been transferred from San Francisco to Alaska.

A report that L. A. Hamilton, Land Commissioner at Winnipeg, was about to retire, has been denied by Asst. Land Commissioner Griffin. Mr. Hamilton is travelling abroad.

W. H. Forrest, on retiring from the Vancouver freight agency recently, was presented with \$100 by the Co.'s employees & with \$100 by local merchants.

Grand Trunk.—David McCooe has been appointed General Roadmaster, Eastern Division, vice S. J. Pegg resigned. Office, Bellevue Station, Montreal.

J. Foley, who has been appointed Roadmaster of the 2nd district, as mentioned in our last issue, was section foreman for 18 years on the G.T.R. at Whitby, & 1 year in charge of extra gang on the middle division.

A. G. Allison, Chief Dispatcher at Bellevue, Ont., resigned recently after 39 years service, 35 of which he served as Train Dispatcher.

Intercolonial.—A press despatch from Quebec about the middle of Mar. stated that District Superintendent Ouellette, of the Montreal & St. Flavie District, with headquarters at Riviere du Loup had been suspended, & that General Superintendent Price was looking after his duties. Enquiry of I.C.R. officials has failed to elicit a reply, & we therefore give the report as a rumor, being unable to verify it.

J. W. Wallace has been appointed Traveling Auditor.

W. K. Reynolds has been appointed to write up the advertising matter for the line.

Mainly About People.

Sir Wm. Van Horne is about to take a holiday trip to California.

Vice-President Shaughnessy returned to Montreal Mar. 17 from Europe.

Dr. J. S. Smith, a brother of Lord Strathcona, died in Edinburgh recently.

R. B. Angus, of the C.P.R. directorate, & Jas. Ross, of Montreal, are in Europe.

D. A. Waterman, Treasurer of the Michigan Central, died at Yonkers, N.Y., Apl. 2.

General Manager Hays, of the G.T.R., arrived in Montreal Apl. 16 from his European trip.

Lord Strathcona is to receive the honorary degree of LL.D. from the University of Aberdeen.

Mrs. E. Tiffin, wife of the C.P.R. District Freight Agent at Toronto, has gone to California.

President Sir C. Rivers Wilson is expected to arrive in Canada shortly for his annual inspection of the G.T.R.

Mrs. McGuigan, wife of the General Superintendent of the G.T.R., has gone to California on a health-seeking trip.

H. B. Darnell, of the C.P.R. service in Japan, underwent an operation in Toronto General Hospital last month.

H. Garden, C.E., has been engaged on the survey for the proposed C.P.R. branch from Arrowhead to Kootenay Lake.

J. W. Fraser, Inspector of supplies & building material on the G.T.R. between Chicago & Toronto, died in London, Ont., recently.

M. Cleary, late of the Toronto, Hamilton & Buffalo Ry., has been appointed Superintendent of construction work for the Pittsburg Western Ry.

H. W. D. Armstrong, C.E., has returned to Toronto after running a survey for the Manitoba & Southeastern Ry. through Minnesota to Rainy River.

Michael Dwyer, a resident of Port Arthur, Ont., for 25 years, formerly a contractor on the C.P.R., & afterwards road commissioner for the Ontario Government, died recently.

R. A. Carder, formerly of the International Line, has been appointed Travelling Passenger & Freight Agent of the Dominion Atlantic Ry., with headquarters at 228 Washington St., Boston, Mass.

W. Stitt, of the C.P.R. Passenger Department, Winnipeg, left Los Angeles, Cal., in the middle of March, intending to spend some time in San Francisco, Victoria & Vancouver before returning to Winnipeg. His health is much improved.

E. C. Hawkins, Chief Engineer & General Superintendent of the White Pass & Yukon Ry., has been promoted to the position of General Manager, having complete charge of the engineering & construction departments, in addition to his work in the traffic branch.

H. C. Flockton, for many years the traffic representative of the G.T.R. in London, Eng., recently resigned to take the managership of the Lake Bennett & Klondike Navigation Co. at Victoria, B.C. He has been succeeded at 22 Leadenhall St., London, by J. R. Ion, formerly of the Allan Line and latterly with the Hamburg-American Packet Co.

A. B. Stickney, who was first General Superintendent of the C.P.R. at Winnipeg, & started the construction of the line west from there in 1881 & is now President of the Chicago & Great Western Ry., has written extensively on railway matters during the last few years. The latest product of his pen is "A Western Trunk Line Railway Without a Mortgage," in which he deals with the finances of the C. & G.W.R.

A joint circular issued by J. W. Blabon, Western Traffic Manager of the Great Northern (U.S.A.), & C. Shields, Vice-President of the Spokane Falls & Northern, announces that C. G. Dixon, in addition to his duties as General Freight & Passenger Agent of the S. F. & N.R., is appointed Commercial Agent of the G.N. Ry. at Spokane, in charge of freight & passenger business. H. A. Jackson is appointed Contracting Freight Agent of the G. N. R. & S. F. & N. Ry. at Spokane, under the direction of C. G. Dixon.

Lord Mount-Stephen has taken Lord Curzon's house in Carlton Gardens for the London season. It is probable that Lady Mount-Stephen will take her place among the great entertainers, being very popular, very clever, a favorite with the Duchess of York, & now a very rich woman, while Lord Mount-Stephen is both hospitable & generous. Lord & Lady Mount-Stephen were among those present to meet Prince & Princess Christian & Princess Victoria of Schleswig-Holstein at a dinner given by the Marquis & Marchioness of Lansdowne at Lansdowne House recently.

ELECTRIC RAILWAYS.

British Columbia Electric Railways.

B. C. Electric Ry. earnings and expenses for January:

	1897-8.	1898-9.	Increase.
Gross Earnings.			
Railway—Vancouver branch	\$4,467	\$5,538	\$1,071
Victoria	6,399	6,737	338
Westminster	4,688	5,484	796
Lighting—Vancouver	9,040	12,888	3,848
Victoria	5,536	7,222	1,686
Gross earnings	\$30,130	\$37,869	\$7,739
Working expenses	\$20,131	\$23,860	\$3,729
Net profits	\$9,999	\$14,009	\$4,010

Aggregate Gross Earnings from April 1 to Jan. 31....\$246,446 \$345,698 \$99,252

Aggregate Net Profit from April 1 to Jan. 31.....\$77,581 \$140,496 \$62,915

The aggregate gross earnings and net profit for 1897-98 are from April 15 only.

Traffic Superintendent Arnold, of the Vancouver branch, has retired, being succeeded by D. A. Shiles, heretofore Superintendent of the Westminster branch, who now combines the superintendency of the Vancouver & Westminster branches, with headquarters at Vancouver.

General Manager Buntzen & Mrs. Buntzen left Vancouver Mar. 21 for England, where they will spend a few months, Mr. Buntzen's health having been rather poor lately. While in England he will consult with the directors in reference to the extension of the Co.'s service & its affairs generally.

The Co. is making great improvements on the line between Vancouver & Westminster, the entire road bed is being re-gravelled & the track made quite safe by the filling in of all trestles. All dangerous trees along the line are being removed, to prevent their being blown down on the track. There will be placed on the through line two improved passenger cars, somewhat larger than the present ones, and capable, when the line is improved, of making the trip between Vancouver & Westminster in half an hour.

The city of Vancouver has given the Co. 11 years lease of Davie St., on which the Co. is building about a mile of track to English Bay, using 56 lb. T rails. The Co. will also build, this season, a line from English Bay along Denman st. to connect with its present line on Georgia st. Further on, it is going to erect a car barn on nine 25 ft. lots, purchased on Westminster Avenue, between Barnard & Prior sts., & will build a larger power-house on the joint site of the present power-house & car barn, & place therein direct connected machinery, at a total outlay of about \$100,000, which will give a modern & efficient station. The City Council wants the Co. to extend its lines in the east end & on Mount Pleasant, & the matter will be considered by the directors shortly.

The Mail Job Printing Co.
THE RECOGNIZED LEADING..... LIMITED
RAILROAD AND STEAMSHIP PRINTING
HOUSE OF CANADA
FOR ESTIMATES AND SAMPLES, ADDRESS
RICHARD SOUTHAM, MANAGER, TORONTO

To the Land of Sunshine.

Take the Sunshine Route from Chicago to Los Angeles, San Francisco and other points in California, and escape the rigors of winter in the East and North.

Pullman Tourist Cars for first and second class passengers leave Chicago every Saturday at 2 o'clock p.m. via the Chicago, Milwaukee and St. Paul Railway to Kansas City, thence to California via the Atchison, Topeka and Santa Fe Railway—a real Sunshine Route.

This is the earliest afternoon train leaving Chicago for the West after arrival of morning trains from the East, thus avoiding tedious delay.

The Sunshine Route is essentially the best and most patronized through car-line for men, women and children. Every attention paid to the needs of passengers en route.

Send for a Sunshine Route time-table folder. It costs nothing.

Address A. J. Taylor, Canadian Passenger Agent, 8 King Street E., Toronto, Ont.

BURN

E. B. EDDY'S

MATCHES

A Government Tramway.—During the recent session of the B.C. Legislature some of the members petitioned the Government for the construction, as a provincial work, of an electric tramway from Vancouver to Steveston, on the Fraser River, & up the south side of Lulu Island, a total distance of about 17 miles, the cost of which was estimated at \$145,000, exclusive of right of way & bridging. No action is likely to be taken on the matter before the next session of the Legislature, if even then.

Maritime Provinces Electric Lines.

Bedford Electric Co.—Since the issue of the original prospectus of this Co., a summary of which was given in our last issue, pg. 91, its scheme has been considerably enlarged. The capital is to be increased from \$250,000 to \$2,500,000, & it is proposed to build 3 lines of railway instead of 1. The 1st is projected from the Three Mile House, west of Bedford, running through Bedford northeast about 5 miles to Waverly; then south about 12 miles on the north side of Halifax Harbor to Dartmouth. The 2nd is to be from the same starting place west through the head of St. Margaret's Bay, Chester & Mahone Bay to Lunenburg, 56 miles. The 3rd is to be from the same starting point along Kempt Road, & into Halifax. Power for the railways, for sale as electric energy, & for the operation of a pulp mill is to be obtained at St. Margaret's Bay, 18 miles from Halifax. The Co.'s agent, now in London, Eng., is very confident of success in raising the necessary capital there.

Moncton Electric St. Ry.—The M.E. St. Ry. Heat & Power Co. is applying to the New Brunswick Legislature to change its name to the Moncton St. Ry. Co.; to authorize the extension of the railway to Shediac; to authorize the City Council of Moncton & the County Council of Westmoreland to exempt the Co. from taxation; to authorize the Co. to lease from the city of Moncton the gas & electric light works, & to authorize the City Council to lease the works upon receiving the approval of the electors. It is believed that people interested in the Halifax Electric Tramway are prepared to take hold of the Moncton line if the legislation above outlined is secured, & if the desired arrangements can be made with the City Council.

St. John, N.B., Ry.—Prof. Hesse, organist of the Roman Catholic cathedral at Providence, R.I., who received injuries last July while on a runaway car on this line, necessitating the amputation of his left foot, has secured a verdict of \$25,000 damages against the Co.

Ontario Electric Railways.

Belleville Traction Co.—It was recently reported that this property had been sold for \$85,000, & that a line would be constructed to the cemetery & a loop line over the hill to the G.T.R. On Mar. 27 we were officially informed that a sale had not been made, but that possibly it would be within a short time.

Cornwall St.—The bondholders, the Sun Life Insurance Co., recently offered to put the tracks in proper order & build up the roads between the tracks & for 18 ins. on either side, provided the Corporation would keep the roadway in repair for 5 years. The council has so far taken no action on the proposal, & the feeling appears to be against accepting it. J. M. Taylor, who is managing the line for the bondholders, has made arrangements with the Shedden Co. to handle freight over the line on similar terms to the old contract. A contract has been secured for carrying the mail between the post-office & the G.T.R. station. A quantity of machinery has arrived & another car has been put on the line. The

equipment, etc., is being generally overhauled & improved.

Guelph St.—This Co. has recently installed a 110 kilowatts 6 pole railway generator in its power house.

Hamilton.—J. Patterson, of the Cataract Power Co., is, it is said, the moving spirit in a plan to consolidate all the radial roads in the neighborhood of Hamilton, & to acquire the street railway franchise there. For some time a local stock broker has been getting options on stock of the St. Ry. Co. Some of the principal stockholders in the Cataract Co. are in control of the Hamilton Radial Ry. The plan is to get control of these companies, to build a line to Guelph, a fast electric freight line to Niagara Falls, to make Hamilton a fruit centre; also, to establish a big cold storage warehouse. At first it was said the enterprise was projected by local capitalists, but the impression is gaining ground that the syndicate which has secured the Buffalo & Niagara Falls electric lines is behind the Cataract Power Co. in the matter, & that the idea is to connect the system of electric railways in & around Hamilton with the Niagara Falls system, also to connect the Hamilton Radial with the electric line at Mimico so as to reach Toronto.

Hamilton & Caledonia.—A bill is before the Ontario Legislature to grant power to construct an electric line from Hamilton to Caledonia, with an extension to Cayuga & Selkirk. A similar scheme has been in contemplation for some time—not exactly by this route. One scheme was by a road from Brantford to Hagersville & Selkirk, with loop to Cayuga. The purpose is to furnish an outlet for the agricultural products of Haldimand to market, also to introduce more root & small fruit growing on the farms of Haldimand which are particularly so adapted. Besides this, near Selkirk is one of the most beautiful natural summer resorts, Hoover's Point, to be found along the lake. The Private Bills Committee of the House passed the clause giving power to run on Sundays, but there will be a fight on this in the House on the third reading.

Hamilton, Chedoke & Ancaster.—The Private Bills Committee of the Ontario Legislature has passed this Co.'s bill to increase the capital stock from \$100,000 to \$300,000, to extend the line to Brantford, & to change the name to the Hamilton, Ancaster & Brantford Electric Ry. Co. A proposal to use steam as well as electricity, or compressed air, was struck out. The Co. also asked the right to run on Sunday, & agreed to a compromise on the basis that if the Sunday clause in the Hamilton & Caledonia Ry. Co. bill went through the House it should hold good in this bill as well.

Hamilton, Grimsby & Beamsville. Provincial Engineer McCallum, who inspected this line recently under instructions from Judge Street, in the suit of the township of Saltfleet vs. the Co., has made his report, which, strange to say, appears to please both sides. The township solicitor says it goes against the Co. on nearly every point. The Co.'s solicitor says it shows the road is in good workable condition, & that the defects pointed out by Mr. McCallum are such as could be found on every railway. Considerable complaint was made about the condition of the farm crossings, respecting which Mr. McCallum reports that if the present grades of the railway were approved by the township engineer, the Co., with two or three exceptions, has reasonably complied with the by-law, though many of the crossings could be much improved. Planking has not been provided at the crossings as called for, & the surface has not been kept an inch above rail level. Telegraph & telephone wires had not been properly protected from connecting with the trolley wires. The roadbed in Saltfleet

township was not in good repair between the rails & 15 ins. outside, more ballast was required & many of the ties were worn out.

Formerly the Co. issued 1,000 miles books for families, & 500 miles books for one person, at 1c. a mile. Last fall, when the trouble between Saltfleet township & the Co. commenced, the Co. discontinued selling these books to Saltfleet residents. Now the sale of the books has been withdrawn altogether & new books have been issued, each good for 400 miles & for families for \$5 each, or 1¼c. a mile. These are sold to anyone, irrespective of residence.

The Co. is removing its repair shop from Grimsby to Hamilton.

Hamilton St.—There appears to be a good deal of friction between this Co. & some of its employees. A city by-law provides that the motormen & conductors shall work only 60 hours a week, & shall be paid 15c. an hour. It is said the men have to work longer hours & only get 13½c. an hour.

Ingersoll to Woodstock.—S. R. H. Ickes, of Harrisburg, Pa., has been in these towns with a view of connecting them by an electric railway, the power house to be erected midway at Beachville.

The London St. Ry. Co. has a bill before the Ontario Legislature embodying agreements between the Co., the city of London & the townships of London & Westminster. A clause in the agreement with the township of Westminster, fixing the taxes of the Co. at \$75 for 28 years, was withdrawn when before the Private Bills Committee, because of the opposition of the city, on the ground that about a third of the part of the railway in question was about to become part of the city.

The Co. is adding to the power house machinery.

A plan to provide seats for the motormen is said to be under the consideration of the management.

Metropolitan.—This line starts from immediately north of the C.P.R. track at Yonge st., in North Toronto, & runs to Bond Lake, 18 miles north. The track of the Toronto Ry. goes to within a few feet of the Metropolitan's starting point on the south side of the C.P.R. track, but there is no connection between the two electric lines. Lately the C. P.R. started to put in a switch at North Toronto, with the apparent intention of connecting with the Metropolitan, but the connection has not yet been made. President C. D. Warren, of the Metropolitan, says the Co.'s plans are to extend the straight northern branch out Yonge st. as far as Newmarket, passing through Aurora, & to cut across country north-westerly to Schomberg. After the system has been pushed out to these points the Newmarket line will be carried to Roach's Point, on Lake Simcoe, & the spur line to Schomberg will extend farther north-westerly to Tottenham. The new power-house is erected at Bond Lake, to which point the Co. succeeded in carrying the line last fall, & but for the early cold weather the tracks would have been laid much farther. At Bond Lake it is expected that the new & modern plant of 1,000 horse-power will be in position during April. Surveys have been made to Newmarket on the north, which point for the time being will be one of the termini. The north-west extension survey has been made to Schomberg, a distance of 15 miles from Bond Lake. The reason that the line is cut across country at an angle of about 45 degrees to Yonge street is that it is a territory supplying greater facilities for the construction of the road, & it is shorter, being but one side of a triangle, which otherwise would have to be traversed on two sides, i.e., the other route taken would have to be from Schomberg to Newmarket east, & then south to Bond Lake. The next surveys to be made will be north from Newmarket to Roach's Point, 18 miles,

& north-west from Schomberg to Tottenham, some 3 miles.

Truck company has bought all the Bond Lake property, comprising 200 acres, which it intends using for picnic & camp grounds. The lake is from 50 to 60 ft. deep, & is 150 ft. above the level of Toronto.

As soon as frost is out of the ground sufficiently so men will be started on construction, while in the meantime preliminary work is being done. In order to obviate possible objection of any municipality to the construction of the line through its territory, the Company secured an act, whereby the whole of Yonge st. north of the C.P.R. tracks was placed in the control of the County of York, so that there is no possible difficulty with regard to the extension of the line to Roach's Point, the northern terminus of Yonge st. & Lake Simcoe. It is expected that with ordinarily good weather the line will reach Aurora by May 15, & that Newmarket will be connected with before May 24. The north-west spur will, it is thought, be completed before Sept. 1. The same general kind of cars which are operated by the Co. now will be used all over the line except that they will be single. The President says that with 1 motor the Co. could put on 8 or 10 trailers if there were as good streets to travel on as those in Toronto, & that there were 2 cars coming which would be capable of hauling 25 loaded freight cars over any ordinary grade.

The Co. looks for large excursion parties to Bond Lake, which point can be reached by the new system in an hour, starting at the C.P.R. tracks. The Newmarket trip can be made in 1½ hours, a person can get to Aurora in 1¼ hours, & the time occupied in getting to Schomberg will be but 1½ hours. At present it necessitates half-a-day's travel to reach Toronto from Schomberg, for people have to drive either to Aurora or Kleinburg, which alone takes 3 hours, before a train is reached. The line, it is estimated, can be operated with 20 or 30 men. When this system is completed the places along it & benefiting therefrom will be: Deer Park, Davisville, Eglinton, York Mills, Lansing, Willowdale, Newtonbrook, Thornhill, Langstaff, Richmond Hill, Elgin Corners, Jefferson, Bond Lake, Oak Ridges, Aurora & Newmarket. On Schomberg branch: Eversley, Kettleby, Pottageville, Lloydtown & Schomberg. President Warren says the general trade of Richmond Hill has increased 35% since the electric line has been built through there, & he expects that the other towns when reached will take just as great a stride forward. It cost \$150,000 to build the road to Richmond Hill.

The Co. has let a contract to the Westinghouse Co. for the power transmission plant. It is proposed to have the freight traffic provided for by cars equipped with motors, & also by electric locomotives. The distance is too great for the operation of the railway from a single power-house, & consequently a second power-house will be provided, which will receive its power in the form of alternating current from the first power-house. The generators in the central power-house or generating station at North Toronto, will be two 275 kilowatts machines, both of which will be adapted for supplying either alternating or direct currents. The direct current will pass

directly to the trolley lines for supplying the cars near the generating station. The alternating current will be raised in pressure by four 125 kilowatts, step up transformers to 15,000 volts. The current required for transmitting the power at this voltage is so small that comparatively thin wires can be used for transmitting the power to the sub-station near Aurora, some 15 miles away. Here the pressure will be reduced, & the alternating current passed through rotary converters, which will deliver a direct current to the trolley line. The cars & locomotives will be equipped with the most modern type of apparatus, & the whole will constitute one of the model plants of Canada.

Ottawa Electric Ry. Co.—The application to the Ontario Legislature to allow this Co. to operate cars on Sundays, the people having voted in favor thereof, caused a hot fight before the Private Bills Committee of the Ontario Legislature Mar. 8. The Mayor & other Ottawa officials appeared in support of the measure & a deputation from the Lord's Day Alliance opposed it. The bill passed by a vote of 34 to 13.

Work is progressing favorably on the extension the Co. is making to its power house at the Chaudiere. A force of 20 men are at work blasting & carting away the rock. The drill & hoists in operation are worked by steam. About 25,000 cubic yards of rock will be removed, deepening the cut 35 ft. Six 50-in. water wheels will be put in place, & a 1,500 h.p. dynamo operated direct from them. This is to furnish a duplicate source of power for the running of the system. The building containing the machinery will be beneath the street level & constructed entirely of concrete & iron. The work, which will entail an outlay of \$60,000, is expected to be completed by June.

Owen Sound & Georgian Bay St. Ry. Co.—Notice is given of the intention of C. Eaton & others, of Owen Sound, to apply for incorporation under this title under the Ontario Companies Act, with power to construct & operate a street railway line in the municipalities of Owen Sound, Sarawak, Derby & Sydenham. The capital is to be \$95,000, & C. & P. Eaton, W. Tayler & J. & J. H. McLaughlin are to be the first directors. The plans contemplate a line extending from the foot of Poulett st. hill along that thoroughfare to Division st., thence across the river to Stephen st. & along that thoroughfare & Bury rd. to the Pottawamie river bridge at Terrace st., where the road will cross to Brookholm & extend along the Bay Shore road to McLaughlin Park. Another line will run from Division st. hill down through the town & along Water or River st. to the C.P.R. station, continuing up Russell & and along Bay st. to the Cement works, where the line will end for the present, though the Squaw Point Park may ultimately be served by this line. It has not been decided whether the electric power will be generated by steam or water power.

Port Arthur-Fort William.—The Ontario Legislature has refused the application of the town of Port Arthur to be allowed to raise the fare on its electric railway to Fort William from 5 to 10c. The people of Fort William petitioned almost unanimously against the change, contending that the line was allowed to enter the limits of Fort William, in spite of

the determined opposition of that town, that the object of the construction of the line was to capture the trade of Fort William, a new & growing town, & enable workmen employed there to live in Port Arthur, & that the railway has retarded the growth of Fort William. It is contended that the line is now helping to build up Fort William at the expense of Port Arthur, the tables being turned, therefore the people of Fort William object to an advance in fares. They say the railway was forced on them under the terms of an Order in Council & that that order should not now be varied for the benefit of Port Arthur. (Mar., pg. 92.)

St. Thomas.—The contract for conveying the mails between the railway-stations & the post office has been given the electric railway company. Collections from the street letter boxes will also be made from the cars.

Toronto Elevated Ry. Co.—E. A. Macdonald's application for the incorporation of a company under this name has been summarily rejected by the Ontario Legislature.

Toronto Railway. The gross earnings are:

	1899.	1898.	Increase.
Jan.	\$95,699.12	\$86,592.36	\$9,106.76
Feb.	91,800.30	82,402.19	9,458.11
			\$18,564.87

The bill introduced in the Ontario Legislature by T. Crawford, M.L.A. for West Toronto, to regulate the over-crowding of street railway cars, & which was especially directed against the Toronto Ry. Co., its last clause making it apply only to cities whose population at the last census was over 100,000, has been thrown out on the ground that it should have been introduced as a private bill instead of as a public one. The Speaker said that had it not been for the last clause, he would have held that it was a public measure. He held that any citizen of Toronto had the right to introduce a private bill for the same purpose.

E. A. Macdonald's bill to amend the contract between the Toronto Ry. Co. & the City has been unanimously thrown out by the Private Bills Committee of the Ontario Legislature. The bill provided for restrictions upon the building & extension of lines; that transfers should be given from day to night cars; that the design of cars should be fixed by the City Engineer, or other official designated by the Council, & that the Co. be liable to a penalty of \$10,000 for disregarding an approved plan; that the Council shall regulate the number of passengers to be carried in cars; that the Co. or its servants be liable to a fine of \$50 for violating the by-law; that any ratepayer might bring such an action; that the City Engineer shall fix the time-table; that for contravention thereof a penalty of \$10,000 might be exacted from the Co. The City Solicitors were present, but having had no instructions, took no part in the discussion. W. Mackenzie & his solicitor were also present. The committee, without entering into details, voted down the legislation.

The Co. has ordered a 3rd large generator of the direct connected type, similar to the 2 already in operation. It will have a capacity of 850 kilowatts, operating at 85 revolutions a minute.

Argument in the appeal of the Co. against the decision of the Police Magistrate, took place Mar. 8 at the General Sessions, To-

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ronto. The formal conviction made by the Magistrate imposed a fine of \$5 upon the Co. for running trolley car 528 without a proper vestibule for the protection of the conductor. J. Bicknell, who appeared for the Co., read the statute empowering any city to pass a by-law compelling electric railway companies to provide their cars with vestibules sufficient to protect motormen & persons in charge of the car from exposure while engaged in operating the cars. He contended that the words "persons in charge of the car" meant persons in charge of the car in the same capacity as motormen; that at the time the statute was passed the word "motormen" was new, & that the statute was intended to cover all such persons as might operate the cars, whether they were called motormen, engineers, drivers, controllers, or by any other name. He further contended that the conductor was not intended to be covered by the statute; that he was not in charge of or operating the car within its meaning, & that the Co. therefore had not committed any breach of the by-law. He also contended that the liability at the most was to provide for proper & sufficient vestibules for protecting the operators of the car, & unless it could be shown that the present vestibules were improper or insufficient for such protection, no offence was committed. He also contended that the Toronto Ry., by crossing the G.T.R., the C.P.R. & the Toronto Belt Line Ry., became a railway for the general advantage of Canada, & that therefore, the Co. was liable only to put vestibules on its cars when ordered by the Railway Committee of the Privy Council, J. S. Fullerton, Q.C., & W. C. Chisholm, who appeared for the City of Toronto, contended that the statute & by-law were sufficiently wide enough to include conductors; that they were persons who were entitled to such protection as motormen, & that the Legislature when using the words "motorman & persons in charge of a car" must have included persons of a different class from motormen, & that the other class intended to be covered must be conductors. The argument was lengthy & exhaustive, & judgment was reserved.

The Solicitors for the City of Toronto have served upon the Solicitor for the Co. a statement of claim, comprising 27 pages of type-written matter, in the overcrowding case. The gist of the statement of claim is that the Corporation seeks an injunction restraining the Co. from overcrowding its cars. The Corporation also desires an order restraining the Co. from using the old trailers purchased from the City. It also asks that the Co. shall be compelled to furnish transfers from day cars to night cars. The defence of the Co. has not yet been put in.

Manager Keating says it is the intention of the Co. to extend the west branch, which goes to Long Branch now, but before any lines can be laid, of course, the consent of the county authorities has to be given. Regarding this proposal the York County Council is willing to allow all necessary extensions, but the Peel County Council has yet to be heard from. If there is no objection, Mr. Keating would favor extending the line to Oakville, but at least he thinks the rifle ranges should be connected with the city for the convenience of the many soldiers going to & coming from the butts. Mr. Keating has asked Peel County Council for the privilege required, the obstacle being the Etobicoke river, over which there is a regular traffic bridge already built. The Co. will be willing to strengthen the present bridge to allow the line to pass over safely, or if this is not satisfactory it will construct a bridge of its own. The Peel authorities have acknowledged the receipt of the Co.'s letters, but no definite answer regarding the consent has been received. As soon as it is known that there is no objection to the proposed scheme the survey will be

made, & the work of constructing this valuable line will be gone on with. However, it is not the Co.'s intention to proceed with the initial steps till it is assured that the whole scheme can be carried out.

An eastern radial to run as far as Oshawa is also one of the probable new lines. Already the survey as far as Highland Creek has been made; this the Scarboro' Co. had done last autumn, while the municipal authorities' sanction has been granted as far as that point. There is a fine level country from Highland Creek to Oshawa, & it is thought there will be no objection offered to the projection of the line thus far. The largest places on the line would be Oshawa & Pickering, both of which would certainly profit by the electric freight & passenger communication with Toronto. Mr. Keating has had estimates of the probable traffic prepared, which show that these lines would be of immense value to the towns & villages which they would touch.

Toronto Suburban St. Ry.—A contemporary recently stated that a new agreement had been entered into between the town council of Toronto Junction & this Co., extending the franchise for 23 years from Sep. 1st last, the Co. agreeing to extend its lines to Cooksville or Woodbridge in 2 years, & to reach both places before the expiration of the present franchise. We were officially informed on Mar. 8 that the foregoing was incorrect, and that the negotiations between the Co. & the town were then still pending.

Quebec Electric Railways.

Hull Electric Co.—Wright county council has passed a resolution, asking the Dominion Government to grant a permit to this Co. to build a bridge across the Ottawa river, from Hull to Bank Street, Ottawa.

Montreal Island Belt Line.—This Co. will apply to the Dominion Parliament for an amendment to its act of incorporation to alter its bonding sections, increase its bonding powers, extend its powers concerning branch lines, change its name, & to enable it to purchase the franchise & powers of the Chateaugay & Northern Ry. Co.

Montreal St. Ry.		The gross earnings are:	
	1898-9.	1897-8.	Increase.
Oct.	\$134,116.69	\$145,093.69	\$17,349.00
Nov.	123,246.10	110,068.48	11,195.12
Dec.	127,075.80	113,000.33	14,048.67
Jan.	125,276.04	110,155.96	15,120.08
Feb.	113,838.02	102,425.99	11,412.03

\$720,335.50

The Co.'s bill before the Quebec Legislature met with a good deal of opposition in the Legislative Assembly, but went through early in Mar. without any material amendments. Among its principal provisions are the granting of power to increase the capital from \$5,000,000 to \$1,000,000 & the right to cross over the St. Lawrence River to St. Lambert, & to extend its lines towards Longueuil & Verdun.

The City Council wants the Co. to pay percentage on its total gross earnings, including the earnings derived from the car service in suburban municipalities outside the city. This the Co. refuses to do, & it is said the matter will go into court. From 1892-3 to 1897-8 inclusive, the Co. paid the City \$256,007.52 percentage, the largest payment being \$58,951.37 in 1897-98. The City claims some \$36,000 more. The clause in the by-law on which the City bases its claim reads:—"The Co. shall pay to the City annually from Sep. 1, 1892, upon the total amount of its gross earnings arising from the whole operation of its railway, either with cars propelled by electricity, or with cars drawn by horses, 4% of its gross earnings up to \$1,000,000; 6% of its gross earnings from \$1,000,000 to \$1,500,000; 8% of its gross earnings from \$1,500,000 to \$2,000,000; 10% of its gross earnings from

\$2,000,000 to \$2,500,000; 12% of its gross earnings from \$2,500,000 to \$3,000,000; 15% of its gross earnings above \$3,000,000."

Since 1892 the City has done all the work of cleaning the tracked streets of snow, the Co. paying \$1,650 per mile of track towards the cost. In 1898-9 the Co.'s payment for this was \$59,730.

Plans for a car shed for the Co. on Upper St. Denis street have been completed. It will be located a little north of the C.P.R. tracks, & will be built of corrugated iron with a steel frame, & will be 250 ft. long & 100 ft. wide. It will provide accommodation for about 72 cars, & is chiefly designed for the storage of winter cars during the summer, & summer cars during the winter.

The Co. is testing a street car recorder, similar in principle to the ticker used in brokers' offices to record the fluctuations of the stock market. By attaching the instrument to any line a record is shown at the Superintendent's office, & it can then be seen how many cars pass a given point in a given time.

Daily press rumors predict that the Co. will absorb the gas & electric companies & run the electric railway, lighting & power business of all as one concern. The Co.'s management denies any knowledge of such a scheme.

The Quebec, Montmorency & Charlevoix Ry. Co. proposes changing the existing steam railway system from Quebec to Cap Tourmente, 30 miles, into an electric system. In addition it proposes to construct a branch line, parallel to the existing line but on top of the cliff & alongside of the public road, between Quebec & Montmorency Falls, 7 miles. With this object in view the Co. has let a contract for the necessary cars, which will be somewhat similar to the ordinary steam railway cars, 55 ft. long & equipped with four 50 h.p. motors & air brakes manufactured by the Westinghouse Co. & speeded for 50 miles an hour. The additional generating plant required at the Montmorency Falls power house will consist of one 600 K.W.A.C.D.C. generator with converter, switchboard, etc., complete, & at the sub-station which it is proposed to build at St. Anne de Beaupre, one 200 K.W. rotary transformer with converter, switch board, etc., complete. This will all be supplied by the Westinghouse Co. The Q., M. & C. Co. already operates the street railway in Quebec City by electricity.

Since the foregoing was written we have been informed that the changes between Quebec & Cap Tourmente will undoubtedly be made this year, & if there are no undue obstructions in purchasing the right of way for the branch line between Quebec and Montmorency Falls, it also will be built this year. All the work will be done by the Co. itself, & the contracts for rails, ties, timber & other material have been placed. The cars will be somewhat similar to those used by the Detroit & Ypsilanti Ry., & each will have four 50-h.p. Westinghouse motors, with controllers, air brakes, etc. The generators, rotary transformers, etc., for generating the current at the power house at Montmorency Falls, & at St. Anne de Beaupre, will also be of Westinghouse manufacture. The water wheel, which will be required to operate the generators under 195 ft. head, has not yet been ordered.

Sherbrooke St.—Nothing further has transpired respecting the negotiations for the sale of this road to F. Thompson & Co., & it would appear that the deal has not been closed. No change has been made in the directorate or management, & it is said no extensions will be made this year. (Mar., pg. 92.)

Consolidation of Electric Lines.

The New York Evening Post of Mar. 21 says: "The purchase & control of the Buffalo & Niagara Falls electric railways, in the interest of the International Traction Co. was

consummated to-day, the syndicate paying cash for the purchases, & the sellers accepting the offered terms. The International Co. was recently formed by a number of capitalists interested in the development of electric energy from Niagara Falls, which is already in considerable use in Buffalo & adjacent territory. The International Co. will be used to combine these companies, & will purchase power from the Niagara Falls Power Co. The terms on which minority stockholders may come in will be announced later in the week.

A Buffalo despatch of Mar. 22 says: "It is stated that, as a result of the Pan-American project, extensive improvements will be made this summer on the shore property on the Canadian side of the river, including the construction of an electric railway from Fort Erie to Point Albino, 13 miles, & from Fort Erie to Chippewa, from which point an electric road runs along the Canadian side of the river to Queenston, affording one of the most glorious views that can be secured of Niagara Falls, the whirlpool & other portions of the beautiful, historic river. The road will have a branch line to Fort Erie race track, & the company will run a system of trolley cars from Fort Erie to the grove at Erie beach, extending east to the upper part of the beach, which is extensively occupied during the summer months by well-known Buffalonians, who have their country homes on the south shore. The trolleys may be extended as far as Crescent Beach. New York capitalists are back of the enterprise, & will expend, it is said, about \$265,000 in equipping the trolley lines. It is also said that the road to Fort Erie Beach will be in operation by July 1. The Chippewa branch will not be completed until some time in the autumn."

We gave full particulars of the companies going into the amalgamation in our Mar. issue, pg. 89. Speaking of the matter the Street Railway Review says: "All the railways of the city of Buffalo, the lines connecting that city with Niagara Falls & Lockport, the electric road of Niagara Falls & the Niagara Falls Park & River Ry. on the Canadian side, all fall into the possession of a syndicate capitalized at \$25,000,000. While there is yet much believed to be back of the plans of the syndicate, it is known that it is proposed to retire all the stock bought with an issue of new bonds, while there will also be a new issue of preferred & common stock. The companies consolidated are the Buffalo Ry. Co., the Buffalo Traction Co., the Buffalo, Bellevue & Lancaster Ry. Co., the Buffalo & Niagara Falls Electric Ry. Co., the Buffalo & Lockport Ry. Co., the Niagara Falls & Suspension Bridge Ry. Co., & the Niagara Falls Park & River Ry. Co. But in addition to these electric roads the new syndicate becomes the possessor of two of the great Niagara bridges, one of them the fine new upper steel arch, owned by the Niagara Falls & Clifton Suspension Bridge Co., & the other the sus-

pension bridge now in course of erection across the Niagara gorge at Lewiston. These bridges will afford crossings for a belt line about the gorge, while the possession of the Buffalo & Niagara Falls road gives trackage facilities from Buffalo to the falls on the New York side. As the Niagara Falls Park & River Ry. controls a franchise for a line from Fort Erie to Chippewa on the Canadian side, it will be seen that the new company has all the rights for a belt line skirting the Niagara River on both shores from Lake Erie to Lake Ontario. Much of the stock of the several railway companies was bought below par, but it is understood the stockholders of the Buffalo Ry. Co. will receive par. Also that about 75c. was paid for stock of the Buffalo & Niagara Falls road, about 50c. for the Buffalo & Lockport road, & about 40c. for the Niagara Falls Park & River Railway. The amounts involved in the purchase of the various interests are about as follows: Buffalo Ry. \$15,215,000, Buffalo Traction \$3,858,000, Buffalo & Niagara Falls Ry. \$2,250,000, Buffalo & Lockport Ry. \$1,500,000, N.F. Park & River Ry. \$1,000,000, Lewiston & Queenston Heights Bridge \$285,000, a total of \$24,108,000. This is exclusive of the property of Niagara & Clifton Bridge Co., the bonds of which Co. are out to the extent of about \$400,000, & are understood to be equally divided between Canadian and U.S. capitalists."

The International Traction Co. has filed articles with the Secretary of State at Trenton, N.J., amending its original articles of incorporation, increasing the capital stock from \$85,000 to \$15,000,000. B. W. Franklin, President, & Chas. McVeagh, Secretary, signed the papers. The office of the Co. is 60 Grand street, Jersey City, N.J. L. J. Hayden & W. H. Blain are also connected with the International Traction Co. J. P. Morgan & Co., New York, are reported in charge of financing the consolidation of the various street railways. A new mortgage will be made for \$30,000,000, of which \$11,000,000 at 4% will be issued, & the remainder devoted to improvements & retiring prior liens. Reports are that J. P. Morgan & Co. recently issued a call to subscribers for the payment of 80% of their subscriptions.—Railroad Gazette.

On Mar. 31 we were officially informed in regard to the organization of the International Traction Co. that while more than 2/3 of the stock of each of the constituent companies had been secured & delivered, no steps had been taken towards consolidation further than the reorganization of the boards of directors & officers of each of the constituent companies on the U.S. side. Similar steps will

be taken soon in regard to the Niagara Falls Park & River Ry. & the Canadian companies owning the two bridges involved.

Announcement is made that the Buffalo Traction Co., under date of Dec. 1, 1898, gave a mortgage for \$2,345,000 to the Metropolitan Trust Co., New York as trustee, to secure 5% gold bonds. The deed was signed by President E. G. S. Miller. Secretary Bissell is reported as stating that the mortgage is in the interest of the Traction Co., & has nothing to do with the consolidation now taking place in Buffalo.—Railroad Gazette.

Liability to a Motorman.

At the recent spring assizes in Toronto, W. Downs sued the Toronto Ry. Co. for \$5,000 for injuries received while performing his duties as a motorman on one of the Co.'s cars last year on Carlton Street, when it was being repaired. He was driving a motor car, & seeing a piece of asphalt on the tracks slowed up. It was less than the size of obstacles which it was common to run cars over, but he was aware that the rear motor box hung lower than it should. He thought the car would run over the obstacle, as it was not more than 2 ins. in height, but kept the brake tight & his hand to the regulator in order to stop at a moment's notice. The front motor box crossed the asphalt, but the rear one caught it & jolted the car so that he was thrown forward, & had to liberate the brake, which came round & hit him with such force as to render him unconscious. He was obliged to stay in bed for 6 weeks, & had not been able to do any work since. Medical evidence was produced to show that he was permanently disabled, & was at the time of the trial suffering from lung trouble as a result. Downs claimed that the Co. was to blame for having permitted a car to be run with a motor box so near the track, & that if the car had not been defective the accident would not have happened. He swore he had notified the repairer at the stables of the defect 2 days before the accident happened. When Downs became strong enough to get out after the accident, he signed a deed of release to the Co., & received \$65. Because of this the judge took the case from the jury & non-suited the plaintiff, giving him power to go to the Divisional Court in order to determine whether the deed of release does not fall under the Workingman's Compensation Act, sec. 10. The Act stipulates that an employee cannot be compelled to sign a deed of release; if he is, the deed cannot be held valid. With the deed

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existing the judge explained that it was useless to go on taking evidence, unless it was shown that it was invalid. J. Bicknell appeared for the Co.

Mixed-up Information.

"NIAGARA FALLS, ONT.—Many improvements & repairs, according to report, are to be made on the Niagara Falls Park & River Ry. as soon as the frost is out of the ground. W. Phillips, Manager, has submitted a report of inspection of the road to the Government, & the improvements are ordered on his suggestion."

The foregoing, from the Railroad Gazette, New York, is altogether incorrect. Mr. Phillips, being Manager of the N.F.P. & R. Ry., would hardly be likely to make an inspection of it for the Government, nor has he made any report on it to the Government. As stated in our issue of Dec., '98, pg. 273, Mr. Phillips was appointed by the Ontario Department of Public Works to inspect the Port Arthur-Fort William electric railway, & suggested certain things as necessary to be done, which the Government has ordered.

The Gorge Road.—Early in Feb. the control of the Niagara Falls & Lewiston R.R. was sold to New York parties, & J. R. Megrue, of New York, was elected President, succeeding J. M. Brinker, of Buffalo, who built the road. After a careful examination of the affairs of the Co., it became evident that the mode of operation must be thoroughly reorganized, & that a considerable expenditure will be needed for repairs & improvements, for which bonds must be issued. The road has done a fair amount of business, carrying over 240,000 passengers during 1898. The expenses of operation & maintenance are large, & the management has not been economical. On the petition of the directors Mr. Megrue has been appointed Receiver for the property, & has opened an office in Erie County Bank Building, Buffalo. Messrs. Mott, Sprague, Brownell & Marcey are counsel for receiver & G. A. Ricker is engineer. The operation of the road was stopped on Feb. 14 owing to the shutting down of the Niagara Falls Hydraulic & Manufacturing Co., which furnish power, & will be resumed in the spring after the road has been thoroughly overhauled & put in first-class condition.—*Electrical World.*

Receiver Megrue has appointed C. W. Taylor, Superintendent; G. Garland, Auditor, & W. L. Marcey, Attorney. No announcement has yet been made as to whether the Gorge Line is to pass into the hands of the International Traction Co., which has recently acquired other lines in the vicinity of Niagara Falls & Buffalo, but that would appear to be its manifest destiny. Large quantities of rock & other debris have fallen on the track this winter, & considerable money will have to be spent on it before traffic is resumed.

The Receiver informs us that the work to be done includes a careful cleaning of the banks, the alignment of the roadbed & the erection of some bridges. He hopes to resume operations about May 1.

The Electrical Trades Directory & Handbook for 1899, published by The Electrician Printing & Publishing Co., London, Eng., price 10s., shows a great advance in the extension of the directorial division of the book, & in the large additions made to the handbook division. The latter additions include very complete & elaborate sheet tables giving technical data & statistics relating to electricity supply for lighting power & traction in all parts of Great Britain, & a sketch map, diagrams, &c., complete this statistical information up to Feb., 1899. The capital expenditure up to Dec. 31, 1898, is given of the principal electricity supply undertakings.

International telegraphs and data relating to the telephone are also included, & it is claimed, & we think with justice, that the book is as perfect & complete as such a work can possibly be made by great care & attention to the details of compilation & arrangement. The great development in electrical industries is shown by the increased bulk of the book, which comprises some 1,500 pages, care having been taken to omit everything that is not of a purely electrical character. The biographical division contains sketches of the careers of over 300 prominent electricians, & more than 60 of these sketches are accompanied by a recent portrait. All divisions of the book are of an international character, rendering the publication of great value to an important & rapidly-extending industry. The chief new features of this edition are an increased bulk of 80 pages, the sheet tables largely extended, a very full directory of directors of electrical companies & electric traction data & statistics.

Birmingham, Eng., Tramway.—At a meeting of the Birmingham City Council Mar. 7 it was decided by a vote of 60 to 1 to take over the street tramway & operate it as a department of the municipal service at the expiry of the lease to the Co., of which Jas. Ross, of Montreal, is President. The lease has but a short time to run, & the plant will at its close be taken over at a valuation G. C. Cunningham, formerly City Engineer of Toronto, is managing the railway for the Co. Since it passed into the hands of the Co. the trolley has been introduced, & it is believed that a fair profit will come to the Co. from that change.

TELEGRAPHS & CABLES.

The Laying of the Atlantic Cable.

By A. E. Morrison of the Anglo-American Telegraph Co., Charlottetown, P.E.I.

As soon as the fact was established that a telegraph could be constructed by the aid of electricity, the attention of discoverers in Europe & America was turned to the invention of some insulating substance by which wires could be enveloped & buried in the earth. It was not deemed practicable to place them in the open air upon poles, from the fear that they would be constantly broken by accident, or from malicious motives, & it was supposed necessary to insulate them from the atmosphere. The first insulating substance used being hemp or cotton saturated with asphaltum tar, a plough was invented for the purpose of opening a trench in the earth for burying the wires, but on account of the expense & the difficulty of obtaining anything like good insulation, the idea of laying them underground was abandoned. Still the fact was apparent to all, that perfect insulation or something approaching it was imperatively demanded for crossing wide rivers. For this purpose copper wire covered with cotton yarn dipped in asphaltum tar, and the whole enclosed in a lead tube was used.

In 1847 a person in New York designed a submarine cable, the covering of which was to be glass, in the form of a ball & socket joint. The object was to get something which would unite both strength & flexibility, & at the same time furnish the best insulation. I do not know whether he ever had any of this cable manufactured, but he endeavored to get some of the telegraph people to engage in the manufacture of it. It is probable, however, that nothing was done about it, for about this time gutta percha was discovered & was applied to submarine telegraphing at once, it proving to be one of the best insulators known. In 1849 an experimental gutta-percha covered wire, 2 miles in length, was submerged in the sea off Folkestone Harbor, one end being connected with a wire leading to London, &

the other with a telegraph instrument on board a steamship, communication was maintained during the day, until the wire was collected in. The success of this experiment led to an attempt to lay a submarine cable across the English Channel between Dover & Calais in 1850. It consisted of a copper wire covered with gutta percha, unprotected by any outside coating. But after a few hours the communication thus established was abruptly stopped. A fisherman took up part of the cable on his trawl, & cut off a piece which he bore in triumph to Boulogne, where he exhibited it as a specimen of rare seaweed with its centre filled with gold! This accident caused the attention of scientific men to be directed to the discovery of some mode of preserving submarine cables from similar casualties, & a suggestion was made that the wire insulated with gutta percha should form a core or centre to a wire rope, so as to give protection to it during the process of laying down as well as to guard it from vessels' anchors & the rocks. In 1851 another cable was laid between Dover & Calais, & this idea adopted. It contained 4 conducting wires, and was protected by an armor of 10 iron wires. In 1852 the first ocean cable in America was laid across the Straits of Northumberland, between Prince Edward Island & New Brunswick. In 1853 cables were laid between Dover & Ostend, a distance of 80 miles, between Oxford Ness & Holland, 120 miles, & between Scotland & the north of Ireland.

In 1852 a project was started in Newfoundland to run a line of steamers between Galway & St. John's in connection with a telegraph to Cape Ray, where a submarine cable was to be laid to Cape Breton, & thence by means of another cable to Prince Edward Island & New Brunswick. A company was formed by F. N. Gisborne, who started to construct a road from St. John's to Cape Ray, over a barren tract of 400 miles, & succeeded in laying the Prince Edward Island cable on Nov. 21, 1852, but he was not successful in a similar attempt to connect Newfoundland with Cape Breton. Meanwhile, the company became involved in pecuniary difficulties, & Mr. Gisborne, in 1854, proceeded to New York, where he hoped to find money to enable him to carry out the scheme. He met C. W. Field & laid his plan before him. Mr. Field listened with attention, & thought over the project. To lay these cables so as to connect Newfoundland with New Brunswick & to run a line of steamers from St. John's to Galway would shorten the time of receiving news in New York from Europe 4 or 5 days, but if a cable could be laid in these seas the great Atlantic might be spanned. Mr. Field terminated his reflections that night by an eminently practical measure. Ere he retired to rest, he sat down and wrote two letters, one to Lieut. Maury, author of the Physical Geography of the Sea, as to the practicability of laying the cable, & to Professor Morse in regard to the scientific possibilities. Replies from both gentlemen reassured him, & he proceeded to form a company. He put down the names of 10 of the principal capitalists in New York, & proceeded to unfold to each in succession his project. He called meetings of these gentlemen at his house, & after full discussion & consideration, it was resolved to form the New York, Newfoundland & London Telegraph Co.

Mr. Field entered into an agreement with Mr. Gisborne for the purchase of the Newfoundland Co., & proceeded to Newfoundland to obtain from the Legislature an act of incorporation. After some little delay the Legislature with only one adverse vote granted valuable privileges to the Co., giving a monopoly of telegraph rights in Newfoundland for 50 years. The Co. also obtained from the Prince Edward Island Legislature the exclusive rights of landing cables on the coast.

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1882	1,134	12,058 86	2,967 93	2 61	11.00
1883	2,210	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	59,014 67	81,384 41	10 41	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	24,604	181,846 79	283,967 20	11 51	5.18
1891	32,303	261,136 21	408,798 20	12 65	6.40
1892	43,021	344,748 82	580,597 85	13 49	6.25
1893	54,484	392,185 93	858,857 89	15 76	5.47
1894	70,055	511,162 30	1,187,225 11	16 94	5.47
1895	86,521	685,000 18	1,560,733 46	18 03	5.07
1896	102,838	820,941 91	2,015,484 38	19 60	5.50
1897	124,685	992,225 60	2,558,832 78	20 52	5.56
1898	144,000	1,176,125 14	3,186,370 36	22 12	5.67

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Or Any Officer or Member of the Order.

The first step in the great enterprise was the connection of St. John's, Nfld., with the telegraph lines already in operation in Canada & the U.S., & Mr. Field was despatched to England to order the necessary work to be done. He entered into a contract for a cable to be laid across the Gulf of St. Lawrence from Newfoundland to Cape Breton. The first attempt to lay it in Aug., 1855, was not successful. Another contract was made, which was executed in the following year.

Then came the ocean work, & Mr. Field was authorized to go to Europe and ask the financial aid of Great Britain. He secured the services of J. Brett, Sir Chas. Bright & others, & organized another company. The lobbying necessary in Washington nearly discouraged him, for he encountered far more opposition there than in England, but the measure passed the Senate by one vote, & after a risky passage in the House received the President's signature Mar. 3, 1857. The next question which arose for consideration was how the cable was to be laid. The Great Eastern, then known as the Leviathan, alone could embrace it within her gigantic hold, but then the vast fabric had never been tried, she might prove a failure. It was determined that the responsibility should be divided & the burden entrusted to two vessels of smaller dimensions. The British Government placed at the disposal of the Co. the battle ship Agamemnon, & the U.S. the steam frigate Niagara. It was decided that the Niagara should land the shore end at Valentia, & pay it out till her cargo was exhausted midway; the Agamemnon was to take up the tail & carry it on to Newfoundland. On Aug. 5, 1857, the shore end was secured in the little cove selected for the purpose in Valentia. On the 7th the squadron sailed, & the Niagara commenced paying out the cable very slowly, but on the 11th the cable broke & was lost in 2,000 fathoms of water 280 miles from Valentia. This loss proved fatal to the first attempt to lay the Atlantic Cable.

Nothing daunted by the failure Mr. Field started off at once for England & urged the immediate renewal of the enterprise, but it was resolved to postpone it to the following year. All was ready for the expedition before the time indicated & the directors & the public looked with confidence to the result. Instead of landing a shore end at Valentia it was decided that the ships should proceed together to a point midway between Valentia & Newfoundland, there splice the cable & turn their bows east & west & proceed to their destination. On June 10, 1858, the Agamemnon & Niagara left Plymouth, but scarcely had they set out when a violent storm separated the vessels. The overloaded Agamemnon, strained & cracking in the gale, heeled over & threatened every moment to sink in the trough of the sea; she escaped & finally rode safely to the rendezvous in the midst of the ocean. The Niagara passed through the dreadful ordeal with less danger & difficulty. The ships met on June 25 in the midst of the Atlantic. The next morning they spliced the cable; it however became foul of the scraper on the Niagara & broke. A second splice was immediately made, & the vessels started, but after going a short distance the cable broke. On June 28, the third splice was effected. The Agamemnon had paid out 146 miles of cable, when the upper deck coil became exhausted, speed was slackened in order to shift the cable to the lower deck when suddenly it snapped. The vessels returned to Ireland for new supply of cable, & on July 29th the ships once more met in mid ocean, spliced the cable, & sailed away from each other, the Agamemnon for Valentia & the Niagara for Newfoundland. But they were never separated, the busy cable still bound them together, & at length on Aug. 7, a thrill of wonder shot through the two continents when it was told they were bound to-

gether by electric thought, & the first message that came over the cable gave glory to the Most High & promised peace on earth & good will to men. The first public message that came over the cable was from the Queen to the President of the United States, his reply & others followed, but the cable broke down on September 3.

For seven years the cable slept almost forgotten, they were years full of political convulsions & fatal disorder. The reign of peace on earth & good will to men which had been so fondly promised by the first message over the cable seemed to have faded for ever, for the United States was threatened with destruction. In the tumult of the rebellion the cable & its projectors sank into neglect, & when at length the war was ended few believed that the proposed plan would ever be renewed. The public had lost its interest in the Atlantic cable, & looked with coldness upon a project that had once aroused its highest enthusiasm. Amidst such disappointments Mr. Field & his courageous associates in 1865 had renewed their telegraph company, provided a new cable, & gallantly prepared to brave the dangers of the sea. The cable was more perfect than any former one, & its greatly increased weight & size would have made the question of stowage a very embarrassing one, had it not been for the existence of the Great Eastern, there being no two ordinary ships afloat that would be capable of containing in a form convenient for paying out the great bulk presented by 2,300 miles of cable of such dimensions. On July 15 the Great Eastern left the Nore carrying 7,000 tons of cable. On the 17th she came up with the str. Caroline, which had the shore end on board, & took her in tow. Next day the tow rope broke, & the Caroline ran for Valentia Harbor, & the Great Eastern passed inside the Skelleg, stood in close to Valentia light, & sent a boat ashore. After firing a gun to announce her arrival, she steamed for Berehaven in Bantry Bay, & anchored inside the Island on July 19. Here she lay preparing for her great errand, whilst the Caroline was laying the shore end of the cable in Foilhumorum Bay, in Valentia. On July 22 the bight of the cable was shipped from the Caroline to the Great Eastern. The next morning was exceedingly fine, & the Great Eastern proceeded at the rate of 6 knots an hour. When 84 miles of cable had been paid out, a fault occurred, & the whole staff was aroused. The engines on deck were got ready to work the picking up apparatus at the bows. The operation of picking up proceeded all day & all night. After 10½ miles of cable had been hauled in, to the joy of all on board the fault was discovered. After a detention of some 12 hours the paying-out machinery was again put in action, & the cable glided out rapidly astern. About half a mile of cable had been paid out, when suddenly all communication between the shore & the ship ceased. The news spread from end to end of the ship, which again lay in restless quiet on the waters. Again the wearisome energy of the picking-up apparatus was to be called into play, but the index light reappeared on its path in the testing room, & the weary watchers were gladdened by the light of the beacon of hope once more. As the sea was calm & the cable ran out so beautifully, the speed of the ship was increased, & it looked as if there was really no limit to the velocity at which the process could be conducted under favorable circumstances. Every eye in the ship was watching the turning of a single wheel, every ear was listening for a single sound. The Great Eastern was now near a fatal spot. Somewhere below her lay the bones of two Atlantic cables, & as Mr. Field was watching on the tank the sound of the wheel suddenly stopped, the cable broke, & was lost in the deepest part of the ocean. The still shining Atlantic had swallowed up the expiring cable

1,062 miles from Valentia, 606 miles from Newfoundland. There around lay the placid Atlantic smiling in the sun, & not a dimple to show where lay so many hopes buried. After brief consideration it was resolved to make an attempt to recover the cable. The grapnels were brought up to the bows & secured to wire rope & thrown over, & whistled through the sea a prey to fortune. All life died out in the ship, & no noise was heard except the dull grating of the wire rope over the wheels at the bows. After 2,500 fathoms, or nearly three miles of rope had been paid out, the grapnel reached the bed of the Atlantic, & set to the task of finding & holding the cable. All through the night's darkness the grapnel groped along the bottom, as the wind drifted the Great Eastern. At 6 a.m. she swayed gradually, & turned her head towards the wind. It began to be seen that there was some agency working to alter the course of the ship. The machinery was set to work to pull up 2,500 fathoms of rope, the operation was of course exceedingly tedious. As the shackle & swivel of the eleventh length of rope, which would have made a mile on board were passing the machinery, the head of the swivel pin was wrung off by the strain, & 1,400 fathoms of line, with grapnel attached, rushed to the bottom of the Atlantic, carrying with it the bight of the cable. The Great Eastern hung about the spot 9 days, & made 3 more unsuccessful attempts to recover the cable. The wind & sea were rising, as if anxious to hurry her from the scene. She struggled against the helm for a moment, as though she yearned to pursue her course to the west, then bowed her head to the angry sea, in admission of defeat, & moved slowly to meet the rising sun. Early on the morning of Aug. 17 the Great Eastern came in sight of land, & soon steamed into Crookhaven to communicate with the telegraph station at that solitary spot. Ere noon the news of the safety of the ship relieved many an anxious thought, silenced many a tongue & pen, & dissipated many a gloomy apprehension. Her return was a subject of national rejoicing, every newspaper in the kingdom contained articles on the topic. The energy, skill & resolution displayed in the attempt to recover the cable was admitted & praised on all sides.

By this time Mr. Field's health & fortune were so impaired that his friends supposed he would abandon the project. But after a short period of recuperation he put forth a paper, in which he asserted that although the expedition had been unsuccessful in carrying the cable across the ocean, it was by no means a failure. He organized the Anglo-American Telegraph Co., with a capital of \$3,000,000, & raised the money in less than 3 months. The new cable was completed & put on board the Great Eastern in June, 1866. The shore end was successfully laid, & made fast to the cable on the steamer, & she left Valentia on July 15. For 14 days the cable was paid out over the enormous drums, & on July 27, 1866, the enormous hull of the Leviathan was discerned by watchers on the Newfoundland coast, & with guns firing & bunting floating, with a trail of wire 2,000 miles behind her, the Great Eastern steamed majestically into the harbor of Heart's Content, & dropped her anchor in front of the telegraph office, all safe, all well. A salute of 21 guns from the Great Eastern, H.M.S. Terrible, Niger & Lilly, with hearty cheers from the ships & people on shore, announced the complete success of the first object of the expedition, that of laying & landing the new cable of 1866.

The squadron having done its work with the cable of 1866, left Newfoundland a few days afterward, & proceeded to search for the lost cable of 1865, & on Sept. 1 it was raised by the Great Eastern, spliced to the remaining portion, & the whole landed in Newfoundland, & thus terminated, so far as cable laying & picking up were concerned, the practical work

of the Atlantic Telegraph Expedition of 1866, & the success of the great enterprise was doubly assured.

The Northern Telegraph Route.

Now that all eyes are turned to the gold fields of Cariboo, Omineca, Cassiar, Klondike, & the Atlin district, perhaps a few particulars relative to the past, present & prospective future telegraph facilities in the far North might be of interest. There is probably no better known or more respected citizen of British Columbia than J. B. Leighton, he being foremost among the pioneers, having settled in the interior of B. C. in the early sixties, was one of the first operators in the country, & is at present known to all as the Superintendent of the B. C. Express Co., which operates a line of stages & transacts a general express business from Ashcroft to Barkerville, 285 miles, with connections to all the principal mining camps between the two above towns. He was an operator along this road in early days (between the sixties & seventies). In conversation with Mr. Leighton, recently, the facts which form the foundation of this article were obtained.

In the spring of 1865 the Collins Overland Telegraph Co., virtually the Western Union Telegraph Co., which already had a direct wire from San Francisco to Portland, Seattle & Swinawish, with cable connection via San Juan Island to Victoria, Vancouver Island, realizing the importance of more speedy communication with Europe, commenced operations at Swinawish to construct an overland line to the mother country across Behring Strait and Russian territory, the route being via Matsqui, thence northeast over the Cariboo trunk road to Quesnelle. It crossed the Fraser River at this point & followed up the right bank for 80 miles, where it left the river, & striking out in a northwesterly direction over a wide, well cleared right of way, reached Telegraph Creek 400 miles north of Quesnelle. While operations were being pushed with all possible speed overland with a force of about 500 workmen, extensive operations were also being carried on by water. Large ocean-

going steamers were speeding north loaded with telegraph construction material for Fort Wrangel, where it was transferred to river steamers, & rushed forward with all possible speed up the Stikine River to Telegraph Creek points.

Now that the telegraph trail & Telegraph Creek are famous as the shortest & most direct overland route to the Yukon district via Ashcroft it may be well to mention that the trail was made, & it & the creek derived their name from these construction operations. During the seasons of 1865 & '66 the Co. constructed & had under successful operation 900 miles of first-class wire offices located at Seattle, Swinawish, Matsqui, New Westminster, Chilliwack, Hope, Yale, Lytton, Cache Creek, Clinton, Eighty-Three-Mile House, One-Hundred-&-Fifty-Mile House, Soda Creek, Quesnelle & Fort Stager.

Before operations commenced in 1867, word was received of C. W. Field's successful laying of the Atlantic cable, which put a stop to further operations, the Co. having expended \$3,500,000, which was a dead loss. The cable proving a success the Co. made a present of the entire line & property on hand to the B.C. Government. B.C. was at that time a Crown colony. The telegraph was worked as far north as Quesnelle, under the name of the B.C. Telegraph Service. The 400 miles constructed north of Quesnelle were abandoned, & remains up in places until this day.

R. Borland, of the One-Hundred-&-Fifty-Mile House, who was over the telegraph trail last summer, informs me that miles of wire is now upon cottonwood trees 60, 80 & 100 ft. in height at different places along the route, it having gotten in this condition through trees falling across the wire & tearing it down from the insulators & dropping it across the limbs of small cottonwood trees, which in the course of over 30 years had attained their present height & carried the wire up with them. In several places where the wire has been twisted around trees huge knots have grown & the wire is imbedded in the trees. The Indians have also constructed swings for their children, & hammocks for themselves with considerable of the fallen wire in their camping grounds.

It is an interesting spectacle to pass over the telegraph trail & note the acts of nature on the deserted wire. Mr. Boland tried in numerous places to shove poles over, as a test of how they were lasting in the ground after so many years. He was unable to accomplish it. This gives the reader some idea of the kind of material the Collins Co. used in constructing this wire.

At different points along Telegraph Creek & the Stikine River there are huge piles of material & thousands of coils of wire corded up, all a dead loss. In 1868 private parties constructed a line, as a speculation, between Quesnelle & Barkerville, 60 miles, at a cost of \$10,000, which, from a financial point of view, notwithstanding the fact that the receipts of the Barkerville office were \$1,500 a month, proved to be a failure. Those who complain of exorbitant telegraph rates of the present day should have lived in Barkerville between 1868 & 1870. The rate in those days for a 10-word message between Barkerville & Victoria, about 600 miles, was \$3.50, & 20c. for each additional word. The rate of to-day is 50c. & 4c. In 1870, the first Cariboo boom having terminated, & the throb of life having died out, capital withdrawn, etc., the telegraph no longer a paying proposition, the entire line was abandoned.

F. H. Lamb, now Superintendent of the Western Union service at San Francisco, was, in the sixties & seventies, Superintendent of that Company, Portland to Victoria, & District Superintendent of the B.C. Telegraph Service until its abandonment.

At this time, 2 operators, formerly employees of the line—Mr. Yates, of Soda Creek, & Mr. Hughes, of Clinton—undertook to keep that portion between their respective towns, 131 miles, open, & maintain it at their own expense. They were fairly successful for about a year, when Mr. Yates died & Mr. Hughes removed to a ranch near Kamloops, where he still resides. This, once more, left the line a dead letter.

In 1871, when all public works were taken over by the Dominion Government, the Cariboo telegraph line once more received attention, & was opened up for operation through

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to Barkerville, & has since been continuously & successfully under the operation of the Department of Public Works of Canada, under the name of the Dominion Government Telegraph Service.

R. B. McMicking was the district superintendent to succeed Mr. Lamb, & held the position until 1879, when he resigned to accept the management of the telephone service of Victoria. He was succeeded by J. Wilson, who still holds the office.

In 1895 a branch wire was run from Ashcroft to Lillooet, 62 miles. Ashcroft is at present the relaying point for business between the outside world & points on the Barkerville & Lillooet lines. The Barkerville line is destined to become an important factor as the connecting link between the north & the rest of the world.

C. A. Sherr is joint manager at Ashcroft for the C.P.R. Telegraph & Dominion Government lines. The telegraph agents for the Government are: C. A. Labourdais, 111-Mile House; R. M. Cornell, 150-Mile House; S. T. Hall, Soda Creek; C. H. Smith (who claims the honor of having sent the first message over the Lillooet extension), Quesnelle; Mrs. A. Bowron, Barkerville; J. Stone, who is somewhat of a pioneer himself; in 1870 he was a marine officer in the British navy; opened an office at the English garrison on San Juan Island on Western Union wires. He also closed this office in 1872, as the ownership of the island was settled, and the British forces evacuated. It will be recalled that the U. S. & Great Britain jointly occupied San Juan Island for a considerable length of time, when, in 1872, it was decided one or the other must pull out. The matter was left to arbitration, the Emperor of Germany being chosen as arbitrator & awarded the island to the U.S. Mr. P. Cummings represents the Government at Pavilion, on the Lillooet extension, & Mr. S. A. McFarlane holds forth at Lillooet.—R. M. Cornell, in the Railroad Telegrapher.

The Late Captain Trott.

Capt. S. Trott, for many years commander of the cable str. Minia, died at the Royal Palm Hotel, Miami, Fla., Mar. 11. He went to Florida to recuperate his failing health about 4 weeks ago, accompanied by Dr. Dorman & Chief Steward Satterley of the Minia & a nurse. The remains have been taken to England for interment.

Capt. Trott was born in Sussex, Eng., in 1832. He started a seafaring life at the age of 17 as an apprentice, & at the age of 27 was in command. He began his career in the cable service by taking charge of the str. Faraday in 1874, & continued as her commander until 1880. During this time he laid the French & Direct Cables, & made some remarkable repairs, which showed him to be a man of rare ability. He astonished the world when in midwinter of 1876 he sailed from London to Nova Scotia, repaired the Direct Cable in a gale of wind & a blinding snow storm, & was back in the Thames again inside of 35 days. As he steamed up the river on his return the marine population who had seen him go to sea were amazed & cheered him lustily. He repeated this great feat the same year in 31 days. Seven unsuccessful attempts having been made to repair the Atlantic cables in winter, at large expense to cable companies, it was considered absolutely impossible to pick up cables during the months from Oct. to May. Capt. Trott, however, proved such an idea was altogether erroneous. His achievements naturally attracted the attention of that able manager & director, H. Weaver, of the Anglo-American Co., & the command of the Minia being vacant in 1880, Capt. Trott's services were secured by him.

During the summer of 1888 he sailed from England to repair the Anglo-American Co.'s

French cable in mid-Atlantic, on the same day the str. Scotia sailed to repair the Direct Cable, also in mid-ocean. Much interest was felt at the time as to which ship would finish first, but Capt. Trott completed his work 3 weeks before the Scotia & according to the published reports the costs of these Direct Co.'s repairs made by the Scotia footed up to \$290,000, while the similar ones effected for the Anglo-American Co. by the Minia did not exceed \$110,000. This is to be taken as the criterion of the rapidity with which the king of cable repairers did his work.

It has been said of him that he knew the bottom of the Atlantic & the position of every cable as well as a cabman knows the streets of a city, & that on one occasion being aware that a steamer, in laying one of the Atlantic cables, having been compelled during a storm to abandon a length of cable worth many thousand dollars, & happening to be in the locality one day several years afterwards, it occurred to him that it would be but little trouble to recover it. He therefore stopped his ship, picked up the cable, & resumed his journey within an hour. On arriving in port he presented the cable to the company to which it belonged, declining to accept any remuneration for his work.

Capt. Trott was a man of positive views & a strict disciplinarian, but just, kind hearted, thoroughly honorable, & esteemed by all who enjoyed the privilege of his acquaintance.—Telegraph Age.

The Yukon Telegraph Line.

H. Bostock, M.P. for Yale & Cariboo, believes the Dominion Government should amplify the project looking to the establishment of telegraphic communication between the Yukon district & the outside world by constructing a line from Dawson to Quesnelle, to connect with the Government telegraph between that point & Ashcroft on the C.P.R. It is now proposed to string a wire from Bennett to Dawson. Connection will be established at Bennett with the line of the White Pass & Yukon Ry., terminating at Skagway, & communication will be had between these points & Vancouver & Victoria by steamer. Mr. Bostock holds that this is a mistake, & he will endeavor to impress the Government with the wisdom of his view. The distance between Quesnelle & Dawson is about 1,200 miles, & the cost of stringing a wire between these points would in round numbers be \$600,000, adopting C. R. Hosmer's estimate of \$500 a mile. Though the amount is large, it is the opinion of Mr. Bostock that the expenditure would be justified. The local advantages would be great, because the settlements along the way, such as Hazelton & Telegraph Creek, would be brought into communication with the outside world & their development advanced. The delay involved in the steamship voyage from Skagway to Vancouver or Victoria would be avoided, an all-Canadian line of communication would be established, & Dawson City would be brought into immediate communication with Ottawa, which would greatly facilitate the good government of the district. It is likely that an enormous investment of British capital will be made in the Yukon, & the interests of the country, as well as of investors, would be materially advanced by establishing a direct connection between Dawson & London.—Globe.

Wireless Telegraphy.

A London cable says: "Great interest was excited at a recent meeting of the Society of Electrical Engineers, by Signor Marconi's wireless telegraphy demonstration. He sent a message from one end of the hall to the other by means of a small apparatus. He said that

operations which had been in progress daily for months between the South Foreland & the lightship at the East Goodwins showed that on no single occasion had communication been interrupted, despite all sorts of bad weather. Messages between the Queen at Osborne & the Prince of Wales on the royal yacht had been transmitted, in some instances, for a distance of 8 miles overland. Intervening hills, although 300 feet higher than the vertical wire at Osborne, offered no obstacle. During his lecture Signor Marconi received a note conveying the permission of the French Government to establish his system between Folkestone & Boulogne. Signor Marconi states that vertical wires, rising to a height of 114 ft., will be sufficient to insure communication between the two coasts."

A later cablegram says: "Marconi's wireless telegraphy will shortly be applied to all the lightships around the British coasts. Its value was strikingly demonstrated in this connection by the sailing ship Elbe, which went ashore on Goodwin Sands in a fog. On the East Goodwin lightship is a wireless telegraph system. The crew telegraphed to the South Foreland lighthouse by this means, & as the lighthouse is in telegraphic communication with coast towns, tugs & lifeboats were soon proceeding to the ship's assistance. This is the first occasion since the installation of the system that its practical use has been put to the test, & it proved highly successful."

Commercial Cable Company.

The annual meeting of the Commercial Cable Co. was held Mar. 6. The balance sheet & accounts for 1898 were approved. The net traffic earnings from cables & land lines (Postal Telegraph Co.) amounted to \$2,024,500.95, an increase of \$107,409.83. Out of the balance to the credit of revenue account there has been set aside \$450,000 to the various reserves. The reserve fund now amounts to \$3,037,103.43. The following directors were elected:—J. W. Mackay, J. G. Bennett, G. G. Howland, W. Jay, G. G. Ward, Sir W. Van Horne, E. C. Platt, Lord Strathcona & Mount Royal, C. R. Hosmer, T. Skinner, C. H. Mackay, A. B. Chandler, D. Clarke. The directors met & elected the following officers:—J. W. Mackay, President; G. G. Ward, Vice-President & General Manager; C. R. Hosmer, Vice-President; A. B. Chandler, Vice-President; C. H. Mackay, Vice-President; E. C. Platt, Treasurer; A. Beck, Secretary; J. O. Stevens, Assistant Secretary.

Telegraphing & Telephoning at Once.

On the matter of simultaneous telegraphing & telephoning on a single wire on the Great Northern Ry., U.S.A., C. P. Adams, Superintendent of Telegraph of the system, recently wrote to this effect: "Owing to other matters I find I shall be compelled to postpone all further experiments in this line for the present. The wire on which we are now working the simultaneous telegraph and telephone apparatus is known as the St. Paul & Great Falls circuit, being a no. 9 iron wire, & the distance between the two points, Carman, Minn., and Larimore, N. D., is 53 miles. There are also on the same line of poles 6 to 8 wires the entire distance, but notwithstanding this the telephone has in every way given satisfactory results. There are, of course, many detailed matters which will have to be remedied in order to make it entirely practical for everyday use, particularly in the matter of signaling, which no doubt can be done in a number of ways. The method used by me in this experiment is that laid down by Van Rysselberghe for a single wire circuit, in which I am using graduating coils, condensers, etc."—Telegraph Age.

The telegraph companies will hereafter count "percent" as 1 word instead of 2 as formerly.

The Dominion Public Works Department is calling for tenders for the construction of a telegraph line from Spence's Bridge to Nicola, & from Kamloops to Nicola Lake.

The Commercial Telegraph Construction Syndicate, Ltd., was registered in London, Eng., Feb. 20th, with a capital of £5,000, to adopt an agreement with Hon. J. Roche, M.P., & to subscribe for or otherwise acquire & hold any shares, stock, or securities in the Northern Commercial Telegraph Co. incorporated in Canada.

The Michigan Supreme Court has decided that the Western Union Telegraph Co. is responsible for failure to promptly transmit & deliver a telephoned telegraph message, through which failure the complainant suffered a loss. The complainant had telephoned to the operator to send a message to Chicago directing a step in a wheat deal. The message was not delivered. The company claimed that the operator had no authority to receive the message by telephone, & that in so doing he was acting as an agent for the complainant; but the court held that the use of a convenience like the telephone should not be entirely at the risk of the patron.

Telephone Matters.

J. J. McGaffigan, St. John, N.B.; W. Ferguson, J. Young & P. Arseneau, Tracadie, & J. P. Sherry, Memramcook, are applying for incorporation as The Tracadie Telephone Co., Ltd., with a capital of \$2,000.

C. J. Milligan, St. John, N.B., gives notice of application to the Dominion Parliament for an Act authorizing the construction & operation of telephone lines from or near River du Loup, Que., to Sackville, N.B., & branch lines from the main line to other points in Quebec & New Brunswick.

The Columbia Telephone Co. is said to have let a contract for the construction of a telephone line from Trail to Camp McKinney, B.C. The line will run from Trail to the International Boundary line, where it will connect with the Spokane & B.C. Telephone Co.'s line to about 1½ miles below Cascade, where it will commence again, running through Cascade, Grand Forks, Niagara, Phoenix, Greenwood, Anaconda, Boundary Falls, Midway & Rock Creek to Camp McKinney, taking in all the mining camps of the Boundary Creek district. Exchanges are to be established at Trail, Rossland, Cascade, Grand Forks, Greenwood, and Republic. The line will be completed by July 1.

A London cablegram says an engineer named Germain, in the French Ministry of Posts & Telegraphs, has an invention which he claims will revolutionize the telephone. By an ingenious adaptation of the telephone wire the microphone is made to develop & intensify the vibration received so that it is unnecessary to place the receiver to the ear or stand with the mouth close to the transmitter, & conversation is easily carried on between two persons, both of whom may be several yards distant from the instrument. It is said the invention has been several times officially tested & pronounced a complete success. It is familiarly known as "high speaker."

The first experimental telephone line erected in Canada was from the residence of Prof. G. Bell's father in Brantford, Ont., to the residence of Rev. T. Henderson, in the same city. The first working any distance was one set up in 1875 by Prof. G. Bell between Paris & Brantford. The battery was in Toronto, some 60 or 70 miles from Paris. The first commercial telephone was established in

Hamilton in 1877.—Johnson's First Things in Canada.

The Financial Secretary of the British Treasury recently asked for a credit of \$10,000,000 to enable the Post Office Department to establish a telephone system in London. In explaining the proposal the Globe says that under the new law the Post Office Department will own & operate all municipal telephone systems by 1911, & by that time it will, as an act of fairness, buy up all the stock of the National Telephone Co. London is to have special treatment at once under the Swiss system of charging for telephones. In Switzerland the State owns the telephones. The subscriber pays \$20 for the 1st year, \$13.75 for the 2nd, & afterwards \$7.75 a year, & at the rate of \$1 per 100 calls. This charge according to calls is borne by the person calling, not by the one who is called. As the British Postmaster-General makes the subscription £3 a year, probably the calls will be less than a cent each. The Swiss system is designed with special regard for the convenience of the general public. Messages can be sent by non-subscribers from call offices & delivered to non-subscribers by express messengers; but persons who wish to save the journey to a call office to despatch a telephone message, or to receive it direct instead of by a written message, can secure a private telephone in their house or office on payment of the stipulated annual sum. For all messages actually sent, subscribers & the public alike pay the same fixed toll, smaller if the message is a local one, larger if it travels over the trunk wire; the price for all distances over trunk wires being the same. Each message sent by a subscriber is numbered, & an account against him is kept. It follows, under this system, that every telephone can be used by the general public instead of being confined to the actual subscriber, with the result that in many towns every shop or place of business which has a telephone becomes in practice a public call office. The National Telephone Co. owns 96,000 miles of wire, & the value placed on its entire plant is £3,000,000. That is the Government's estimate of the sum required to put the public telephone system in healthy operation. The work of absorption will be accomplished through the municipalities. In London the area to be treated as a unit covers 634 square miles, & possesses 19,000 public wires, one-fifth of the wires in the country. After its plant is brought under the control of the Postal Department the same course will be followed in other large cities.

Among the Express Companies.

T. E. Foard has been appointed Route Agent of the Western Ex. Co., with temporary headquarters at Sault Ste. Marie, Mich., vice L. L. Stenseth assigned to other duties.

The road houses built by the Arctic Ex. Co. between White Horse & Dawson City, Yukon, have, it is said, been transferred to the Bennett Lake & Klondike Navigation Co.

General Manager Stout has issued the rules & regulations of the Dominion & Western Express Co.'s in very complete form. In the revision many important changes & additions have been made.

Money orders issued by the Western Ex. Co. will be cashed by the Southern Ex. Co. at Havana, Cuba, & such orders may be sold at domestic rates. Money orders issued by the Southern Ex. Co. at Havana, Cuba, will be redeemed by agents of the Western Ex. Co. & accounted for in the usual way.

The express business on the Spokane Falls & Northern Ry. system has been taken over by the Great Northern Ex. Co., & the Northern Pacific Ex. Co. has withdrawn & closed all its offices. Among the offices opened by

the Great Northern Ex. Co. are the following in British Columbia:—Kaslo, Nelson, Rossland, Sheep Creek, Waneta, Ymir. The N.P. Ex. Co. had 17 offices, so there are 11 less under the new arrangement.

Money orders are now issued at all offices of the Dominion Ex. Co., payable in Havana, Cuba, at rates charged for orders payable in the U.S., & such orders will be redeemed by Southern Ex. Co. Money orders issued by the Southern Ex. Co. at Havana, Cuba, will be redeemed by agents of the Dominion Co., & accounted for in the usual manner. Adams Ex. Co.'s Money Orders may be cashed by agents of the Dominion Co., & orders may be sold payable at all offices of the Adams Ex. Co.

The Alaska Pacific Ex. Co. gives notice of the following marine insurance rates:—From Dawson City, Yukon, or other intermediate express offices, to offices in British Columbia or the U.S., on Puget Sound, on gold dust, money, bullion, coin, etc., 1%. Between offices on Puget Sound & ports touched by steamers operated by the Co. in Alaska, not north of Lynn Canal (Juneau, Sitka, Skagway, Wrangle, etc.) on treasure, gold dust, bullion, coin, currency, etc., ¼ of 1%. Between last-named points, on merchandise, ½ of 1%.

The Dominion Express Co. gives notice that notes, drafts, accounts or bills, in any amount, may be received for collection, to be returned at the special rate, between all points on this Co.'s lines & the lines of Canadian Ex. Co. in Canada and the U.S. To & from offices of Western, Great Northern & Northern Pacific express companies a limit of \$400 will apply. To & from offices of American, National, Pacific, Southern, U.S. & Wells, Fargo & Co.'s express companies the limit in amount of such collections is \$100, except to exclusive offices of Wells, Fargo & Co. located west of Salt Lake, Utah, Albuquerque & Deeming, New Mexico, charge classification card rates, these special rates do not apply.

The Alaska Pacific Ex. Co. has arranged to send a dog team into Dawson City, Yukon, in charge of special messengers, leaving Skagway about April 1, & is prepared to accept in transfer from connecting companies at Seattle, & carry through to destination any light express matter. The rates for this special trip will be:—On merchandise, \$5 a pound; minimum charge \$2.50. On money, specie, etc., 5%; minimum charge \$2.50. On franked letters (when enclosed in the Co.'s regular franked envelopes) \$1 each. All charges must be prepaid by the shipper. A deposit will be required from irresponsible parties to cover duty. Duty will be assessed at the frontier port, & will average about 35%.

Effective Mar. 15, Dominion & Western express companies will be regarded as one company in the interchange of business, & charges will be made as follows:—On business between common points where the through service can be performed by any one company, one graduate on the through or aggregate rate, lowest through rate by any transfer point to govern. On business between exclusive offices, from a common point to an exclusive office, from an exclusive office to a common point & between common points where two or more other companies make the competing line, charge a graduate for Dominion & another graduate for Western Ex. Co., but not exceeding the through charge of such competing companies. The Dominion Ex. Co. will not advance the charges of an intermediate company on business that can be transferred by the originating company direct to the Western Ex. or to Dominion Ex. Co. The Dominion Ex. Co. will not advance charges on business for its exclusive offices, originating at common points with Western Ex. Co.

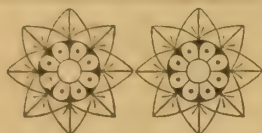
The Purchasing Agents' Guide

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Accident Insurance Canadian Ry. Accident Ins. Co. Ottawa, Ont. Travelers' Insurance Co. Montreal.	Flags Rice Lewis & Son Toronto. The Hudson's Bay Company	Rivets Rice Lewis & Son Toronto.
Aerated Waters E. L. Drewry Winnipeg.	Foghorns Rice Lewis & Son Toronto.	Rope Rice Lewis & Son Toronto. The Hudson's Bay Company
Air Brakes & Fittings Westinghouse Mfg. Co. Hamilton, Ont.	Forgings Rhodes, Curry & Co. Amherst, N.S.	Semaphore Arms Acton Burrows Co. Toronto.
Ales E. L. Drewry Winnipeg.	Gates Page Wire Fence Co. Walkerville, Ont.	Shafting Rice Lewis & Son Toronto.
Aluminum Rice Lewis & Son Toronto.	General Supplies The Hudson's Bay Company	Shipbuilders' Supplies Rice Lewis & Son Toronto.
Anchors Rice Lewis & Son Toronto.	Grease Eureka Min. Wool & Asbestos Co. Toronto.	Ship Carpenters' Tools Rice Lewis & Son Toronto.
Anti-Friction Metal Canada Metal Co. Toronto.	Groceries The Hudson's Bay Company	Ships Polson Iron Works Toronto.
Asbestos Eureka Min. Wool & Asbestos Co. Toronto.	Half Tones Acton Burrows Co. Toronto.	Shovels Rice Lewis & Son Toronto. The Hudson's Bay Company
Axles Rhodes, Curry & Co. Amherst, N.S.	Hardware Rice Lewis & Son Toronto. The Hudson's Bay Company	Signal House Numbers Acton Burrows Co. Toronto.
Babbit Canada Metal Co. Toronto. Rice Lewis & Son Toronto.	Headlights Noah L. Piper & Sons Toronto.	Signals Noah L. Piper & Sons Toronto.
Beams Rice Lewis & Son Toronto.	Hose Rice Lewis & Son Toronto.	Signs Acton Burrows Co. Toronto.
Bellows Rice Lewis & Son Toronto.	Illustrations Acton Burrows Co. Toronto.	Snow Ploughs Rhodes, Curry & Co. Amherst, N.S.
Bells Rice Lewis & Son Toronto.	Iron Rice Lewis & Son Toronto.	Solder Canada Metal Co. Toronto.
Belting Eureka Min. Wool & Asbestos Co. Toronto. Rice Lewis & Son Toronto.	Iron Signs Acton Burrows Co. Toronto.	Speed Indicators Rice Lewis & Son Toronto.
Blankets and Bedding The Hudson's Bay Company	Jacks F. E. Came Montreal.	Spikes Rice Lewis & Son Toronto.
Block & Tackle Rice Lewis & Son Toronto.	Japans McCaskill, Dougall & Co. Montreal.	Springs Rhodes, Curry & Co. Amherst, N.S.
Blocks Rice Lewis & Son Toronto.	Lager Beer, &c. E. L. Drewry Winnipeg.	Station Name Signs Acton Burrows Co. Toronto.
Boat Fittings & Hardware Rice Lewis & Son Toronto.	Lamps Rice Lewis & Son Toronto. Noah L. Piper & Sons Toronto. The Hudson's Bay Company	Steamboats Polson Iron Works Toronto.
Boiler Covering Eureka Min. Wool & Asbestos Co. Toronto. Mica Boiler Covering Co. Toronto.	Lanterns Rice Lewis & Son Toronto.	Steamboat Signs Acton Burrows Co. Toronto.
Boilers Polson Iron Works Toronto.	Launches Polson Iron Works Toronto.	Steam Whistles Rice Lewis & Son Toronto.
Boiler Tubes Rice Lewis & Son Toronto.	Life Insurance Independent Order of Foresters Toronto. Travelers' Insurance Co. Montreal.	Steel W. G. Blyth Toronto. Rice Lewis & Son Toronto.
Bolts Rice Lewis & Son Toronto.	Linoleum and Floor Coverings The Hudson's Bay Company	Switch Targets Acton Burrows Co. Toronto.
Bridge Numbers Acton Burrows Co. Toronto.	Locomotives Baldwin Locomotive Works Philadelphia.	Telegraph Office Signs Acton Burrows Co. Toronto.
Buckets Rice Lewis & Son Toronto.	Lubricators Rice Lewis & Son Toronto.	Telegraph Spoons Rice Lewis & Son Toronto.
Bunting Rice Lewis & Son Toronto. The Hudson's Bay Company	Matches E. B. Eddy Co. Hull, Que. The Hudson's Bay Company	Telephone Office Signs Acton Burrows Co. Toronto.
Carpets The Hudson's Bay Company	Milepost Numbers Acton Burrows Co. Toronto.	Tobacco and Cigars The Hudson's Bay Company
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Car Wheels Rhodes, Curry & Co. Amherst, N.S.	Numbers Acton Burrows Co. Toronto.	Tools Rice Lewis & Son Toronto.
Castings Rhodes, Curry & Co. Amherst, N.S.	Oakum Rice Lewis & Son Toronto. The Hudson's Bay Company	Track Jacks Duff Manufacturing Co. Allegheny, Pa.
Chains Rice Lewis & Son Toronto.	Oils Eureka Min. Wool & Asbestos Co. Toronto. Galena Oil Co. Franklin, Pa.	Track Tools Rice Lewis & Son Toronto.
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Cuts Acton Burrows Co. Toronto.	Packing Eureka Min. Wool & Asbestos Co. Toronto.	Uniform Caps W. H. Coddington Hamilton, Ont.
Door Signs Acton Burrows Co. Toronto.	Pipe Rice Lewis & Son Toronto.	Valves Rice Lewis & Son Toronto.
Dry Goods The Hudson's Bay Company	Pipe Covering Eureka Min. Wool & Asbestos Co. Toronto. Mica Boiler Covering Co. Toronto.	Varnishes McCaskill, Dougall & Co. Montreal.
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Electric Car Trucks Baldwin Locomotive Works Philadelphia	Porter E. L. Drewry Winnipeg.	Waste Rice Lewis & Son Toronto. Eureka Min. Wool & Asbestos Co. Toronto. Noah L. Piper & Sons Toronto.
Enameled Iron Signs Acton Burrows Co. Toronto. Rice Lewis & Son Toronto.	Portland Cement Rice Lewis & Son Toronto.	Water Meters Westinghouse Mfg. Co. Hamilton, Ont.
Engines, Stationary & Marine Polson Iron Works Toronto.	Printing The Hunter, Rose Co. Toronto. Mail Job Printing Co. Toronto.	Wheelbarrows Rice Lewis & Son Toronto.
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Crow's Nest Pass Railway Location & Construction.

By J. L. Davidson.

The construction of the Crow's Nest Ry. was notable, from an engineering standpoint, for at least two features, the celerity of construction & the skill shown in overcoming serious obstacles. To build a road through the Rocky Mountains, with a maximum grade of 1%, seems well-nigh impossible, yet this has not been exceeded, & the railway is the best which crosses the mountains.

Location was commenced in April, 1897, at Lethbridge, Alberta, & since preliminary lines had been run in 1892-3, there was a good idea as to the general route to be followed. Starting from Lethbridge, it ran to Fort MacLeod, thence to Pincher Creek, following the middle fork of Old Man River to the summit of the Rocky Mountains, down Michel Creek to Elk River, thence to Kootenay River, to Cranbrook & to Moyie Lake, along Moyie Lake, down Moyie River to Goat River Summit, down Goat River to Kootenay Flats, round the west side of Kootenay Lake to the Narrows, & down the Narrows to Nelson; in all, a distance of 290 miles.

Location was carried on from 5 or 6 different bases; westward from Lethbridge, starting in April; westward from Elk River to Kootenay River, starting in May; westward from Wardner to Moyie Lake in May; down Moyie River from the foot of Moyie Lake to Goat River Summit, starting in July; from the summit westward to Kootenay Flats in Nov., & from Kootenay Flats round the lake to Nelson in April, 1898. All the location proper was finished in March, 1898, although a good deal of re-location was going on during construction.

On leaving Lethbridge it is about a ½ mile to St. Mary's River, where there is about 3 miles of trestle-work. A fly-line was run down along the side hill to the flats, so that the steam pile-drivers could be working below, as well as above. Three tracks were run along the course of the road, 1 outside of the trestle-work, & 2 inside. The steam pile-driver, driving the outside sloping piles, came first, followed by the one driving the upright piles. The 1st pile-driver was on 2 flat cars, 1 on each track, & was shifted from side to side as the piles were driven. With the upright piles the driving was done at the rear end of the cars, as the piles were driven in between the tracks. In the meantime, material was brought along on the track outside, a steam timber derrick putting it in place for the pile-driver. Pile-drivers were at work up above from the east end of the bridge. In this way the trestle was constructed in remarkably quick time. Temporary work was constructed under the span by means of decks, the decks being brought

along already made up. One deck was laid on top of another till the necessary height was reached; the span was then placed in position, & the temporary work taken away.

The line crosses the valley, swings around a 10° curve on the trestle, & follows along the coulees. Very heavy cuts are encountered here; one, after the slopes being taken out, was 120,000 cubic yards. A trestle, 900 ft. long, is next, with a 200 ft. span. Heavy cuts again intervene, & 6-mile coulee bridge is reached. Piles were driven to a height of 40 ft., & then decks of 15 ft. were strung across on the temporary work, & pulled up into position. A cable was stretched across



JOHN FOY,
Manager Niagara Navigation Company.

the coulee, block & pulley were attached to the cable, & the bents placed in position one by one. It was impossible to locate around the hogs backs that jutted out from the side hill, so that it was necessary to have trestles & heavy cuts.

Eight-mile coulee trestle is next reached; this is 600 ft. long & 110 ft. high. The piles were driven to a height of 50 ft. There is a 15-ft. deck & bents up to grade here. After passing through a very heavy cut, a trestle 900 ft. long on a 3° curve was constructed in the same manner as the one above mentioned. Heavy cuts & fills with a few small trestles were encountered till 16-mile coulee trestle

was reached. This is 800 ft. long & 133 ft. high, with 200 ft. span. The temporary work consisted of 3 decks for the span, 35 ft. each, the bents being 15 ft. apart.

The line now comes out on the rolling prairie, & no difficulty is encountered to MacLeod, 37 miles. The road then follows up the Old Man River, & crosses Pincher Creek, 22 miles distant, with a trestle 1,200 ft. long & 122 ft. high, with a span 250 ft. long. It then follows the south side of Old Man River, with a rising grade, till the south fork of Old Man River is crossed. This bridge is 840 ft. long, & 135 ft. high, 2 spans of 150 ft. each, piles 30 ft. & decks of 15 ft. bents; temporary work for spans, 15 ft. bents 15 ft. apart for 70 ft. in height, then 30 ft. deck to span. The road then winds in and out along the south bank of the Old Man River, & the foot-hills of the Rockies are soon reached. Heavy rock cuts are encountered now. A trestle was erected on a 4° curve over a dam, but the whole side hill, 1,200 ft. across, started to move toward the river; the trestle had to be abandoned, a lower grade taken, & a fill was made instead of trestling. It was necessary to keep ballasting this, as the grade kept sinking. The cause of this, from all appearances, is that there is loose material embedded in the hollow, the sides & bottom of which are solid rock.

The entrance of the pass is made at 92 miles. In the mountain division trestling & culverts are of the greatest importance, as they are used in very great numbers. The trestles consist of single deck trestles up to 40 ft.; on soft material piles are used & on hard ground mud sills are used. The standard trestles run up to 110 ft., with diagonal bracing on all over 2 decks. The culverts employed are box, pile & open; box culverts are the most used culverts in a mountainous country, & on this road are used in great numbers. Where there is a fill in a drain a culvert was put in, unless the water could be drained along the side of the dump. If there is a small stream the size is generally 3 x 3 ft. Box culverts vary in size from 2-4 ft. in width, & from 2-5 ft. high. Sometimes it was necessary to put in a double box culvert; these are generally 4 x 4 ft. Some of these on this road are over 100 ft. long. Open culverts are generally pile culverts, & are from 6-14 ft. in width. Mud sills used on hard ground. Open culverts are used up to a height of 5 ft. for spans of 12-14 ft. Eight stringers are used.

The line follows up and crosses the Old Man River with a single span. In 3 places the course of the river was changed, as a much better location was to be had by this change. There is a steady rise in the grade, heavy cuts & fills are now the order. Crow's Nest Lake is next reached at 100 miles from Lethbridge. Very heavy rock cuts are encountered along this lake, with grade still going up. The divide or summit of the

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TORS, D. L. Foley, Toronto; E. J. O'Dell, Owen Sound,

Rockies is reached at a distance of 105 miles,
which is passed at an elevation of 4,434 ft. Summit
Lake is next reached, only a few hundred feet from
Crow's Nest Lake, but the latter is drained to the east
by the Old Man River, & Summit Lake is drained to the
westward by Michel Creek.

By the contract with the Government 100
miles were to be finished by January 1st, 1898.
They were finished Dec. 13, 1897. There being
no wagon road west of Crow's Nest Lake, it was
necessary for the Co. to have one. It was started in
July, 1897, from Crow's Nest Lake, & from Kuskano-
ok in Sept., these met on Moyie Lake in Nov. Over
200 miles of wagon road were built in 4 months.
The location being nearly all complete to Kootenay
Flats, contractors were put in all along the line from
Crow's Nest Lake to Kuskanook by Jan. 1, 1898. Store-
houses were built on an average of 25 miles apart in
the mountain divisions. Supplies were rushed in from
MacLeod and from Nelson to Kuskanook, & in the
centre from Jennings, Mont., by Kootenay River to
Wardner. Mail service was established along the line,
and by Feb. between 6,000 & 7,000 men were employed
on the line.

On leaving the summit the grade begins to
fall steadily, heavy rock cuts and fills are very
numerous here, at $4\frac{1}{2}$ miles from the summit the
line enters the loop. A long narrow hill juts out
from the side hill, which is between the main fork
and south fork of Michel Creek. A tunnel was
located here, which was to have been 1,100 ft. long,
but this had to be abandoned. The construction of
the tunnel was first started at the east end, & about
40 ft. had been taken out when the whole side hill
began to cave in, and the casing of the tunnel
began to sink; this will finally be made an open
cut. Location was then made down the north side
of Michel Creek, but this was impossible unless a
greater grade be used. The location was then started
at the eastern end of the tunnel, down along the
side hill, heavy gumbo cuts & fills & sharp curves of
 10° & 12° being mostly used till the nose of the hill
is reached, which is about $1\frac{1}{2}$ miles from the
abandoned tunnel. The line turns on a 20° curve
around the nose of the hill, coming out of a 40 ft.
gumbo cut on to a trestle 55 ft. high, which is also
a part of the curve; special permission had to be
given here for the 20° curve, as no greater than
 12° is allowed. The reason the trestle was erected
here was that the dump could not be made owing to
the steep side hill, & the material would slide down
the side hill to the dump below.

On rounding this curve the line follows up
the east side of the south fork of the Michel Creek
for 3 miles; sharp curves & heavy cuts & fills are
numerous. At the end of the loop the line turns
on a 10° curve, crosses the south fork of the Michel
Creek, & follows down the west bank of the creek;
sharp curves & heavy gumbo cuts are very numerous
here. The grade is still dropping steadily. The
south fork is again crossed, & the line follows down
the east bank of the creek, & comes out of the loop
at the bottom of the hill it went in on, some 350 ft.
below. The track laying machine had great difficulty
here in laying the rails, as the soft gumbo dumps
kept sinking, & the machine was derailed every
few hundred feet. The line follows down the main
creek to Elk River. The main Michel Creek is
crossed with a single span 150 ft. long. The line
follows down Elk River to Coal Creek (140 miles
from Lethbridge). Here is situated Fernie, which is
a divisional point, a branch 4 miles long has been
built up Coal Creek to the coal mines. The grade
of the latter runs as high as 3%.

Coal Creek is crossed with 160 ft. span, the
line follows down the east side of Elk River for
17 miles, & crosses at a distance of 157 miles.
The first location line that was run kept along
the east side hill of the river, &

crossed 3 miles below the present crossing; this
location necessitated 2 tunnels, 1 on each side of
the crossing, & after crossing the line kept 4-6
miles south of the present line. On crossing the
river a 78,000 cubic ft. gravel cut is the first
heavy work encountered, & a 945 ft. trestle on a
 4° curve. Heavy rock and earth cuts are met
with, & heavy fills. Rock Creek is crossed with
a high trestle, & Sand Creek with 100 ft. span.
Heavy earth cuts & fills are encountered every
few hundred feet. Kootenay River is next reached;
the line follows along the east bank for 13 miles;
heavy earth & rock cuts with 2 trestles, one 110 ft.
standard, & 70 ft. trestles, till Kootenay River
crossing is reached. This bridge consists of 4
spans & a 180 ft. steel arch swing. Before the
rails reached this bridge piles were driven, &
temporary bents put in place; the stringers were
run across, & all was in readiness for steel swing.
The steel swing was brought along on the
construction train, & put up in 11 days. The
1st train crossed the Kootenay bridge July 29,
1898.

From Wardner west to Kuskanook the
dump was all completed but 12 miles on Aug.
15, 1898, a distance of 112 miles. Kootenay
River crossing is one of the lowest points on the
line, having an elevation of 2,400 ft. On the west
side of the crossing there are heavy rock cuts &
fills. Wardner is reached, which is 188 miles
from Lethbridge. The line follows up the west
bank of the Kootenay River for 6 miles, with a
rising grade. The work to the Isidor Canyon is
alternately light & heavy. The work in the canyon
is very heavy. Rock cuts & heavy fills; there are
also a large number of sharp curves. The grade is
still rising till the summit of the canyon is
reached, here heavy rock cuts are again en-
countered, with heavy fills. The grade begins to
drop till Cranbrook is reached; this is the next
divisional point, a distance of 210 miles.

From here there is a branch located to the
North Star Mine; this branch runs north, &
crosses the St. Mary's River at the St. Eugene
Indian Mission, which is 5 miles north from
Fort Steele, & then runs in a north-westerly
direction to the North Star hill. This will tap
the west part of the Fort Steele mining district.
From Cranbrook to Moyie is down grade, & the
work heavy. Palmer's Bar Creek is crossed with
trestle on a 4° curve. Moyie River is crossed with
a single span. Heavy rock & earth cuts are now
encountered till Moyie Lake is reached; this lake
is 10 miles long, & the narrows between is 1 mile
long. The grade along this lake is level at 3,000
ft. A tunnel 650 ft. long in solid rock on the
East Lake was the heaviest piece of work. Two
tracks were laid with a switch at the outer end.
Horse cars side dumping were used to draw the
blasted rock out. Work was started from both
ends, so that the construction was done in
remarkably quick time. The rock cuts are very
heavy along this lake, very little of which was
needed for fills. The grade is only 14 ft. above
the level of the lake at low water, & 6 ft. at high
water.

The line now follows down the Moyie River
for about 22 miles. A great deal of piling was
done on this section, as there were numerous
marshy meadows. Irishman's Creek is crossed
with a single span. The work is not very heavy
till about 5 miles from Goat River Summit,
where the grade begins to rise. Very heavy cuts
& fills are encountered; the line follows along
the north side hill, & swings around in a north-
westerly direction, leaves the valley of the Moyie
& follows up Summit Creek to Summit Meadow,
the elevation of which is 2,860 ft. The line follows
down the centre of the meadow, & it was necessary
to pile the greater part of this. The line now
follows Kid Creek, the grade begins to fall, &
work becomes very heavy, & sharp crosses have
to be used in great numbers. The line keeps to
the west side of Kid Creek. A mile

ref. to locomotive locomotive magazine June 1899



SCENES ON THE WHITE PASS AND YUKON RAILWAY.

ref. to locomotive locomotive magazine June 6. '99

& a half from the summit the line enters the loop on Carrol Creek, & winds up along the south side hill for $\frac{3}{4}$ of a mile. Very heavy rock cuts & fills are encountered. The line then crosses Carrol Creek on a 12° 30' curve, the angle of the curve being 228° 110 ft. Standard trestle is used here with a 150-ft. span. The cuts on both sides of the crossing are very heavy: 70,000 cubic yards of rock on the south side, 55,000 on north side. The line follows down the north side of Carrol Creek, & swings around on a 12° curve, & follows the valley of Kid Creek once more. Heavy cuts & fills are encountered. Kid Creek runs into Goat River, & the line follows down the west side hill of Goat River. The heavy work continues, & Goat River Canyon is reached. Very heavy cuts are met with; two especially heavy ones, one on each side of the crossing, 62,000 & 53,000. The river is crossed with a single span 200 ft. long, at a height of 165 ft. above the river bed. The walls of the canyon are solid rock, and nearly perpendicular.

The approaches of the bridge were all in readiness for the span, & as soon as the rails arrived at the bridge, work commenced at once on the span, it being brought along on the construction train. The span was completed in eleven days.

The line now follows down the east side of the valley, & passes on the right of Duck Lake. Duck Creek is crossed with a trestle & 70-ft. span. The work along the lake is heavy, rock cuts being the main feature. Another branch of Duck Creek is crossed with a span, & the work is heavy till the Kootenay River is again reached, after its wanderings in Montana and Idaho. The river comes out on what is known as Kootenay Flats, & is divided into 3 branches. To cross this flat $4\frac{1}{4}$ miles of trestlework were necessary, with 3 bridges, with 3, 2 & 4 spans respectively, &

1 steel arch swing bridge of 200-ft. span. Temporary bents were driven, & the piles for the abutments; then stringers were strung across. These bents on the trestlework appeared to be much higher than they need be; this is on account of the height to which the water rises; at high water Kootenay Lake rises 38 ft.

The work ceases at the end of this trestle, but the charter and contract extends to Nelson, the Co. having 2 years' time from Oct., 1898, to build this in. The work around the west side of Kootenay Lake & the Narrows is the heaviest work on the line, being solid rock, & will cost on an average \$35,000 a mile. The distance is 53 miles. There is a transfer slip, which is used to transfer the cars from the line to the boats; this is very long, owing to the great height to which the water rises on Kootenay Lake. Barges are used to carry the cars across the lake; these are towed by the steamer. The cost of the road was heavy. The first 100 miles cost, on an average, about \$14,000, the second 100 about \$13,000, & the third 100 about \$19,000 a mile.

The foregoing paper was read by Mr. Davidson before the Engineering Society of the School of Practical Science, Toronto, by the kind permission of the officers of which it is here produced.

Surveys, Construction, Betterment, &c.

The Atlantic & Lake Superior Ry.'s large bridge at Bonaventure has collapsed, & traffic is suspended.

No information is forthcoming as to what, if any, construction work will be done this year.

Brandon & Southwestern.—It is said the promoters recently made application to the Manitoba Government for the usual Provincial aid of \$1,750 a mile for this line, between

Brandon & the International boundary. It is possible a grant may be given for a portion of the distance, probably that lying south of the Northern Pacific's Souris River branch, but it is hardly likely that the whole line will be bonused, as the feeling seems to be that there is no pressing necessity for the northern portion of the line. The promoters are reported to have stated that the Dominion Government has promised \$3,200 a mile, subject to the ratification of Parliament this session. It is not known who are behind the figurehead promoters, but the general impression is that they are backed by the Great Northern (U.S.A.) which has a branch to Bottineau, N.D., within about 12 miles of the International Boundary, & near to the southern point to which the B. & S. W. is projected. (Jan., pg. 11.)

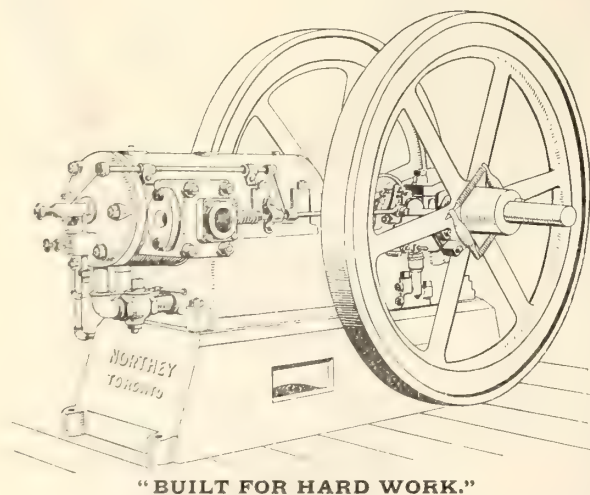
Canada Atlantic.—The trestle work at Arnprior is to be filled up to track level.

Canadian Northern.—It is expected that the portion of this line from Cowan, the end of last year's construction, to the Saskatchewan River, will be put under contract almost at once, & that that distance will be completed this year. (April, pg. 115.)

Central Ontario.—At the recent session of the Ontario Legislature this Co. was granted a cash subsidy of \$3,000 a mile for 21 miles, to assist it in extending from Ormsby, 5 miles from its northern terminus at Coe Hill. Whether the extension will be gone on with this year depends on the action of the Dominion Parliament as to granting a Dominion subsidy. If this be given, we are informed the Co. will immediately start to extend from Ormsby via Bancroft to either Barry's Bay or Whitney, on the Canada Atlantic Ry. The distance from Ormsby to Barry's Bay would be about 60 miles, & to Whitney about 75. Bancroft is about 20 miles from Ormsby, & it is not likely work would be carried beyond there this year.

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J. D. Evans, Trenton, Ont., is the Co.'s Engineer, & will have charge of the work. G. Collins is General Superintendent & Secretary of the Co. (Feb., pg. 39.)

Central of New Brunswick.—It is reported this line, which now extends from the I.C. R. at Norton, to Chipman, 45 miles, will be extended to Fredericton this summer, that a preliminary survey has been made, & that the final survey will be started at once. When this road is finished it is said it will materially assist in opening up of coal mines.

Coast Ry. of Nova Scotia.—Grading was resumed on this work in April, & is being pushed forward with all the men available. Townsend & Co., contractors, have advertised, asking for 500 men & 150 teams. A small force of Italians has arrived from Boston. With this exception all men employed are likely to be local. The balance of the

port, with the hope of opening to Shelburne before the end of the season.

The Provincial Engineer, in reporting on this Co.'s work, says the contract with the Government was made in Sep., 1896, & provided that 90 miles be in operation by Oct. 1, 1898, by which time only 31 miles, from Yarmouth to East Pubnico, were actually completed, 20 miles from East Pubnico to Barrington being under construction, & the 39 miles from Barrington to Lockeport having been surveyed & timber cleared off. He continues: "Early in the season 2 parties were in the field engaged on preliminary surveys between Shelburne & Halifax, & continued to survey during the summer. Further than a look over the plan & profile, which was afforded me in the Co.'s office at Yarmouth, the result has not been submitted. From what I could then observe & from my knowledge

tion in the Co.'s office in Halifax. The Government survey establishes a route without an objectionable feature, whilst the Co.'s survey shows a line that is below the standard of any railway in this Province respecting grades, although excessive in the cost of construction." (April, pg. 155.)

The Dominion Eastern Ry. Co. contracted in May, 1898, with the Government of Nova Scotia for the construction of a line from the Nova Scotia Steel Co.'s railway at or near Sunny Brae, to run via Melrose, Country Harbor Cross Roads & Country Harbor, to or near Guysborough, distance throughout not to exceed 76 miles. Work was to commence before July 17, 1898, & to be continuously & vigorously prosecuted; the first section of 30 miles was to be in operation before Dec., 1898, & the whole in operation by July 1, 1901, & in default the Co. to forfeit all claim to the



HYDRAULIC FILLING ON THE CANADIAN PACIFIC RAILWAY.

This is a view of the Mountain Creek Trestle, near the summit of the Selkirk Mountains, showing the sluice box fastened on the side of the trestle. A very complete description of this work appeared in our Dec., '98, issue, pg. 69.

masonry work of the Pubnico-Barrington section will only take a few weeks to complete & is under way. 2,500 tons of rails have been bought, to be delivered by June 1. A contract has also been given out for the rail fittings, angle-bars, bolts, spikes, etc., for delivery by June 1. Ties sufficient for the Pubnico-Barrington section are on hand at different points along the line of the road in operation, & with a large force of men the track laying can be very quickly completed. The ballast pit near Pubnico has been surveyed & cross-sectioned, & rails are on the site for ballast pit tracks. Townsend & Co. are preparing to sub-let contracts for fences & station buildings; but will perform the balance of their contract without sub-letting.

The management hopes to open the line to Barrington sometime in July, & to push construction work forward to Shelburne & Locke-

port of the route followed, I could see that the information conveyed by the survey, for the first 16 miles westerly from Halifax, created a wrong impression respecting the cost of construction & the cost of the traffic operation over the railway, if constructed. On making known my views to some Halifax gentlemen who have, in the interests of trade & progress, been urging upon the Government the desirability of more vigorous prosecution of the construction of the Coast Ry., means were placed at my disposal to make such surveys as I considered necessary. After a careful examination of the ground, such surveys as were considered advisable were made under the supervision of my Assistant, Mr. McCell, C.E. We are now prepared to show that a much more favorable line can be had between Halifax & St. Margaret's Bay than that represented by the plans now on exhibi-

subsidy. The Co. made a preliminary survey of the line throughout, & submitted a number of plans. The Provincial Engineer reports that no material progress has been made to satisfy the conditions of contract; a few men, 5 or 6, have been doing some work at Sunny Brae, but no satisfactory progress has been made.

Great Northern. Ross, Batty & McRae will sublet the contract for the 88 miles to be built between Shawenegan & Hawkesbury. They will build the substructure of the Hawkesbury bridge themselves.

Great Northern (U.S.A.)—The Railroad Gazette having stated that at a meeting of officials of this Co., held in Vancouver, B.C., recently, maps of the section between Vancouver & New Westminster were gone over, & the question of building a line between the two cities from the south side of the Fraser

River was thoroughly discussed, President Hill writes that there is no truth in the report that the Co. contemplates building a line between the cities named.

A B.C. correspondent writes: "Engineers of the Great Northern are locating a line into the Lardeau & Trout Lake district to tap them. It is said this is a scheme of Mr. Hill to extend the Bedlington & Nelson Ry. up to the east side of Kootenay Lake, to ultimately connect with a line in the Trout Lake district. The C.P.R. does not view this intrusion with favor, & has decided to offset it by losing no time in building into the country itself. Mr. Hill has shown himself so active that the C.P.R. will lose no more time in checkmating him."

Great Northwest Central.—We are advised that Engineer Dancer is out with a party surveying a line east from Rapid City, Man., in the interests of this Co., which, it is said, intends building an extension from Rapid City eastward towards McGregor, Portage la Prairie, or some other point on the main line of the C.P.R. This line if built would occupy the territory between the main line of the C.P.R. & the Manitoba & Northwestern Ry., over which the Northern Pacific has been preparing to build an extension from Portage la Prairie. The G.N.W.C. now starts from the main line of the C.P.R. at Chater, one station east of Brandon, & runs nearly due north to Rapid City, & thence to its terminus at Hamiota. The eastward extension spoken of would give a very direct line from Hamiota eastward, & would considerably shorten the distance to Winnipeg.

Intercolonial.—In answer to a recent question in the House of Commons, as to whether contracts had been entered into for the supply of 5,000 tons of steel rails for the I. C. R., & 1,000 tons for the P. E. I. Ry., the Minister of Railways replied that tenders had been asked & the contract given to F. E. Came, of Montreal, who was the lowest tenderer, at \$19.25 per ton, delivered, but Mr. Came declined to enter into a contract. Subsequently the Government entered into an arrangement with the Illinois Steel Co. & the Cambria Steel Co. to supply 5,000 tons each at \$20 a ton delivered. Neither of these companies were among the original tenderers.

Rhodes, Curry & Co., Amherst, N.S., have secured the contract for building the grain elevator at St. John, N.B. It is said the price is about \$175,000.

The Dominion estimates for 1899-1900 contain the following items. For purpose of comparison the 1898-99 items are also given.

	1899-1900	1898-9.
Original construction.....	\$ 2,000	\$ 2,000
Increased accommodation at		
St. John.....	445,000	250,000
Strengthening iron bridges.....	100,000	50,000
Excavating roof, Morrissey		
Rock Tunnel.....	3,000	.....
Drop pits.....	6,000	.....
Enlarging engine houses.....	15,000	.....

Inverness & Richmond.—No definite announcement has been made as to when construction will be gone on with, but it is understood that financial arrangements to that end are in progress. The Co. has a Dominion subsidy of \$3,200 a mile for the 53 miles from Port Hawkesbury to Port Hood & Broad Cove. The County of Inverness has voted \$1,000 a mile for 100 miles, & the County of Richmond has voted \$1,000 a mile for the 6 or 7 miles which will be within its borders, on condition that the line runs south to Cariboo Cove, and connects with the I.C.R. The Nova Scotia Government has not made any grant, but it has the power to do so to the extent of \$3,200 a mile by Order-in-Council.

Kingston & Pembroke.—A start has been made replacing the wooden bridges over streams with iron structures.

Kootenay Railway & Navigation Co.—We are officially advised that construction on the Bedlington & Nelson Ry., & the Kootenay Valley Ry. is being pushed to completion with all possible haste & that it should be completed by the end of Aug., possibly earlier. (April, pg. 117.)

Manitoba and Northwestern.—Considerable work will be done this season, including the strengthening of bridges, making them permanent by filling in approaches and renewing abutments; also ballasting the line. Large quantities of ties are being floated down the rivers to be accumulated at Minnedosa & Birtle, & distributed from there over the line.

Manitoba & Southeastern.—A contract has been let to Neil Keith for the completion of this line, from La Broquerie, to which point it was built last year, to the International Boundary, some 50 miles. When in Winnipeg recently W. Mackenzie said he hoped to be able to reach Rainy River by fall, but of this he could not speak with positiveness, as there might be difficulties of engineering & other contingencies to contend with that had not yet presented themselves. The line had been located to the river, & the connecting link from the east had also been located for the greater part of the distance, & it was his Co.'s intention to have the line in operation to the head of navigation just as soon as possible.

H. Baxter, C. H. Childs, C. E. Sanford, E. W. Hawley & D. W. Knowlton have been incorporated in Minnesota with a capital of \$1,000,000 as the Minnesota & Manitoba R.R. Co. to build the portion of this line which runs through Minnesota between the International Boundary & Rainy River. (Apl., pg. 117.)

Midland of Nova Scotia.—Contracts have been let for the superstructures of the bridges between Windsor & Truro. There will be a bridge of 5 spans of 220 ft. & a 34-ft. lift draw over the Shubenacadie river, & two spans of 120 ft. & a 34-ft. lift draw over the St. Croix River. There will also be 9 spans, plate & lattice girders, 30 ft. to 100 ft. openings. It is expected track laying will commence in June, & that the line will be opened for traffic this year. (Mar., pg. 72.)

In reporting on this line, Provincial Government Engineer Murphy says the work is being conducted in a very satisfactory manner. Work throughout last season was vigorously prosecuted. There have been no complaints respecting payment for wages or for materials. Evidently, the works have not been carried on with the object of completing short lengths to enable the Co. to draw subvention on 10 mile sections; operations extend throughout, & payments are being promptly made as they proceed. The line is favorably located for heavy freight traffic. It begins & terminates at about the same level, just above the littoral of the Bay of Fundy. Its greatest elevation is on the summit of the water shed dividing the Kennetcook & Five Mile Rivers, & that is only 145 ft. above tide. Of the 57 miles in its extent, 22 will be operated on level rails; there is no heavy gradient anywhere on the line. The curvature is also very favorable. Beginning within the station ground of the Dominion Atlantic Ry. at Windsor, the route follows the St. Croix River, crossing it at 3¼ miles. It follows the Hibert River Valley from the 5th to the 8th mile. It follows the Kennetcook River from the 11th to the 34th mile, and from thence descends the valley of the Five Mile River to its confluence with the Shubenacadie River at the 41st mile, thence along the foot hills bounding the river to near Black Rock; from here it runs through Clifton, following the Salmon River to Truro.

Musquodoboit.—This project, so long advocated & so frequently urged upon the consideration of both the Federal & Nova Scotia Governments, for constructing a line from Dartmouth through the settlements of Waverley, Meagher's Grant, Little River, & Upper & Middle Musquodoboit, has been again re-

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vived. The branch line, recently constructed, from Dartmouth to Windsor Junction, follows nearly the same route as that formerly laid down by the promoters for the Musquodoboit Ry. to follow, & thereby contributes to shorten the length & reduce the cost of the present enterprise. In 1898 the N.S. Legislature incorporated the Musquodoboit Ry. Co. to build a line from or near Windsor Jct., on the I.C.R., easterly by the Musquodoboit Valley, 40 miles to near Parker's Corner, or from Dartmouth easterly to Musquodoboit Harbour, thence up the valley of the Musquodoboit to Parker's Corner. The Co. has also power to extend the line to Halifax, Dartmouth, or to other points approved by the Governor-in-Council. The Government agreed to defray the cost of the engineering for a survey, the Co. to pay for such ordinary labor as might be required. The Co. expressed its desire to select the line of route & the intermediate

From the 25th to the 48th mile, the profile shows a rough rugged surface, that would be expensive to construct a line through, & expensive to operate traffic over, owing to heavy gradients. However, considering the greater length of $25\frac{1}{2}$ miles so favorable for construction & operation, with the gradients reduced to our normal standard, the alignment on the whole, taken all in all, should not be condemned or pronounced impracticable. W. Yorston, C.E., was in charge of the survey. After the plans & reports on the survey were submitted, some persons interested suggested a deviation of route to obtain lighter work & easier gradients at one or two points. The request for further examination was complied with, & F. A. Creighton, C.E., was authorized to proceed with any survey for a diversion of the line they wished to make. Improvements in any preliminary survey can always be effected. No engineer can assert that he has absolutely

the survey has not been all that we could wish, yet it serves a good purpose by representing to the promoters the class & character of the line they may expect over the route they have selected, & it gives some data for making a close estimate of the probable cost. Still more, it indicates the necessity for further reconnaissance. It may yet be considered advisable to adopt a more easterly route from Dartmouth to connect with the Valley of the Musquodoboit River, although a longer one, & thus avoid the range of high ground that trends across the route surveyed over. The problem is:—which course is the most advisable, over the hills with steeper gradients yet practical route, or around them with a longer line but one more favorable, to construct & less expensive to operate?"

Newfoundland.—During the past year there has been completed the Placentia branch from Whitbourne, N.F., to Placentia, 27 miles;



THE PRESCOTT ELEVATOR CO.'S ELEVATOR AT PRESCOTT, ONT.

This elevator, built in 1895, is 280 ft. long & 72 wide, with a storage capacity of 1,000 bus. The depth of water at the front is 20 ft., & at the sides, where barges are loaded, 14 ft.

points to be connected along its course; and the survey made last year followed its direction. It commenced at Upper Musquodoboit & proceeded via Little River & Wise's Corner to a point on the Dartmouth Branch of the I.C.R., as near as practicable to Windsor Junction.

Provincial Government Engineer Murphy reports on it as follows:—"For the first $25\frac{1}{2}$ miles, from Upper Musquodoboit to Wise's Corner, a very favorable location is available; the work of construction would be light & the traffic operation could be cheaply conducted. In the next $3\frac{1}{4}$ miles, between the $25\frac{1}{2}$ and the 29th mile, there is an ascent of 274 ft., 1 mile of which would require gradients of from 90 to 100 ft. per mile. This $3\frac{1}{4}$ miles of heavy gradient is a very objectionable feature; but it may be improved by increasing the length. From here to the Junction with the Dartmouth Branch the maximum inclination at any place need not exceed 1.50 per 100, or 79.2 per mile.

laid down the best line of location over a broken, undulating country. One thing is clear in this respect. A summit of 370 ft. above Musquodoboit river has to be approached & crossed in a distance of 6 miles, 270 ft. of which has to be overcome in a distance of $3\frac{1}{2}$ miles. We may obtain easier gradients by winding about the slopes of the hill-sides, which is necessary & desirable in making the ascent, but the summit has to be reached all the same, & it takes the same mechanical power to get over it whether in the long or short way. Still there is the very material difference that we can, with the power at command, carry on traffic with greater ease & with greater economy over moderate inclines than we can over heavier gradients. If the Musquodoboit Ry. is to be a competing line for heavy traffic, the gradients over which the traffic is to be moved should not exceed those of the other lines that may enter into competition with it. Although the result of

the Brigus & Carbonear branch, from Brigus Junction to Carbonear, 38.34 miles, & the Tilton & Carbonear branch, from Whitbourne to Tilton, 15 miles. In addition to these the main line is completed from St. John's east across the island to Port aux Basques, 548 miles. The proprietor is at present building the Burnt Bay branch from Quinette north to Burnt Bay, $9\frac{1}{4}$ miles. He proposes soon to build an extension from Dunsmere to St. John's at the west end terminus, some 9 miles. Of this $6\frac{1}{2}$ miles is to be completed in 1899.—*Railroad Gazette.*

Northern Pacific. For some time past the settlers west of Portage la Prairie, Man., between the main line of the C.P.R. & the M. & N.W.R., have been agitating for the construction of a railway from Portage la Prairie to Rapid City. In our Feb. issue, pg. 35, we gave particulars of 2 notices of application to the Manitoba Legislature to incorporate a company to build from Portage la Prairie

northwesterly & westerly between the lines of the C.P.R. on the south & the Manitoba & Northwestern & the Great Northwest Central on the north, to near Hamiota, thence northerly & northwesterly to or near Birtle, thence northerly to the north boundary of the Province; & a branch running from the main line, in range 18 or 19 west, to Brandon. It is said this application is in the interest of the N.P.R. It is also said that at a recent meeting of the N.P. directors it was decided to build at least a part of these proposed lines this year, for which it is expected that the Province will give a cash bonus of \$1,750 a mile. In addition to building from Portage la Prairie to Hamiota, it is said the N. P. Co. also proposes to build a short branch from Portage la Prairie northerly to Clandeboye Bay, or some other point on Lake Manitoba.

But if a recent report from Winnipeg is well founded there is likely to be a race for possession of the above mentioned territory. It is said the C.P.R. is surveying a line from its main line at McGregor, 22 miles west of Portage la Prairie, to Rapid City. This would make an almost air line between Portage la Prairie & Rapid City & would leave no room for any other line to get business. The impression is gaining ground that the Great Northwest Central will be merged in the C.P.R. system, & if so the projected line from McGregor could connect with it at Rapid City. C.P.R. officials disclaim any connection with the survey referred to, mention of which will be found under the head of the G.N.W. Ry., on page 134.

The N.P. Souris River branch, which was built last year from a point on the Brandon branch, 3 miles from Belmont, is likely to be extended this year to the C.P.R.'s Souris River branch, which it is likely to strike at Hartney or between there & Lauder. This branch will undoubtedly be pushed on further west, though perhaps not this year. (Feb., pg. 40.)

Nova Scotia Southern.—It is said J. J. Taylor, C.E., is about to start a survey for this line from Shelburne via Liverpool to New Germany on the N.S. Central Ry. The Co. was incorporated by the N. S. Legislature in 1888 as the Annapolis & Atlantic Ry. Co., the name being changed to the N.S. Southern in 1894. By the Dominion Subsidy Act of 1892 a subsidy, taking the place of one previously granted, was authorized for 75 miles from Sand Point, Shelburne Harbor, to Annapolis Royal and to a junction with the N.S. Central at or near New Germany, the subsidy limit being \$240,000.

Ontario and Rainy River.—The rock work on the contract for the first 20 miles from Stanley west, on which work has been proceeding all winter, is nearly finished, & the contractor is building camps to open out the whole work remaining on the contract as soon as frost is out of the ground. The pier & abutments for the bridge across the Kaministiqui River are all but completed, & a large quantity of timber & ties has been taken out. No decision has yet been come to as to whether the line will run south or north of Shebandowan, but the survey to determine this is being pushed. West of the height of land 3 parties are locating along the Atikokan & Seine Rivers. Soundings have been made across Rainy Lake to determine the depth & description of bottom, & several crossings of Rainy River in the townships of Worthington & Attwood have been surveyed & sounded to determine where the best crossing is to be had. Further examinations of crossings are being made near the mouth of the river.

At Rat Portage it is rumored that Rainy Lake will be crossed at Squall Point, & that the line will continue through Indian Reserve B. 18, on a line with the northern boundary of the township of McIrvine, thence northerly & westerly, through the townships of Carpenter & Dobie, to the township of Attwood, near Beaver Mills, passing 2½ miles north of Fort Frances. It is also rumored that Rainy River will be crossed, & connection made with the Manitoba & Southeastern extension in Minnesota, near Beaudette River.

The Ontario Legislature has voted the Co. a cash bonus of \$4,000 a mile for the whole line from Stanley to Rainy River, about 280 miles. It also has a Dominion subsidy of \$3,200 a mile for 80 miles, this to be increased to a further subsidy of 50% on so much of the average cost of the mileage subsidized as is in excess of \$15,000 a mile, the whole subsidy not to exceed \$6,400 a mile. It is understood the Co. is now seeking Dominion aid for the whole 280 miles, & that it wants \$6,400 a mile irrespective of the cost of construction. (Mar., pg. 72.)

It is expected contracts for 80 miles, beyond the 20 already under construction, will be let this month, to be completed this year.

Orford Mountain.—The Quebec Legislature has extended the time for the completion of this line from Kingsbury to Richmond until Dec. 31, 1902. The present line, from Eastman to Kingsbury, was built in 1892. On the route of the proposed extension the St. Francis River will have to be bridged at a cost of some

\$75,000. The management is not prepared to make any statement as to when work will be gone on with.

Ottawa & Gatineau Valley.—It is doubtful if the proposed extension from the present terminus at Gracefield, 60 miles from Ottawa, to Maniwaki, 28 miles, will be gone on with this year. (Feb., pg. 40.)

Ottawa & New York.—On Apr. 22 the Chief Engineer advised us that the work of completing the bridge over the north channel of the St. Lawrence, at Cornwall, had not been started.

Work has started on the reconstruction of the south channel bridge which collapsed with such fatal results last fall. A Cornwall correspondent says:—"It is now generally known that the cause of the disaster was that too many chances were taken, & that the nature of the bottom was not fully & thoroughly ascertained before loading it with the tremendous weight involved in a concrete & stone pier & a span of steel. The investigations in the north channel go to show that the action of the current for unnumbered years has scoured the clay thoroughly, & the piers are standing on a solid rockbed. But in the south channel the same thing did not occur, as the current is much slower. When the cribs for holding the concrete were anchored on the site of piers nos. 2 & 3 a diver was sent down, who tried the bottom with a crowbar & maul to an extent that was considered satisfactory, & the sub-structure was begun & ended on that information. Subsequent investigations developed the fact that there was only a thin crust of hard bottom, 18 inches or so, & under it a mass of blue clay, the shifting nature of which caused the collapse of the pier & bridge. It was also found that pier no. 3, although it appeared all right, was in such a condition that it would be unsafe to trust it, & it will have to come down & be rebuilt on a plan dictated by recent experience. The depth of blue clay at the site of the piers is variously estimated at from 20 to 30 ft., & the contractors will have to go down until they get bed-rock, & this they purpose to do by the pneumatic process, which is in brief the sinking of an air-tight chamber, in which the work of excavation is done by men furnished by compressed air. There is about 30 ft. of water in the channel, & the current runs at the rate of about 9 miles an hour. To protect the caissons it is proposed to drive piles above them & make a breakwater. This is a plan that has not yet been tried in the St. Lawrence. The reconstruction of pier no. 2 will first be undertaken, & it is expected it will be com-

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pleted in July. The pulling down & rebuilding of pier no. 3 will take until Oct. The shore span will be erected as soon as pier no. 2 is ready, & the other will only be the work of a few weeks. The removing of the debris will be gone on with at once. It is expected the bridge will be open for traffic by the end of the year. (Feb., pg. 40.)

It is said the Co. will erect shops in Ottawa East as soon as litigation over the expropriation of the land is determined. The building will comprise roundhouse, car sheds & general repair shops.

Prince Edward Island Ry.—See under head "Intercolonial Ry.," on pg. 134, respecting rails, etc., for this line.

The Dominion estimates for 1899-1900 provide \$10,000 to shorten main line by removal of curves, against \$15,000 in 1898-9.

The Provincial Government is prepared to enter into an arrangement with the Dominion Government for the building of a bridge for railway & vehicles across the Hillsboro River at Charlottetown. If the Dominion Government will build the bridge the P.E.I. Government will pay \$12,000 annually towards the interest on its cost. The bridge would be a toll bridge, & would serve for the proposed branch of the P. E. I. R. to Murray Harbor. In the House of Commons, May 1, Mr. Martin, M.P., made a strong speech in favor of the construction of this branch. Sir Louis Davies said he was not without hope that the Government would make some proposition on the subject this session, but he was not prepared to promise anything definite. Mr. Macdonald, M.P., advocated the construction of a short branch to Elmira.

Pontiac Pacific Jet.—Work is about to commence on the extension of this line from Aylmer to Hull, Que., about 8 miles. The line, which will run between the Ottawa River & the Hull-Aylmer Electric Ry., will render the P. P. J. independent of the latter & enable it to connect in Hull with the Interprovincial Bridge, now under construction. It is expected to complete the extension by Sep. (Feb., pg. 40.)

Quebec Bridge Co.—We are officially informed that 7 tenders for the erection of this Co.'s bridge, either cantilever or suspension, have been received. The services of Theodore Cooper, consulting engineer, New York City, have been secured for a thorough investigation of all the tenders & designs, which is now well under way, & the Board is waiting for his report before awarding the contract. It is expected work will start at the beginning of summer. The Secretary advises us that the city of Quebec is pledged by a recent statute to a grant of \$500,000 towards the bridge, that a subsidy of 33 1/3% has been promised by the Dominion Government, & that nothing can now defer the execution of the enterprise. The rapid rise in price of metal makes it urgent to proceed at once with the work. (Mar., pg. 73.)

Rutland-Canadian. It is stated that rapid progress is being made on the line which is to connect the Rutland road with the Canada Atlantic Ry., and that the line will be ready for traffic by Dec. 1. (Mar., pg. 73.)

St. John Valley River Ry.—It is said J. E. McIntyre and other New Yorkers have secured the charter for this line, which is projected to run along the south side of the St. John River from Fredericton to Woodstock, N.B., paralleling the C.P.R. line on the opposite side. It has been surveyed, more than half the right of way secured & about 5 miles

graded. The only name so far mentioned except J. E. McIntyre is G. A. Evans, who is trustee for the syndicate. A local paper says: "Much interest centres in the purchase to see in what connection it is to be operated. The line alone would hardly pay, but it may offer a new outlet to St. John for either the I.C.R. or G.T.R. via the Temiscouata road & the continuation of the St. John Valley line from Fredericton to St. John, about 70 miles, through a well-settled country." It is said construction will be started this spring.

Thunder Bay, Nipigon & St. Joe.—Some of our U.S. contemporaries were rather previous in stating that contracts had been let for work on this line, & that the Co. was in the market for equipment. So far the Co. has only been incorporated by the Ontario Legislature, no subsidy has been given it and no work will be done this year at least. (Jan., pg. 13.)

Toronto, Hamilton & Buffalo. Barton Township Council having refused the application of this Co. for permission to build its spur line on Trolley St. to King St., from which point right of way to the Hamilton Blast Furnace would have been purchased, is



MICHIGAN CENTRAL CANTILEVER BRIDGE, NIAGARA.

believed to have blocked the building of the proposed spur. (Apl., pg. 117.)

White Pass & Yukon. The last advices report grading completed 30 miles from Skagway to near Log Cabin, B.C., & track laid for 26 miles. (Mar., pg. 68.)

James Bay.—The Ottawa, Arnprior & Parry Sound Ry. passes some 4 miles south of Parry Sound, making its Lake Huron terminus at Depot Harbor. The people of Parry Sound have been trying for some time to get the O. A. & P. S. to build a branch to the town, but without success. It is now said that arrangements have been made with the James Bay Ry. Co., by which it will build the link as part of its line, thus making the start required by its charter, & that pending further construction of the James Bay line north & south the link will be operated by the O. A. & P. S. Ry. The work will be heavy, there being a good deal of rock.

L. A. Hamilton, Land Commissioner C.P.R., Mrs. & Miss Hamilton, who have been spending several months in Europe, are expected to return to Canada about the end of May.

A Yukon Pole Railway.

E. G. Tilton, of Victoria, President of the Miles Canyon & White Horse Tramway Co., writes regarding his road, which is probably the most northerly on this continent, being in latitude 62°. This Co., which was incorporated by the Dominion Parliament in 1898, was formed for the purpose of providing safe & speedy transit of goods around the obstructions to navigation at White Horse Rapids & Miles Canyon on Lewes River, one of the large tributaries which, in conjunction with the Hootalinqua & Pelly rivers, form the Yukon River. A route on the west side of Lewes River running from the entrance of Miles Canyon to the foot of White Horse Rapids affords the shortest & most accessible route to the Klondike, its entrepôts being Skagway & Dyea, on Lynn Canal, Alaska. There were several steamers traversing this route last summer, & ten or a dozen more are building on Lake Bennet to be ready for this season's traffic.

The White Pass & Yukon Ry. now building from Skagway to Lake Bennet is expected to be completed by the opening of navigation, & then travellers can make the journey from Skagway to Dawson by rail & steamer in 4 or 5 days. The trip two seasons ago, when the gold seeker had to take his outfit along either on sleds or by packing over the trails, & in a skiff or on a raft down the lakes & rivers, consumed months of time & was very difficult, & accompanied with much labor & often danger & disaster, particularly at the canyon & rapids, in which many wrecks occurred in the attempt to chute them, & frequent drownings occurred. The tramway was finished before the opening of navigation last year, & was operated during the entire season, as it will be again this season. Its length is about 4 1/2 miles, & its alignment & gradients easy & favorable. Leaving the landing it ascends about 70 ft. to a bench which follows the river almost to the foot of the rapids; almost the entire distance on tangents, with a steady down grade of nearly 1%. The road is of 3 ft. gauge. The rails are of wood hewed out of black pine timber, which grows plentifully along the right of way, & is strong, tough & durable. Eventually it is hoped to replace

this temporary track with light steel rails. For the present, however, the wooden track serves the desired end very satisfactorily. Construction was necessarily expensive, as laborers' wages were \$7 a day, & supplies cost 50c. a pound to freight in from Skagway. This year, however, owing to the White Pass & Yukon Ry., & steamers on the lake, freighting is 80% lower. The rolling stock consists of 30 cars & 50 heavy horses.—Railroad Gazette.

The Niagara Cantilever Bridge.

In our last issue, pg. 117, we mentioned the improvements about to be made to this Michigan Central bridge. The Railway Age says it was erected in 1883, & has required but little attention since outside of painting. But in recognition of the increasing weight of the rolling stock of the road, & in order to have accommodations with ample leeway for a further increase, the Co. is about to strengthen the bridge by the addition of another truss, which is to be run through the centre of the structure from shore to shore. Between the piers or abutments on the Canadian side & on the U.S.

side, a pier is to be constructed, on which will rest the bent that will support the new truss. This truss will practically be the same as the present trusses, & is expected to add to the strength of the bridge at least 50%. The iron will be placed during the coming summer. The work will naturally progress slowly, as there will be a great deal of field work to be done in placing the new iron. In advance of the construction of the new piers, the foundations of the old piers on both sides of the river are being carefully examined to learn their condition. On the U.S. side a diamond drill has been at work some weeks, & it has been ascertained that the foundation is in good condition, being of a boulder formation. At this point the river is rapid, & the various currents wash with some force about the shore near the base of the abutments, & it was to learn what effect this wash has had that the drill was set to work. A similar examination will be made on the Canadian side, where men are now at work stripping the rock. The current in front of the Canadian piers runs straight by, & has not the whirl that it has on the U.S. side. The work will probably consume all summer & fall, & its completion will give the M.C.R. as strong a bridge across the Niagara gorge as any of the structures there. The cantilever is a double-track structure, & its tracks are nearly 250 ft. above the water. See illustration on pg. 137.

Grand Trunk Betterments, Etc.

General Superintendent McGuigan says about 300 miles of new steel rails will be laid this year. The small gaps in the stretches of double track between Toronto & Montreal will be filled in, making double track throughout.

The completion of the Victoria Jubilee Bridge has been somewhat delayed, owing to the difficulty in procuring material. It is expected that the date of the formal opening will be announced very shortly. At first there will only be train service over the bridge, no accommodation having yet been provided for foot passengers or vehicles.

In the construction of the general office building in Montreal, red granite will be used for the base, which will be 9 ft. high; this will be followed by grey granite to the top of the 1st floor, above which Wallace, N.S., blue stone will be used. The estimated cost of the building is now placed at \$500,000. A large number of contractors are preparing to tender.

A Montreal despatch of May 15 stated that the management had decided to build a second bridge over the Niagara River between Black Rock, N.Y., & Fort Erie, Ont., that plans were being prepared in the Chief Engineer's office, & that it was expected work would be commenced this year. We are officially informed that there was no foundation whatever for the despatch. The Niagara Falls & International bridges give the Co. all the facilities of that character that it has any possible use for.

Canadian Pacific Betterments, Etc.

Windsor St. Station, Montreal.—The Co. has now acquired nearly the whole of the property on the south side of Osborne St. from the station building to Olivet Baptist Church, & a part of this is to be used for the extension to be built on Osborne St., which will make the frontage of the building on that street about 325 feet, & will increase the floor space from 50,404 to 102,131 ft. The extension will form part of the main building, & will follow the original design closely & will be of the same material, Montreal limestone. There will be two entrances for passengers on Osborne St., & the station yard will be so extended as to permit the laying of more tracks if that should be found necessary. There are at present 4 tracks in use. The Baggage Department, which has suffered the most from congestion, is to have its space trebled. Passengers will have their baggage checked in sight of the ticket office, the location of which is to be changed in order to make it more central. The Baggage & Customs departments will be accommodated on the

ground floor, as well as the Baggage Master's office, with new elevator. The upper floors of the present & new structure are to be laid out as follows: On the 1st floor will be the Manager of the Eastern Lines & his staff, the telegraph office, the Superintendent of Car Service & staff, the Superintendent of Hotels & staff, the General Baggage Agent & staff, the Paymaster & Treasurer & staff, the Cashier & one of the heaviest & most perfect burglar-proof safes in Canada. On the 2nd floor will be the General Superintendent & staff & the Accountant's office, also a large fire-proof vault of steel construction, 21 by 9 ft. On the same floor will be the board-room, the President & Vice-President, with their assistants, the Secretary, the Comptroller, the General Passenger Department, the Passenger Traffic Manager, the solicitors, the Superintendent of Steamship Lines, the Freight Traffic Manager, the General Freight Agent, the General Freight & Claim Department, while room for two large fire-proof vaults has also been provided on the same floor. The whole of the 3rd floor will be occupied by the Comptroller's staff, while a good part of the 4th will also be used for the same purpose, the remainder being taken up by the offices of the Chief Engineer & draughtsmen. Here, likewise, is placed the cement testing-room, the Chief Engineer's assistant & other rooms. On each floor there will be large lavatories, & very high-class plumbing will be used. The walls of all the corridors on each floor will be finished in marble, the floors are to be in mosaic, & the entire building fire-proof throughout. On the ground floor there is to be a large smoking-room, with men's lavatory facing on Donegana St., all fitted up in the most approved manner. In the basement will be storage vaults, baggage store-rooms, kitchen & pantries, an audit office for conductors & porters, & store & supply rooms for sleeping cars, hotels, & news agents. The whole will be lighted by prismatic lights. It is expected work will be commenced at an early date.

Heavy Rails.—The Co. has ordered for immediate use 50 miles of 100-lb. rails, to be laid

MANITOBA

Population..... 200,000.
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BARLEY..... 36.69 "	BARLEY..... 21.80 "
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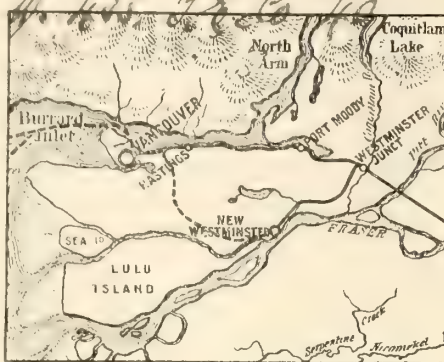
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Arrowhead to Kootenay Lake.—A big fight is on between the C.P.R. & the Great Northern (U.S.A.) for the trade of the Lardo-Duncan districts of B.C. The Arrow Lake branch runs from the main line at Revelstoke along the east side of the Columbia River to Arrowhead, 77 miles. For some time past the C.P.R. has had engineers at work surveying a route for an extension of the branch to the north end of Kootenay Lake, it being understood the line would run from Arrowhead northeasterly up Fish River to Fish Lake, thence southeasterly to Trout Lake, along the west side of that lake, & along the Lardo River to or near Lardo or Argenta on Kootenay Lake. A short time since the survey parties stopped working at the Arrowhead end & went round by way of Nelson to the north end of Kootenay Lake, where they started to run northwesterly to connect with the surveys previously made from Arrowhead southeasterly. General Superintendent Marpole & Division Engineer Cambie visited the district a few days later, Mr. Marpole announcing that construction would begin from Kootenay Lake as quickly as possible & this was followed up by a contractor starting for the north end of the lake with a force of men. The Kootenay Ry. & Navigation Co., which is understood to be backed by the Great Northern (U.S.A.) has a charter for the Kaslo & Lardo-Duncan Ry. & has been making surveys for it from Kootenay Lake into the Duncan & Trout Lake districts. A strategic point in the route is the Duncan Pass & to prevent the C.P.R. getting possession the K. & L. D. Ry. Co. obtained an interim injunction stopping the C.P.R. from proceeding with construction through the Pass. The C.P.R. followed suit by getting an interim injunction restraining the K. & L. D. Ry. Co. from interfering with the C.P.R. men, or from trespassing on the right-of-way claimed by the C.P.R. in the Duncan Pass. The result is that the Pass is tied up, both companies being prevented from working in it until May 30, or until a motion is made by either side to dissolve the injunction.

Sicamous.—A large force is at work on the station-hotel building, & the stone foundation is about completed. (Mar., pg. 72 & 75.)

Westminster-Vancouver Loop Line.—The plan here given shows the route likely to be adopted for this line, which will probably branch from the main line about 1½ miles

from the Vancouver terminus, turn south & east, cross over the bridge which separates Burrard Inlet from the Fraser Valley about half-way between the two cities, & reach the bank of the Fraser River about a mile below Westminster. The length of the new line will be about 12 miles, & from Vancouver to West-



minster Jct., via Westminster, will be 22¾ miles. The present main line via Port Moody is 16¾ miles from Westminster Jct. to Vancouver. It is understood work will not be started on the loop this spring, & there is no definite information as to when it will be gone on with. (Feb., pg. 42.)

Vancouver Terminals.—The plan on pgs. 144-145, which is on a scale of 400 ft. to 1 in., shows the improvements being made on the Vancouver water-front. The wharves have already been extended 500 ft. easterly & additional warehouses erected. In the near future the wharves will be extended 1,000 ft. still farther to the east to join the Co.'s Abbott St. Wharf. All the Co.'s wharves are to be made permanent by sea walls in front & earth filling behind, which will extend to the shore, thus giving the Co. an esplanade in front of the town about ¾ mile long by 400 ft. wide, on which it is intended to lay a network of sidings with an engine-house, &c., so that ordinary trains, either passenger or freight, will not need to cross the town to the False Creek yard. The Co. has agreed to give a flag station at the east end of the town, near the sugar refinery. Under the agreement with the City, which gives the Co. exemption from taxation for a considerable period, on property actually used for railway

purposes, the Co. undertakes to expend \$700,000 on terminal buildings, wharfage, &c., by the end of 1906. The terminal buildings will be completed this year, but the wharves & water-front improvements will probably not be fully constructed for several years, the work being done gradually as increasing trade requires it. (Apl., pg. 113).

Minneapolis, St. Paul & Sault Ste Marie Ry.—The Railway World, Philadelphia, says:—"It is suspected that the chief object of the Soo Line in deciding to raise \$5,000,000 by an issue of 2nd mortgage bonds, is to get sufficient money to extend its line to Bismarck & possibly, into Montana, with a view of establishing a connection with the C.P.R. at some far western point, the real scheme being to more closely parallel the Great Northern than by the present Soo-Pacific route."

As a matter of fact the Soo line is already within about 40 miles of Bismarck, N.D., its Bismarck extension, which leaves the main line at Hankinson, 215 miles northwest of Minneapolis, having been completed 173 miles to Braddock, N.D. The completion of the extension to Bismarck would not require much expenditure. Sir Wm. Van Horne's explanation of the reason for the issue of the mortgage bonds referred to will be found in our Apl. issue, pg. 108.

Great Northern Railway of Canada.

The annual meeting was held at Quebec May 12. Following are extracts from the report:

The number of passengers carried during the year on the whole system was 185,851, compared with 153,669 in the previous year, & the freight 263,021 tons as against 199,459.

Several mills have been built during the year & are giving an increasing traffic in sawn lumber. The new pulp mill at Chicoutimi has furnished a large quantity of freight during the year, & its capacity is now being increased 50%. The paper mills at Grand'Mere were completed & put into operation in Dec. last. This is the largest industry of the kind in Canada, & furnishes the line a large traffic.

The Shawenegan Power Co. has given contracts for the development of its water power at Shawenegan Falls, which will be completed this year. This will give a large freight busi-



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ness in moving material during construction, & a much larger traffic in handling the output of these industries when they are completed. The works of the Jacques Cartier Power Co. on our main line are well advanced & will be completed in Aug. next.

The completion of the G. N. R. is now assured, contracts having recently been given for the construction of the gap of 88 miles required to make the connection between the Quebec end of the line & the Canada Atlantic system at Hawkesbury, Ont. The line is to be finished by July 31, 1900. To assure the G. N. Co. to secure the necessary capital, the directors agreed on Nov. 3 last to extend for a further period of 20 years the contract entered into Jan. 24, 1893, for sharing the traffic between Parry Sound & Quebec.

The Quebec Government has not yet come to a decision as to the granting of a land subsidy for the construction of a railway from Lake St. John to James Bay, a distance of 380 miles, although additional explorations made last year confirm the reports of previous explorers as to the great value of this great country, as regards timber, soil & minerals, & also as to climate. In the meantime the Ontario Legislature has voted a large subsidy, both in money & land, towards the construction of a railway from a point in that Province to James Bay. Should the Quebec Government see fit to give such aid as will ensure the building of a line from Lake St. John, its construction must necessarily give great additional value to the G.N.R. property.

The progress of the colonization movement to the Lake St. John district has continued during the past year in a very satisfactory manner. During the year 1,322 new settlers & their effects were transported by the railway free of charge. About half of these came from the U. S., & of the remainder quite a considerable proportion came from Nova Scotia & Ontario. In addition to these, 201 agricultural delegates, representing 90 parishes, visited the country to report as to its advantages. The movement is now becoming so considerable that better arrangements & accommodation for the new settlers, on arrival at Lake St. John, are necessary. Representations have been made to the Federal Government that in order to provide these additional facilities the present colonization subsidy should be increased. This negotiation is still in progress.

The report & statements having been adopted the following were elected directors: F. Ross, G. Lamoine, T. A. Piddington, E. Beaudet, J. T. Ross, Hon. P. Garneau, G. Moir, Hon. J. Tessier, E. Hanson, & F. W. Ross, in addition to whom the non-elective members of the board are Hon. S. N. Parent, Mayor of Quebec, Judge Gagne, representing Chicoutimi, & A. Robitaille, M.P.P., named by the Quebec Government.

Manitoba & Northwestern Ry. Lands.

A meeting of the holders of the coupons entitling vendors of bonds to land rights certificates to be issued by the Committee of the first mortgage bondholders of this Co. which was appointed in June, 1893, was held in London, Eng., April 28. Major E. F. Coates, who occupied the chair, said the business before them was important, seeing that they had to decide whether they should select their lands themselves or sell their rights to a firm which had made an offer for them. The present position was that the trustees held, on behalf of the bondholders & the land certificate holders, land warrants for 193,828 acres, besides a reversionary interest in the amount of land which was held by the Manitoba Government against the loan originally made to the railway. As to the land warrants in the possession of the trustees, these entitle the holder to select land in a certain reserved district

along the M. & N. W. line & further on in the Northwest Territories. The cost of selection would be considerable, & in addition, emigrants would have to be found to farm the land, & in many cases it would be necessary to make advances to the settlers. If, therefore, they did not care to provide working capital of, say £10,000, their only course was to enter into the proposed agreement for the sale of their land warrants. Before going further he had to explain that he was a member of the firm of Coates, Son & Co., the representatives of the Canadian firm (Osler & Hammond) who had made the offer. Roughly speaking, the proposal was to purchase the land warrants held by the trustees for the 193,000 acres already referred to, & the reversion of anything that might be got from the Manitoba Government in respect of the land that they held, for £20,500. Any land certificate holder or bondholder was to be at liberty to retain his present rights to the extent of 75%, the purchasers stipulating that they should find at least 25% of the necessary working capital of the company which would be formed on the other side to select & deal with the land. Out of the £20,500 there were two deductions to be made. One was a commission of £500 to his firm for negotiating the sale & giving a guarantee for its being carried into effect, & the other was about £400 to pay certain expenses incurred by the trustees. The remaining balance of about £19,500 would give the bondholders or certificate holders £3 11s.%, & that, added to what they received last year, would make a total return of 90% in respect of their old bonds. He concluded by moving a resolution authorizing the trustees to enter into the requisite agreements for carrying into effect the proposed sale. Mr. Ballance seconded the motion. S. Gardner, a member of the committee of bondholders, & others expressed themselves as favorable to the proposition. In reply to Mr. Chester, the Chairman gave further particulars as to the purchase scheme, & added that the amount of the original offer was only £15,000. The resolution was carried with one dissentient. A meeting of the 1st mortgage bondholders was afterwards held, Colonel Grey (one of the trustees) presiding, at which a similar resolution was passed. Some objection was raised, however, to the validity for voting purposes of certain endorsed bonds, & it was understood that the matter would be left to the decision of the Court, to which the results of both meetings have to be reported.—Canadian Gazette.

Canadian Yukon Railway Suit.

Chancellor Boyd heard evidence in Ottawa April 13, in the suit of the Alberta Ry. & Coal Co. vs. Mackenzie & Mann, to recover \$105,246 damages for breach of contract to purchase rails, plates, spikes, bolts, locomotives & cars for the Canadian Yukon Railway. When the Senate threw out the Yukon bill last year Mackenzie & Mann asked the Alberta Co. to cancel the order, which request was refused. The witnesses for the plaintiff were Assistant Engineer McNab, of the G.T.R.; Engineer Mountain, of the Canada Atlantic; President Galt, of the Alberta Ry., & H. Josephs, agent for plaintiff, who obtained the order from defendants. There was, in the first instance, a verbal arrangement between Mr. Joseph & Mr. Mackenzie; this was followed by a writing, of which the following is a copy:

"MONTREAL, Jan. 31, 1898.

"Messrs. Mackenzie & Mann, Toronto.

"DEAR SIRS,—As agreed verbally with Mr. Mackenzie, we have on behalf of the Alberta R. R. Co., sold you the following to be delivered as soon as possible, f.o.b., Lethbridge, N.W.T.:

"80 miles of 28 lbs. steel rails with plates, spikes and bolts at.....\$20 per gross
"4 Locomotives at.....\$3500 each

"100 Coal cars at.....\$150 each

"4 Cabooses at.....350 "

"The whole to be subject to inspection at Lethbridge. Terms: Cash on Nov. 1, 1898. Kindly state if this is satisfactory. We wired you on Saturday asking how many 35 lbs. rails you would be prepared to take on the same terms, if the Alberta Company would deliver same on July 1.

"Yours truly, H. JOSEPH & Co.

"Correct with the exception of the cabooses, which is not to be considered a sale, it being our option whether we take them or not.

"Yours truly, WM. MACKENZIE."

The rails, &c., are quoted at "per gross." This probably meant gross ton, as the invoice read "per ton."

The evidence showed that there was no further interview between Messrs. Joseph & Mackenzie in regard to the contract. Chancellor Boyd held that the contract was an indivisible one, and that the writings showed that there was divergence in regard to the cabooses, and that the proposal made by Mackenzie that there should be an option on them was not assented to by the plaintiff, so that the whole contract was not expressed in the writings, and this being required by the Statute of Frauds, Sec. 17, the writings in this case were not sufficient to satisfy that section. The Chancellor also held that "80 miles of rails" meant 80 miles of single rails, not 80 miles of track. The action was dismissed, but without costs, as the defence of the statute was not put on the record until the trial.

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.:

	1899	1898	Decrease	Increase
Jan.	\$1,006,281	\$1,019,131		\$12,850
Feb.	1,814,141	1,911,188		96,047
Mar.	2,186,359	2,048,970		137,389
April	6,061,843	6,002,417		59,426
	\$7,999,617	\$7,558,232		\$322,024

The following figures are issued from the London, Eng., office:

GRAND TRUNK RAILWAY.

Revenue statement for Mar., 1899:

	1899	1898	Increase	Decrease
Gross receipts.	£1,111,000	£1,085,000	£26,000	
Working expenses.	688,000	704,000		£16,000
Net profit.	£423,000	£381,000	£42,000	

Aggregate for 3 months, from Jan. 1 to Mar. 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts.	£3,077,200	£2,920,000	£157,200	
Working expenses.	1,988,200	2,044,000		£55,800
Net profit.	£1,089,000	£876,000	£213,000	

CHICAGO & GRAND TRUNK RAILWAY.

Revenue statement for Mar., 1899:

	1899	1898	Increase	Decrease
Gross receipts.	£70,600	£75,000	£4,400	
Working expenses.	61,200	57,000	£4,200	
Net profit.	£9,400	£18,000		£8,600

Aggregate for 3 months, from Jan. 1 to Mar. 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts.	£207,000	£225,000	£18,000	
Working expenses.	184,000	190,000		£6,000
Net profit.	£23,000	£35,000		£12,000

DETROIT, GRAND HAVEN & MILWAUKEE RY.

Revenue statement for Mar., 1899.

	1899	1898	Increase	Decrease
Gross receipts.	£14,000	£14,000		
Working expenses.	13,000	13,000		
Net profit.	£1,000	£1,000		

Aggregate for 3 months, from Jan. 1 to March 31, 1899:

	1898	Increase	Decrease
Gross Earnings	\$1,141,508	\$111,508	\$1,030,000
Working Expenses	1,141,508	1,030,000	111,508

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, Jan. 1 to Apr. 30:

	1898	Increase	Decrease
Grand Total	\$1,141,508	\$111,508	\$1,030,000
Passenger & G. I.	734,113	71,113	663,000
D. G. H. & M.	50,538	50,538	—
Total	\$1,141,508	\$111,508	\$1,030,000

DETAILS OF G. I. R. RECEIPTS JAN. 1 TO MAR. 31.

	1898	1898
Passengers, number	1,002,151	1,312,748
amount	\$110,438	\$200,043
Freight, number	874	1,157
amount	\$180	\$308
Mails, express, &c.	\$39,700	\$39,413
Freight, tons	24,425.779	24,940,021
amount	\$678,286	\$659,926
Miscellaneous receipts	\$32,260	\$19,953
Total receipts	\$907,440	\$920,345
Increase	\$47,115	—

C.P.R. Earnings & Expenses.

Gross earnings, working expenses, net profit and increases or decreases over 1898, from Jan. 1, 1899.

	Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan.	\$1,864,570.36	\$1,247,036.50	\$617,533.86	\$101,906.27+
Feb.	1,753,382.82	1,153,681.34	599,701.48	176,034.12+
Mar.	2,109,667.58	1,280,772.01	828,895.57	75,662.06+

\$5,727,620.76 \$3,681,489.85 \$2,046,130.91 \$353,602.45+

Approximate earnings for April, \$2,168,000, against \$1,925,000 in Apr., 1898; increase, \$243,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—Approximate earnings for Apr., \$170,705; increase over April, 1898, \$27,684.

Net earnings for Feb., \$41,868, increase over Feb., 1898, \$15,555.

MINERAL RANGE, HANCOCK & CALUMET.—Approximate earnings for Apr., \$27,863; increase over Apr., 1898, \$63.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Approximate earnings for April, \$309,640; increase over Apr., 1898, \$6,731.

Net earnings, 8 months, to Feb. 28, \$1,559,077, a decrease of \$3,527 from corresponding period.

Canadian Pacific Railway Land Sales.

	Acres.	Amount.
	1899	1898
Jan.	14,718	22,044
Feb.	13,747	20,030
Mar.	24,945	33,421
April	39,626	43,145
	89,136	119,260
	\$281,047.35	\$388,609.83

RAILWAY FINANCE, MEETINGS, &c.

The Alex. Gibson Ry. & Mfg. Co. has filed at the Department of State, Ottawa, a duplicate of the instrument of sale, dated Mar. 29, from the Canada Eastern Ry. Co. to this Co., ratified & approved as required by the statute of 1898.

Calgary & Edmonton net earnings for Mar., \$10,193.68, against \$21,310.33 in Mar., '98.

Canada Eastern.—There are no recent developments in regard to the rumored purchase of this line by the Government, to form part of the I.C.R. system. It is said the Minister of Railways is in favor of the purchase. The New Brunswick Legislature has passed a resolution recommending the purchase. (Mar., pg. 65).

Canadian Pacific.—On May 3, for the first time C.P.R. stock sold over par in London, sales being made at 101½, & in Montreal at 99¼. This was 9 points over any figure reached since the road was inaugurated. The lowest points the stock reached was in 1895, when the dividend was passed, & the common stock sagged off to 33. On two occasions it has been down to 35. In 1893 the highest for the common stock was 90¼, & the lowest 66. In the following year the 2 extremes were 73½ & 56. During the following 2 years the lowest was 33, & the highest attained was 62¾. In 1897 the stock ranged between 46½ & 82. In 1898 the lowest was 72, & the highest 90½. There is a good deal of talk of an increased dividend, & 5% per annum is spoken of. The dividend on com-

mon stock has run all the way from 5% to nothing. The first year of the 5% dividend was 1884, & this was followed by the same dividend in '90, '91, '92, '93 & '94. In 1883 the dividend on the common stock was 2½%, & in 1895 it was 4%. In 1886 & in 1889 it was 3%, while in 1896 & 1897 it was 2½%. Last year it was raised to 4%.

Columbia & Western.—This Co., now controlled by the C.P.R., recently applied to Parliament to extend its bonding powers on the line from Robson to Penticton & branches from \$25,000 to \$35,000 a mile, on the ground that the construction would cost much more than was estimated at first. Some of the western members opposed the application, contending that the line would not cost as much as the Co. asserted. An affidavit from Chief Engineer Peterson was put in supporting the Co.'s statements, & the Co.'s Solicitor stated the cost of the line would average nearer \$41,000 a mile than \$35,000, but that the Co. hoped to convert its land subsidy from the B.C. Government of 20,000 acres a mile into a cash bonus of \$4,000 a mile. The Minister of Railways stated, on the authority of the Deputy Minister & Chief Engineer of the Department, that he did not think the Co.'s estimate excessive, & that portions of the work would cost \$150,000 a mile. The Co. withdrew the application for an extension of bonding powers between Midway & Penticton, & the Committee, by a vote of 61 to 14, passed the bill giving the increase asked for for the line between Robson & Midway, & intervening branches.

Columbia & Kootenay Ry. & Nav. Co.—At the annual meeting at Vancouver, B.C., April

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These Jacks are made with Malleable Iron Frames, Steel Pawls, Machinery Steel Bearings and Pivots, forged Steel Rack. The wearing parts are removable and readily renewable at slight expense. The rectangular base gives great lifting strength and fits into close quarters better than other shaped stands. Adaptable to either high or low set loads.

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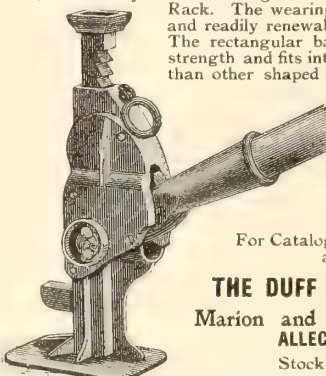
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26, the following were elected:—President, H. Abbott; Vice-President, J. M. Browning; other directors, T. G. Shaughnessy, I. G. Ogden, W. F. Salisbury; Secretary, J. D. Townley. This line, which runs from Nelson to Robson, B.C., 27.70 miles, with an extension to the mouth of the Kootenay River, 0.80 miles, & a branch from Slocan Jct. to Slocan City, 32 miles, was leased to the C.P.R. Aug. 22, 1890, for 999 years, & all the bonds issued by the Co. are registered in the name of the C.P.R.

Central Ontario.—The annual meeting was held at Trenton, May 17. Following is the official list for the current year:—President, S. Burke, Cleveland, Ohio; Vice-President, H. S. Johnson, Cleveland, Ohio; General Superintendent & Secretary, G. Collins, Trenton, Ont.; other directors, C. W. Bingham & H. P. McIntosh, Cleveland, Ohio; G. G. Allen, Akron, Ohio; T. G. Blackstock, Toronto; Chief Engineer, J. D. Evans, Trenton, & Treasurer, R. H. Spencer, Trenton.

The Chignecto Marine Transport Ry. Co.'s annual meeting will be held in London, Eng., June 7.

Dominion Atlantic.—The annual meeting was held in London, Eng., Mar. 30, F. Tothill, President, in the chair. In referring to the operations of the year he indicated how adversely business had been affected by the Spanish-American war, which had influenced both passenger & merchandise traffic. The report & statements of accounts to Dec. 31, 1898, were submitted & adopted. The retiring directors & the Co.'s auditor were re-elected. A resolution was passed authorizing the directors to issue an additional sum of not exceeding £100,000 4% 2nd debenture stock of the Co. like to the existing £250,000 2nd debenture stock, & to be in all respects entitled to rank equally therewith. The proceedings terminated with the usual vote of thanks to the chairman, etc.

Earnings for 3 months to Mar. 31, \$111,188; increase over corresponding period \$10,976.

Grand Trunk.—The London Financial Times says:—"There is another way besides traffics by which the G.T. will benefit & that is by improved credit. The Tyler administration left it at a very low level—The Co. actually found it no easy task to issue 4% debenture stock at 80, but under the existing board the Co.'s credit has greatly improved, & it never stood higher than at present. Whilst a few years ago it had to pay 5, the Co. can now obtain as much as it is likely to require at less than 4%, so that the conservatism of the new administration has been to some purpose, particularly as in the next few years the Co. has large amounts of obligations falling due, which it will now be able to renew on extremely good terms. By this means £4,000 will be saved this half-year, and in 1900 a further £20,000 will be saved on the Chicago & Grand Trunk, 6% bonds falling due on Jan 1 next. From every point of view the present position of the Co. looks promising, & within the next few months we expect to see quotations considerably higher."

C. H. Hunter, formerly G.T.R. City Ticket Agent at Detroit, recently sued the Co. there to recover deductions of 2½% in his salary, which had been made monthly since about 1890, & paid into the G.T. Superannuation & Provident Fund Association, with headquarters at Montreal. To draw anything from the fund an employee of the Co. must have been in its service until he is 55 years old. Then he receives an annual allowance for the remainder of his life, equal to ¼ of his then salary. Mr. Hunter was relieved from duty by the Co. some months ago, & was thereby barred from realizing anything on the money paid into the Association, not having reached the age of 55. Judge Degraw gave judgment for the amount claimed.

The Great Northern Ry. Co. (U.S.A.) has issued a circular to stockholders announcing the decision of the directors to increase its capital stock \$15,000,000 for the purpose of acquiring all the bonds, debentures & capital stock of the Spokane Falls & Northern, the Nelson & Fort Sheppard & the Columbia & Red Mountain, aggregating \$9,776,200, & 75,000 shares of the capital stock of the Eastern Ry. of Minnesota. Stockholders of record of May 20 are offered the opportunity to subscribe pro rata at par for new stock. Shareholders will be entitled to subscribe for new stock at the rate of 1 share for each 5 shares of their present holdings. Books close May 20 & reopen May 22. The subscription price of new stock will be payable June 22. In accordance with these plans the Co. has filed amended articles of incorporation in Minnesota, increasing its capital stock \$15,000,000.

Gross earnings for 9 months to May 31, \$19,308,270; increase over corresponding period \$2,031,460.

On May 1 the Co. paid a quarterly dividend at the rate of 7% per annum.

Great Northwest Central.—The impression has prevailed for nearly a year past, that this Manitoba line was passing into the possession of the C.P.R., & it is now said that it has been purchased by Vice-President Shaughnessy & R. B. Angus, of the C.P.R. directorate, from Mr. Delap for \$550,000, Delap to settle all outstanding claims. T. G. Mathers, of Winnipeg, one of the solicitors for the Receiver, stated in a recent interview that the Receiver had not been notified of any change in ownership & added: "The road has probably had more litigation than any other road in America. It was built by means of English money furnished by Messrs. Delap & Curzon & was first known as the Souris & Rocky Mountain Ry. Mr. Delap has sunk probably \$550,000 in it, & A. Charlebois, the contractor, was nearly ruined in building it. It runs from Chater to Hamiota & was intended to go on to Battleford. The first few years of its operation it lost heavily, but since H. F. Forrest assumed its management in 1893 it has paid all running expenses & laid away a surplus of \$25,000 which is now in the courts to the credit of the road. When Mr. Forrest took it over it was in a very dilapidated condition; thousands have been spent in repairs & it is now in first-class shape. For a 50-mile road that is not a bad record."

Inverness & Richmond.—The Nova Scotia Government has agreed to give this Co. a cash bonus of \$4,000 a mile for 100 miles of its line from Port Hastings, on the Strait of Canso, to Cheticamp on the west shore of Cape Breton. For the first 58 miles to Broad Cove mines there is a Dominion grant of \$3,200 a mile, which it is said the Co. will endeavor to get increased to \$4,000 a mile, & the county of Inverness has voted \$1,000 a mile & free right-of-way. The people of Richmond county want the line extended from Port Hastings some 12 miles easterly to Cariboo Cove, where there is a splendid harbor, & the Council has voted \$1,000 a mile & free right-of-way therefor. It is now felt certain that construction will be gone on with this year. W. Z. Earl, C.E., was recently put in the field to make a location survey. The Co. has passed under the control of Mackenzie, Mann & Co. (Apl., pg. 116.)

Irondale, Bancroft & Ottawa.—There was a slight inaccuracy in the statement in regard to this Co. in our last issue, pg. 102. The Bank of B. N. A. holds the \$450,000 of bonds from Benjamin as collateral to notes & for other reasons & wishes to sell them, not to buy them as we stated.

Kingston & Pembroke.—A shareholders' meeting is called for May 27, to confirm the acts of the directors, in calling in the old stock & debentures, & issuing new stocks & bonds, & paying the interest & the liabilities of the

Co., all under the legislation of 1898, & for other purposes.

Lake Erie & Detroit River.—The Ontario Court of Appeal has sustained the judgment of Judge Rose quashing the by-law of the city of St. Thomas, granting a bonus of \$20,000 towards the extension of this Co.'s line from Ridgeway, (Apl., pg. 117).

Michigan Central.—The report for the year ended Dec. 31, 1898, shows gross earnings were \$14,046,149, an increase of \$349,000 over 1897. This increase was entirely in freight, passenger earnings having decreased \$143,000, due to a less number of passenger miles, the decrease in passengers moved 1 mile having been 9,899,567; the total movement was 144,595,752 passenger miles. This decrease was in through travel. The local passenger movement actually increased nearly 3,000,000 passenger miles, but the through fell off almost 13,000,000 passenger miles, or 36%. The average rate per passenger per mile increased from 2.175c. to 2.225. Considering the trolley competition, we should have supposed the local business would have declined rather than the through business. As it is, the cause of the change is left to conjecture. The freight movement showed a gain of 131,552,000 ton-miles & the total movement was 1,665,158,000 ton-miles. The rate fell off from 0.616c. to 0.597. The operating expenses & taxes were \$10,546,000, & the increase over the preceding year was \$296,000. The net earnings were \$3,500,000. After paying fixed charges there was a net revenue of \$4.40 a share, out of which a 4% dividend was paid, & \$70,000 was set apart for building a second track between Ypsilanti & Dexter, leaving a balance of \$4,734. The cost of all betterments & additions to property, excepting this \$70,000 & a further item of \$14,438, was charged to operating expenses. The item of maintenance of way & structures increased somewhat over the preceding year, while the item of maintenance of equipment decreased; but in neither case was the change important.—Railroad Gazette.

The old board has been re-elected, comprising C. Vanderbilt, F. W. Vanderbilt, E. D. Worcester, C. M. Depew, W. K. Vanderbilt, H. B. Ledyard, S. F. Barger, A. Pond & F. S. Winston.

The Montreal Incline Ry. wants the city to extend its lease of the Mount Royal Park Incline Ry. for 25 years, while the City Council appears disposed not to make an extension of more than 5 years, which the Co. it is said will not accept. The Co. is willing to sell out to the city for about \$45,000. The original capital was \$25,000, the actual cost of the main ascension. When the lower extension was made, 5 years ago, the capital was doubled, since which no dividend has been paid, the former dividends having been 4 or 5%. The revenue is about \$7,000 a year, & the running expenses, not including repairs & depreciation, \$4,000. Since dividends have been stopped the surplus revenue has been put into repairs & additions.

New York, Ontario & Western.—The following report was recently sent out from New York: "The G.T.R. will acquire the New York, Ontario & Western. The deal was consummated while General Manager Hays, of the G.T. was in England recently. English capital, represented by Jos. Price, is influential in O. & W. affairs, & as Mr. Price is also Vice-President of the G.T., a combination of the two interests would not be at all surprising. The proposed alliance is said to include some building on the part of the O. & W. from Oneida Castle to Cape Vincent, on the St. Lawrence, & if necessary, the construction of a line to parallel the Rome, Watertown & Ogdensburg division of the New York Central from Central Square to Suspension Bridge where the G.T. would be reached, while at Cape Vincent it would be

necessary to resort to a cable ferry service across the St. Lawrence to Kingston. The projected combination is said to be the result of the disinclination on the part of the New York Central interests to take over the Ontario & Western as a tide water line for its Beech Creek property, & if the plan is consummated it will give the G.T. a direct line from Chicago to New York city."

We are advised that there is no truth in the report as to the purchase of the N. Y., O. & W. by the G.T.

The Northern Pacific has declared a quarterly dividend of 1¢ payable June 5.

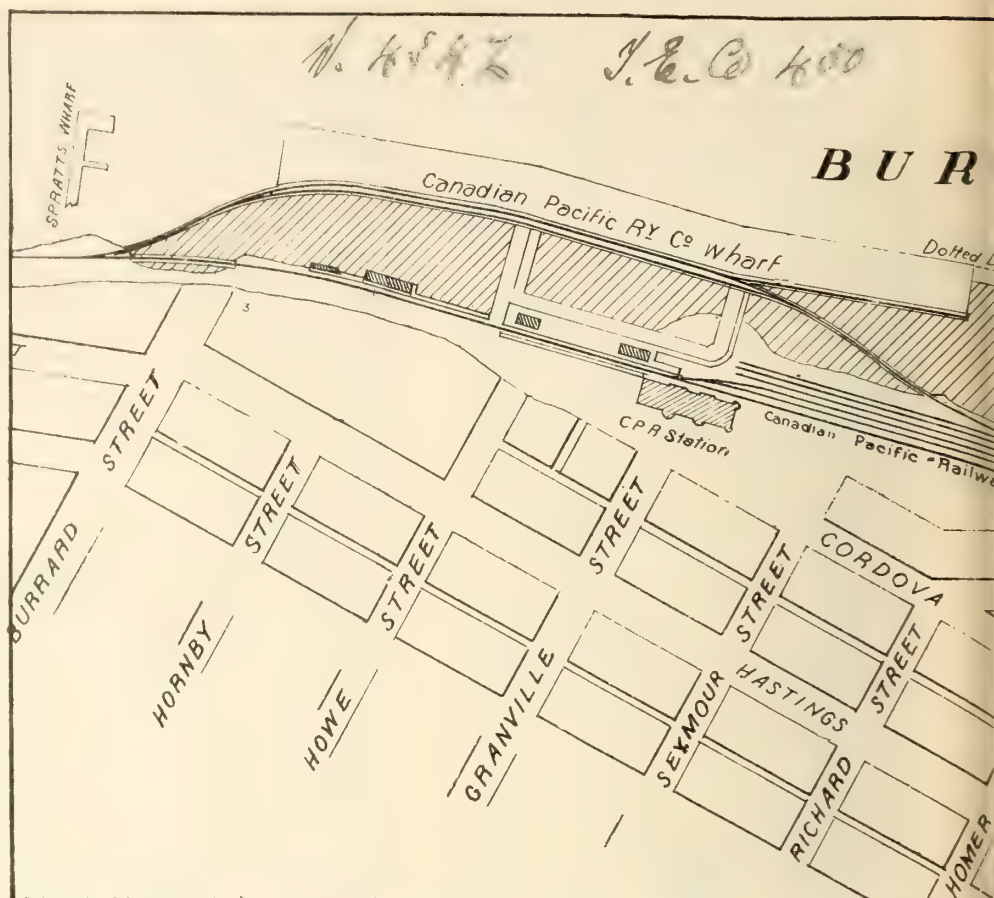
The Winnipeg Tribune recently published a statement, said to emanate from St. Paul, Minn., that offers had been received, it was believed from Mackenzie, Mann & Co., for the purchase of the Northern Pacific lines in Manitoba. The Tribune asserts it is in a position to say that overtures have been made, as reported, & the management of the N.P. is credited with taking the ground that unless the Manitoba Government facilitates it in further extensions, the lines will be sold, as it is held they must be extended to become profitable.

Ontario & Quebec.—The ½ yearly interest due June 1, on the 5¢ debenture stock will be paid on that date by Morton, Chaplin & Co., London, Eng., & the interest for the same period on the common stock of the Co. at the rate of 6% per annum will be paid on the same date at the Bank of Montreal, London, or at the office of Morton, Chaplin & Co., at the option of the holder. The debenture stock transfer books closed in London & in Montreal May 2, & the common stock transfer books closed in Montreal on the same date. The books at both places reopen June 2.

The Ontario & Rainy River Ry. Co. is applying to the Dominion Parliament for an Act authorizing it to acquire the railway, property & rights of the Port Arthur, Duluth & Western Ry. Co., & for all necessary powers in reference thereto.

Ottawa & New York.—General Manager Gays denies the report that this line will be sold to the G.T.R. & says there is no truth in it.

Port Arthur, Duluth & Western.—The Master-in-Ordinary, Osgoode Hall, Toronto, gives notice that tenders will be received up to Aug. 3, for the purchase of this line. This is merely a legal formality, the Toronto General Trusts Co. having some time since disposed of the line to Mackenzie, Mann & Co. See under head "Ontario & Rainy River Ry." above.



VANCOUVER WATER FRONT, SHOWING IMPROVEMENTS.

Qu'Appelle, Long Lake & Saskatchewan.—Net earnings for Mar. \$2,806.76, compared with \$494.47 in Mar., '98.

Quebec Central.—Traffic receipts for Apl. \$41,708.09. Increase over Apl., '98, \$6,431.96. Aggregate traffic receipts Jan. 1 to Apl. 30, \$126,384.16. Increase over corresponding period \$9,466.61.

The coupon due on the income bonds is now payable at the rate of 1¼% for 1898.

Spokane Falls & Northern.—The \$225,000 of 6% gold debentures of 1897 have been called for redemption at the Chase National Bank at par with accrued interest, interest to cease after July 1.

Toronto, Hamilton & Buffalo.—Annual meeting at Queen's Hotel, Toronto, June 6.

Toledo & Detroit Shore Line.—C. H. Haskell is quoted by the Railway World as saying that the right of way has been obtained, & the road will be built this year. A contract has been closed for a passenger station in Toledo near the centre of the city. Other roads now using the Union Station will be likely to seek the privilege of running their trains into the new one, owing to its central location. The new road is designed to be more of the character of a terminal line between Detroit & Toledo, affording a number of road advantages & facilities of great value they have not been able to secure. For years the Lake Shore & the Michigan Central have had a monopoly between Toledo & Detroit, & defeated every attempt made to break it, but

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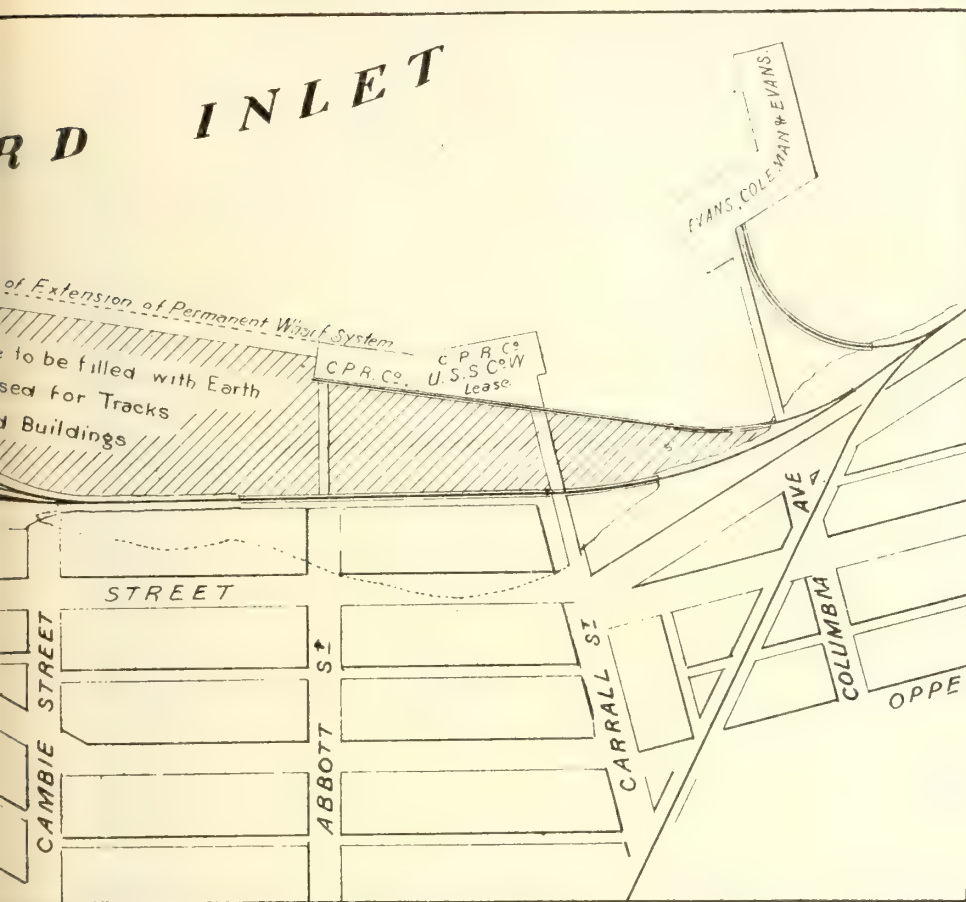
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with the Shore Line in the field & paralleling them, they will not be able to dictate to either shippers or the roads dependent upon them for privileges. It will let the G.T.R., & possibly the C.P.R., into Toledo, & it is said to be well understood that the road will be used also by the Hocking Valley, the Ohio Central, the Wabash & perhaps the Cincinnati, Hamilton & Dayton & the Pennsylvania.

A despatch from Toledo recently stated that in closing a deal for terminal site the Shore Line people had stated that the G.T.R. & the C.P.R. were interested in the line. We are informed that the G.T.R. has no financial interest in the project. In the event of the line being built the G.T.R.'s relations with it will probably be as friendly as they now are with the existing lines between Toledo & Detroit.

Vancouver, Victoria & Eastern.—W. Mackenzie is reported to have stated in Ottawa recently that Mackenzie, Mann & Co. will proceed against the B.C. Government to recover damages for the cancellation of the contracts respecting the construction of this & other projected lines.

Winnipeg & Hudson's Bay.—During 1898 the Province of Manitoba paid \$12,821.72 to the holders for interest on bonds of the Province issued in 1886 in aid of the Winnipeg & Hudson's Bay Ry. & Steamship Co., which makes the indebtedness of this Co. to the Province \$255,986.66 for the principal, & \$153,781.26 for interest, or a total, exclusive of compound interest, of \$409,767.92. Nothing has been paid by this Co. on account of principal or interest since these bonds were issued. An arrangement has now been entered into between the Government of Manitoba & the Winnipeg & Great Northern Ry. Co., whereby the Province has received from the said Co. 256,000 acres of the land grant within the Province in full settlement of the claims of the Province in respect of the said bonds & interest in aid of the Winnipeg & Hudson's Bay Ry. & Steamship Co.

Central Vermont Reorganization.

At a meeting of directors April 21 the following directors were elected: C. M. Hays, Montreal; J. Bell, Belleville, Ont.; E. H. Fitzhugh, Toronto; E. C. Smith, St. Albans; David D. Rantlett, St. Albans; J. W. Stewart, Aldace; F. Walker, Rutland; W. S. Webb, Shelburne; J. C. McCullough, Bennington; E. H. Baker, Boston; S. F. Kilmer, New York; C. M. Wilds & H. B. Day, Boston. The directors elected these officers: Chairman Executive Committee, C. M. Hays; President, E. C. Smith; Vice-President & General Manager, E. H. Fitzhugh; Clerk & Treasurer, R. H. Ingram; Auditor, M. M. Reynolds. Subsequently G. B. Reeve, General Traffic Manager of the G. T. R., was also appointed General Traffic Manager of the C. V. in charge of through traffic with headquarters at Montreal, & J. Pullen, heretofore Division Freight Agent of the G. T. R. at Hamilton, Ont., was appointed General Freight Agent at St. Albans.

E. H. Fitzhugh was born in Danville, Mo., in 1853, & entered the car department of the St. Louis, Kansas City & Northern at St. Louis in 1872. He rose gradually until 1879, when he held the position of Chief Clerk in the office of the General Superintendent. In that year the road was absorbed by the Wabash, & Mr. Fitzhugh entered the employ of the latter. In 1889 he was made Master of Transportation of the western division of the road, with headquarters at Moberly, Mo. In December, 1895, he came to Canada with Mr. Hays, & for about 6 months acted as his Secretary in Montreal. On the reorganization of the divisions of the G. T. R. in July, 1896, Mr. Fitzhugh was appointed Superintendent of the Middle Division, with headquarters in Toronto.

In an interview on the day of the meeting above referred to Mr. Hays said: "The reorganization of the C. V. property has been

unique in character, in that the relations between all interests have been adjusted satisfactorily & the property has been put on a sound financial basis without an assessment made on any class of security holders—the only instance of the kind known in modern railway organizations. We think the C. V. never had such a board of directors as that which met to-day, as regards men of experience in railway affairs & men of high standing & character. There was Gen. J. G. McCullough, formerly Chairman of the board of the Erie, & now President of one of its most important lines. There was Col. Walker, Chairman of the board of the Atchison, Topeka & Santa Fe & one of the leading railroad men of the U. S. There was Mr. Day, of R. L. Day & Co., one of the largest & most prominent banking firms of Boston. We had Mr. Baker, who is with the well known Boston firm of Lee, Higginson & Co., & who is a member of the executive committee. We had Dr. Seward Webb, who is now the chief railway man of Vermont, & various other men of high standing in railway circles.

"The G. T. interest is represented by Mr. Bell, our General Solicitor, who has been with the Co. for 40 years, & by Mr. Fitzhugh, who has been elected Vice-President & General Manager of the C. V. Mr. Fitzhugh is a native of Missouri, & the greater part of his railway experience was gained on the Wabash in different capacities, particularly in the transportation & operating departments. He has been with me in charge of the middle division of the G. T. during the past 2 years, his jurisdiction covering some 1,200 miles of railway. The new Clerk & Treasurer was formerly Assistant Comptroller of the Louisville & Nashville, & at one time he was Assistant to the General Manager of that road.

"As to the financial condition of the C. V. road, the new corporation will take possession of the road without a dollar of indebtedness & with money in the treasury. During the receivership the earnings have been expended in betterments & improvements to the property. With the new rails bought by the receivers this spring we will have all the main lines laid with the heavy rail & all the important bridges have been rebuilt & brought up to the present standard; so that we consider the securities of the Co. a first class investment & we hope to make them rank in value with those of any other Vermont railroad property."

"The policy of the management will be to operate the property as a strict business proposition. We shall expect to give the public good, prompt & efficient service, & keep fully abreast of the times in everything that goes to make the property a first class road in the estimation of the public. Our idea in making the directorate so largely Vermont in its character is to correct any impression that might exist that the road was to be managed by what has been called an 'alien' corporation. The question of the future operation of the property must be dealt with as the situation develops. No radical change will be made in the existing order of affairs so far as pertains to the operation of the road. The relations of the G. T. with the Santa Fe have been of the most friendly character, & the election of Col. Walker to the directorate of the Central Vermont will not tend to impair those relations. With a car from Boston running over the C. V. & the G. T. to Chicago it is possible for the passenger to step from one car to another at the latter point & go over the Santa Fe road to San Francisco with but one change of cars."

At one minute after midnight of May 28 possession of the railway & property of the C. V. R. R. Co., branches & leased lines was transferred by receivers C. M. Hays & E. C. Smith to the C. V. Ry. Co., in accordance with a decree of the U. S. Circuit Court. Mr. Fitzhugh at once took charge, & since then the

following appointments and announcements have been made:

The office of General Superintendent is abolished & heads of departments are to report to the Vice-President & General Manager. F. W. Baldwin, heretofore General Superintendent, is appointed Superintendent, Northern Division. Office at St. Albans. D. McKenzie is appointed Superintendent, Southern Division. Office at New London, Conn. H. R. Stoughton is assigned to other duties.

For convenience in operation, the line has been divided into divisions and districts, as follows:

Southern Division—New London to Brattleboro. Brattleboro to South Londonderry. New York City Terminals.

Northern Division—Windsor to St. Johns. Burlington to Essex Jct. Montpelier Jct. to Rouses Point. Barre Jct. to Williamstown. Essex Jct. to Cambridge Jct. Swanton Jct. to Rouses Point. St. Albans to Richford. S. S. & C. Jct. to Waterloo. Farnham to St. Lambert. St. Cesaire Branch.

1st District—New London to Brattleboro, including New York City Terminals.

2nd District—Brattleboro to South Londonderry.

3rd District—Windsor to St. Albans. Burlington to Essex Jct. Montpelier & Williamstown Branches. Lamoille Valley Branch.

4th District—St. Albans to St. Johns. Swanton Jct. to Rouses Point. Missisquoi Valley Branch.

5th District—S. S. & C. Jct. to Waterloo. Farnham to St. Lambert. St. Cesaire Branch.

The new Co. has filed a mortgage for \$12,000,000 with the American Loan & Trust Co.

as trustee. This secures an issue of 4% gold bonds due 1920. The proceeds are to be used for acquiring & operating the Central Vermont & the Burlington & Lamoille Valley; also for buying the leases of the New London Northern & the Montreal & Vermont Jct.

A special meeting of G.T.R. shareholders will be held in London, Eng., May 29, to approve an agreement dated May 1, 1899, between the G.T.R. Co. & the C.V.R. Co., for working arrangements between the 2 companies.

Canadian Freight Association.

The 16th annual general meeting was held at Montreal, Apr. 6, 37 members present. The following were elected members: Active—R. M. J. McGill, Central Ry. of N.S. (vice J. Brignell); E. Fisher, Toronto, Hamilton & Buffalo Ry.; A. E. Rosevear, G.T.R. (vice C. J. Haigh); R. McEwan, Richelieu & Ontario Nav. Co. Honorary—C. J. Haigh, General Manager Lehigh Valley Fast Freight Line.

Chairman Earls reported that the new classification no. 11 was still at Ottawa awaiting approval. He also reported a number of additions & amendments which the Committee recommended. These amendments, if approved, to be incorporated in the new classification if possible; if not, to be promulgated as a supplement by the Committee. The report, including the amendments to the classification, was adopted.

It was decided that the classification be revised so that all freight now at 4th class C.L. shall not have a lower minimum than

16,000 lbs., & at not less than 4th class. Also that the Chairman recommend at next meeting an arrangement of minimum weights for cars over 40 ft. long.

Reports of the Freight Inspection, Car Service & Executive Committee were adopted. The Car Service Department has now been in operation nearly 2 years. As was to be expected, some opposition on the part of the public, as well as the local agents of the railway companies concerned, was developed at first. This has to some extent been removed after practical experience has demonstrated the fact that the companies were serious in their determination to carry out the rules adopted. A great improvement is apparent in the financial results of the working of the department during the past year, as illustrated in the Manager's report of money collected; but the number of cars still detained beyond the free time limit appears yet too large in proportion to the number of cars handled. The reasons given by the agents are in many cases sound so far as they are concerned, but the wish to accommodate a customer & stand in well with a shipper is still paramount in the mind of some of the agents, so as to render it difficult on their part to administer the rules without fear or favor. In many cases the serious delays to cars are attributable to causes beyond the agent's control, such as "want of sufficient engine power," "insufficient siding accommodation," "inability to place cars in the order of arrival," etc., etc. These are matters well worthy the consideration of the railways concerned, as the prompt handling of cars at all points must be of incalculable benefit to the railway companies,

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$4 to \$4.50 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below: the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

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Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

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& it is recommended that the attention of superintendents, or other general officers concerned, be directed to this subject as one calculated to greatly benefit their respective companies. The Committee recommended the adoption of amended rules & regulations to take effect May 1, & suggested that all the railway companies concerned re-issue these rules to all their agents within the territory embraced under the arrangement, with positive instructions to carry them out in their integrity.

A report of the special committee on uniform release & other special contract forms was adopted.

It was agreed that when shippers request railway cartage companies to distribute a carload of goods addressed to 1 consignee, to 2 or more parties, that an additional charge covering the extra expense of the several deliveries shall be collected, & the railway companies request the cartage companies to come to an agreement for the adoption of a uniform charge for this service. It is understood that railway agents will not accept orders for this distribution of freight, & will not assist the cartage company in sorting or handling—the extra deliveries being considered a matter entirely between the shipper & the cartage company.

The subject of payment for telegrams from shippers, re rates, etc., was discussed, & it was the sense of the meeting that such telegrams should be paid for by the shippers.

The officers & standing committees for the ensuing year were elected. A list of them is given on pg. 130.

The Executive Committee was empowered to fix the time & place of the summer meeting.

Railway Committee of Privy Council.

At a meeting in Ottawa, Apl. 21, the following cases were heard:

Bedlington & Nelson Ry.—The application made by this Co., at the meeting on Feb. 22, for running powers over a portion of the C.P.R.'s Crow's Nest Line was resumed. As mentioned in our Mar. issue, pg. 86, the B. & N. Co. first asked to run over some 15 miles of the C. N. line, but at the second hearing this was reduced to 8½ miles. The engineers estimated that it would cost the B. & N. Co. \$31,000 a mile to build a parallel line. G. M. Clark, for the C.P.R., intimated that this was not a case where the application should be granted. In any case, in the fixing of the terms, the C.P.R. did not think that the applicant should be allowed to make use of this paying stretch of the Crow's Nest line without paying for a certain proportion of the approaches on either side, which pass through a region which is not so profitable.

The Minister of Railways announced that the decision of the committee was that the principle of the application should be concurred in. In the matter of terms, it was agreed to give the parties one month to come to an understanding, the committee to confirm the same by an order at its next meeting. Mr. Clark assured the committee that the C.P.R. would facilitate a speedy adjustment.

G.T.R. Crossings. D. D. Rogers, M.P., appeared in support of an application for the G.T.R. to place electric alarms or other protection at the crossings at Collins Bay, Cataraqui & Perth roads. W. Wainwright, for the G.T.R., stated that an alarm was already being installed at Collins Bay, & an investigation would be made into the matter.

The Brandon & Southwestern Ry. Co. applied for approval of the plans of crossings of the Pembina & Southwestern branches of the C.P.R. in Manitoba. G. M. Clarke, for the C.P.R., consented to the crossing of the Pembina branch near Deloraine being made. In the case of the crossing of the Southwestern branch near Carroll, the natural difficulties are

much greater, & the parties will confer as to the best means of providing due safeguards.

At a meeting in Ottawa, Apl. 28, the following cases came up:

The United Counties Ry. asked permission to cross the Central Vermont Railway at Irberville. The case was struck out.

Montreal Electric Lines.—In the application of the G.T.R. re the fixing of the additional expense at the crossing of the G.T.R. by the Montreal St. Ry., it was announced by counsel that an amicable arrangement had been arrived at.

The Montreal Island Belt Line Ry. Co.'s application for permission to cross the Montreal St. Ry. on St. Catherine & Notre Dame streets was next reached. Mr. Mullarky, for applicants, asked that the case be postponed by reason of the unavoidable absence of their counsel, J. N. Greenshields. The Minister of Railways took the position that as the City of Montreal was not represented, & as the matter was of consequence to it, it should be given an opportunity for making its views known. Consideration of the application was accordingly deferred for a week.

Losing Cars out of Trains.

A recent press despatch from Bloomington, Ill., said railway men there were marvelling over a phenomenal occurrence on the Chicago & Alton. A freight train was going west on the Kansas City division. When near Prentice, Ill., on account of a broken wheel, one of the cars was thrown from the track into the ditch, nearly 15 ft. from the rail. The track was not injured. The couplings at both ends of the car were automatic, & the car slipped out without breaking those on the two cars next to the derailed car. The two sections of the disunited train soon came together again & coupled automatically. The air connection was broken, but, although the train stopped, & the air was again connected, the trainmen did not miss the car, & it was not missed until the conductor looked over his train at Roodhouse. The car was found in the ditch next morning by the roadmaster.

The Editor of THE RAILWAY & SHIPPING WORLD, remembering having heard Mr. Whyte, Manager of the C.P.R. western lines, speak of a case of a car getting lost out of a train without the trainmen knowing anything about it, wrote him calling his attention to the incident in Illinois, & asking for his experience. Mr. Whyte replied as follows:—"The only case where a car was lost out of a train unknown to any of the trainmen, that came under my own observation, was a good many years ago on the Grand Trunk. It occurred with a freight train from Toronto to Belleville. When the train reached Port Hope a coupling had to be made on account of a broken link or pin, I forget which, but this attracted no attention, as it was chiefly down grade from the station west of Port Hope, Newtonville, to Port Hope, but when the train reached Belleville the checker informed the conductor that he had one car less than he had waybills for. The conductor at first denied it, & was only satisfied after going out in the yard & checking his train. The missing car was found on the edge of Lake Ontario down at the foot of an embankment. The occasion that you mention of a car leaving a train between Winnipeg & Rat Portage occurred some few years ago, but the car simply jumped clear of the track, & the trainmen saw it. A more remarkable occurrence took place a couple of months ago on the Manitoba & North Western, when the boiler of the engine on a train exploded. The train had started on a down grade when the explosion took place. The engine, tender & refrigerator car left the track completely & quite unknown to any of the trainmen or passengers on the train, which

was a mixed one, & it was only ascertained when the train came to a stop that there was no engine on it."

New Brunswick Legislation.

At the recent session of the Legislature the following acts were passed, among others:—
To amend 54 Vic., chap. 2, so far as it relates to the Gulf Shore Ry.

To confirm an agreement between St. John city & the C.P.R. Co., & to enable the city to make tax exemptions in favor of the Co.

To aid in the construction of a graving dock at St. John.

To revive the act incorporating the Fredericton, Gibson & Marysville Electric Ry. Co.

To incorporate the Imperial Dry Dock Co., of St. John.

To continue the act incorporating the St. Louis, Richibucto & Buctouche Ry. Co.

To confirm a conveyance from St. John city to the C.P.R. Co., & for other purposes.

To incorporate the Shediac Coast Ry. Co.

From Winnipeg Town Topics.

Jones—"There goes a fellow who whistles at danger."

Smith—"Ah, he must be a very brave chap. Who is he?"

Jones—"Jim Brownlee, the locomotive engineer."

Passes for Members.—The oft-discussed question of members of Parliament accepting free railway transportation was discussed in the House of Commons recently, when Mr. Bostock's bill to compel railway companies to issue passes came up. The bill was opposed by Sir Charles Tupper, who asserted that the members of Canada were unswayed by any such motives as were held to be the result of accepting a pass from the railways. Sir Wilfrid Laurier suggested that the bill be withdrawn, but this Mr. Bostock declined to do. The motion for the second reading was declared lost on division.

Niagara District Guide.—Under the title of "The Indispensable Tourist & Wheelman's Guide to the Niagara District," J. M. Dixon, F.R.S. Edin., has written a most interesting & valuable pamphlet, which will enable anyone visiting this historic & beautiful district to see it to the greatest possible advantage. It contains a very complete description of the Falls & the vicinity, with historical notes, a carefully prepared series of routes for cyclists & other visitors, & a series of appendices in which the chief historic events in the district are faithfully described. The pamphlet is issued by the Niagara Falls Advertiser, Niagara Falls, Ont.

Manitoba Railways.—The speech from the throne at the recent opening of the Manitoba Legislature contained the following paragraph:—"Railway construction within the Province during the past year has been carried on to a very considerable extent, & the districts affected have been materially benefited thereby. In particular I may refer to the Swan River country, which a year ago was void of settlers, but is now a well-peopled district. A considerable portion of the railway to the southeastern part of the Province has also been built, with great advantage to the districts through which it runs, & with a promise of great & lasting benefit to the whole Province when it is completed to its objective point. The building of the Northern Pacific & Manitoba Ry. branch from Belmont westward has also been highly advantageous to the farmers in that district, whilst the settlers along the Foxton branch & the Reston extension of the C.P.R. have been equally benefited."

RAILWAY APPOINTMENTS, &c.

Canadian Pacific. The air has been full of rumors lately about supposed impending changes, & some of the daily papers have made out an extensive slate of appointments, etc. The old story that Sir Wm. Van Horne will resign the Presidency in favor of Vice-President Shaughnessy, & take the Chairmanship of the Board, has been revived, but it has not been confirmed, & Sir Wm. has declined to be interviewed on the subject. As we stated last month, it is almost certain that something will be done to relieve Mr. Shaughnessy of some of his present very heavy work, & we incline to the belief that the Passenger Traffic Manager, D. McNicoll, will receive promotion, & be next in command to Mr. Shaughnessy, though it is impossible to say what his title will be. Should this take place it would cause a number of other changes, & while we have no authority for so stating, we should not be surprised to see R. Kerr, now Traffic Manager of the western lines at Winnipeg, go to Montreal as Passenger Traffic Manager. C. E. McPherson, now Assistant General Passenger Agent at Toronto, would be likely to succeed him at Winnipeg, in which case the office there would likely be divided, & the freight business given to some one else, possibly to W. R. McInnes, now General Agent of the Freight Department at Chicago. A. H. Notman, now Assistant General Passenger Agent at St. John, N.B., would probably be promoted to Toronto, & this vacancy would likely be filled by a promotion from the St. John or Montreal offices.

The headquarters at Pittsburg, Pa., of F. W. Salisbury, Commercial Agent, have been removed from 427 Fifth Avenue to 409 Smith Building.

C. E. Bunting, of the Toronto ticket office, has been appointed Ticket Agent, a new position in Toronto, the office having heretofore been under the direct management of the Assistant General Passenger Agent.

Duluth, South Shore & Atlantic.—Notice is given that the office of the General Freight Agent of this line & of the Mineral Range

R.R. & the Hancock & Calumet R.R. is now located in the general offices at Marquette, Mich. All communications on freight traffic matters should be addressed as follows: Wm. Orr, General Freight Agent, Marquette, Mich.; W. W. Walker, Assistant General Freight Agent, Lyceum Building, Duluth, Minn.

Grand Trunk.—The reorganization of the Central Vermont has caused a number of changes in the G.T.R. Middle Division. E. H. Fitzhugh having been appointed Vice-President & General Manager of the C.V., has been succeeded as Superintendent at Toronto by G. C. Jones, heretofore Joint Superintendent of the Southern Division of the G.T. & Wabash lines at St. Thomas, Ont. Mr. Jones came to Canada shortly after Mr. Hays, & was for a time Assistant Superintendent at London, Ont. He is a comparatively young man, but has had considerable experience, & is looked on as a very efficient operating official. On leaving St. Thomas he was presented with a handsome pair of diamond cuff studs by leading citizens there.

The joint superintendency of the G.T. & Wabash at St. Thomas, vacated by Mr. Jones, has been given to L. J. Ferritor, heretofore Assistant Superintendent at London. Mr. Ferritor has been succeeded at London by F. W. Egan, heretofore Trainmaster at Belleville, Mr. Egan's place being taken by W. W. Ashald.

J. Pullen, appointed General Freight Agent of the Central Vermont, has been succeeded as Division Freight Agent at Hamilton by J. E. Dalrymple, heretofore Private Secretary to the General Traffic Manager, his territory being the portion of the Middle Division, south of the main line between Weston & Point Edward, & including the portion of the Northern Division between Stewarton & Hamilton. After leaving school in 1883, Mr. Dalrymple went into the G.T.R. Treasurer's office, serving there in various capacities until 1890. He then went to Chicago as Secretary to Mr. Reeve, then Traffic Manager of the Chicago & G.T.Ry., & returned to Montreal in 1896, when Mr. Reeve went there to assume the same duties for the system at headquarters. The territory which Mr. Dalrymple now

has under his direction represents about 800 miles of railway, & includes Hamilton, Brantford, London, St. Thomas, Windsor, Sarnia, Chatham, Buffalo, Woodstock & Galt. It is considered the most important after the Chicago division.

E. J. Bedbrook has been appointed Private Accountant to the General Manager, succeeding R. H. Ingram, who has gone to the Central Vermont as Clerk & Treasurer.

L. Macdonald, Chief Clerk of the General Traffic Department, has been appointed Private Secretary to General Traffic Manager Hays, succeeding J. E. Dalrymple. G. A. McNicoll succeeds Mr. Macdonald.

W. Mullins, Chief Clerk in the General Superintendent's office, Middle Division, under Mr. Fitzhugh, is now Chief Clerk to Mr. Fitzhugh in the C.V. General Manager's office. He has been succeeded at Toronto by W. White, for some time Private Secretary to General Superintendent McGuigan.

J. Powell, Chief Clerk of the Motive Power Department, has been appointed Chief Draughtsman.

The following station agents were installed during April:—Stark, N. H., J. H. O'Connor; Titus, Que., T. D. Ward; Whites, Que., C. H. Richardson; Oshawa (Frt.), Ont., D. J. Kain; Whitby, Ont., T. H. Coppin; St. Johns, Mich., W. H. Burke; Holly, Mich., R. G. Ward; Lenox, Mich., J. J. Waite.

Capt. W. Dewson has been appointed Station Agent at Windsor, Ont., succeeding T. Dow, who died Apl. 28, after 45 years' service.

P. Caron, for many years Conductor, has been appointed Station Agent at Bonaventure, Montreal, succeeding W. C. Wright, who died at Chatham, N.Y., early in Apl., as the result of an operation.

F. G. Hutchins, heretofore Relieving Agent, has been appointed Ticket & Passenger Agent at Point St. Charles.

Intercolonial.—The suspension of District Superintendent Ouellette, of the Montreal & St. Flavie, having resulted in his leaving the service, he has been succeeded by W. A. Dube, who up to the time of his appointment had been in the G.T.R. service for 25 years. At the early age of 18 years he had charge of

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the running of trains between Montreal & Island Pond, & was made Chief Train Despatcher at the age of 23, which position he held for 15 years.

Minneapolis, St. Paul & Sault Ste. Marie.—W. S. Thorn, Assistant General Passenger Agent, has, in addition, assumed charge of St. Paul City office, vice H. E. Huntington, transferred to the General Passenger Department. H. B. Carter has been appointed Travelling Passenger Agent, vice H. A. Olmsted, resigned.

Government Railway Officials.

The Civil Service List recently issued gives the following particulars of Government railway officials who are members of the service:

C. Schriber, Deputy Minister & Chief Engineer, born 1831, appointed 1892, salary \$6,000.

D. Pottinger, General Manager, born 1843, appointed 1892, salary \$6,000.

T. Williams, Chief Accountant & Treasurer I.C.R., born 1846, appointed 1882, salary \$2,400.

J. J. Wallace, General Freight Agent I.C.R., born 1847, appointed 1892, salary \$2,100.

J. M. Lyons, General Passenger Agent I.C.R., born 1850, appointed 1892, salary \$2,100.

E. T. Trites, Paymaster I.C.R., born 1844, appointed 1873, salary \$1,600.

J. R. Bruce, Traffic Auditor I.C.R., born 1848, appointed 1883, salary \$1,500.

W. T. Huggan, Accountant & Auditor P.E. I. Ry., born 1851, appointed 1882, salary \$1,500.

Mainly About People.

H. Upton, Auditor of the United Counties Ry. at Montreal, has also been appointed Traffic Manager.

Lord and Lady Mount Stephen dined at the Ritz Restaurant in Paris recently with the Prince of Wales.

J. Slavin has been appointed Master Mechanic of the Spokane Falls & Northern, vice C. H. Prescott resigned.

Mrs. E. Tiffin, wife of the General Freight Agent of the C.P.R. at Toronto, has returned from a visit to California.

T. Tait, Manager C.P.R. eastern lines, left Montreal May 13 by S.S. Californian for Liverpool, intending to be away about 2 months.

Miss Maud Dwight, daughter of the President of the G.N.W. Telegraph Co., has gone to Europe for a year, with her aunt, Miss Helliwell.

Mrs. Fisher, wife of the Superintendent of the Toronto, Hamilton & Buffalo Ry., died in Philadelphia Apl. 13, & was buried at Detroit, Mich.

Mrs. Tait, wife of the Manager of the C.P.R. eastern lines, will spend the summer at Birch Point, Muskoka, with her parents, G. R. R. & Mrs. Cockburn.

W. Stitt, of the C.P.R. Passenger Department, Winnipeg, has returned from his trip through California, the Southern States & British Columbia, having entirely regained his former health.

Jas. Bell, at one time Superintendent of the Montreal & Champlain division of the G.T.R., after which owing to failing health he became agent at Port Hope, resigning about a year ago, died in Toronto, May 15.

G. H. Watson, General Freight & Passenger Agent of the Ottawa & New York Ry., having resigned, the duties have been assumed by General Manager Gays. J. O. Hibbard, General Agent at Ottawa, having resigned, the office has been abolished.

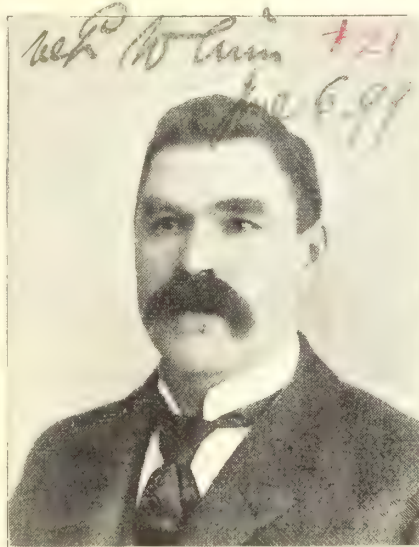
J. F. Stevens, who resigned as Chief Engineer of the Great Northern (U.S.A.), July 1,

1898, has been reappointed to that position, succeeding N. D. Miller, & will have charge of the location & construction of all new lines, & of bridges, buildings, tracks & structures. Headquarters, St. Paul, Minn.

Sir Wm. Van Horne left Montreal about the middle of April for a trip to California, going by Chicago & returning by Vancouver & the C.P.R. He was accompanied by W. D. Matthews, Toronto, a director of the C.P.R., T. G. Roddick, M.D., Montreal, & R. M. Wells, Toronto, Solicitor of the Co.

The engagement is announced of Miss Mary Shaw, daughter of Col. Shaw, Watertown, N.Y., formerly U.S. Consul at Toronto & Manchester, Eng., & B. Folger, jun., of Kingston, Ont., General Passenger Agent of the Thousand Islands Steamship Co., & American Line. Miss Shaw is in Germany completing her musical studies.

Jno. Burton, representative of the G.T.R. on the Joint Traffic Association, died at Peak's Island, Me., May 16, & was buried at Hamilton, Ont. Mr. Burton entered the service of the Great Western Ry. in the 60's. At one time he was Secretary to Sir Jos. Hickson, when the latter was Manager of the G.T.R. He afterwards went into the service



T. HICKEY,

President Roadmasters' Association of America.

of U.S. lines. In 1889 he returned to the G.T.R., becoming General Freight Agent & in 1896 was appointed the Co.'s representative on the Joint Traffic Association.

J. Pullen, who has been appointed General Freight Agent of the Vermont Central, entered the service of G.T.R. as junior in the division freight office at Sherbrooke, Que., when G. B. Reeve, now General Traffic Manager of the G.T.R., was Division Freight Agent there. In 1881 he went with Mr. Reeve to Chicago as Secretary. In 1889 he was appointed Agent of the West Shore fast freight line. Subsequently he became Agent of the Reading Despatch & the Lehigh Valley Ry., until 1896, when he was made Division Freight Agent of the G.T.R. with headquarters at Stratford. After a year in that post he was promoted to be Division Freight Agent at Hamilton.

T. Hickey, President of the Roadmasters Assn. of America, whose portrait appears on this page, commenced railway work at the age of 17, in 1872, as laborer on a gravel train on the Fort Wayne & Jackson R.R. at Angola, Ind., now a part of the Lake Shore system. He started section work as a laborer in 1873, & in 5 months was appointed Section Foreman, being in the same year given

charge of a road train as Conductor, which position he held for 8 years, resigning in 1881 to accept one as Extra Gang Foreman on the Eastern Division of the M.C.R. In 1882 he was appointed Assistant Roadmaster of the same division, being located at Ypsilanti, Mich. In 1884 he was appointed General Roadmaster of the same road, with headquarters at Jackson, Mich., which position he held until 1892, when he was transferred to St. Thomas, Ont., as General Roadmaster of the Canada Southern division of the M.C.R., which position he still holds.

John Foy, whose portrait appears on the first page of this issue, was born in Toronto some 55 years ago, his father, Patrick Foy, being a member of the well-known firm of Foy & Austin, wholesale grocers. After being educated at Usshaw College, Durham, Eng., he travelled through France & Algiers & on returning to Toronto entered the service of Frank Smith & Co., wholesale grocers, remaining with them for a number of years & taking special charge of the confidential business of the head of the firm, Mr., now Sir Frank Smith, in whose interest he spent several years in London, Eng. On the organization of the Niagara Navigation Co. in 1878, Mr. Foy became a director, & in 1879 was appointed Manager, holding the position ever since & discharging its duties to the combined satisfaction of the Co. & the public. Mr. Foy, who is one of the best known transportation men in Canada, is certainly also one of the most popular. He married a daughter of Sir Frank Smith & resides in Toronto having a charming summer residence a Niagara-on-the-Lake.

Direction Signs for Trains.—The Winnipeg Telegram says: "The C.P.R. has adopted a system of sign-boards for all its out-going trains at Winnipeg. The system was found necessary on account of the large number of local trains leaving, & of the consequent numberless enquiries as to where each one went. In future as soon as the train is ready placards will be set up announcing the principal stations on the route, so that there will be no excuse for anyone taking the wrong train or missing the right one." The signs which have been adopted are made of enameled iron, & were supplied by The Acton Burrows Co., Toronto.

The G.T.R. & Muskoka. From June 5 to 10 the G.T.R. will have about 30 of its passenger agents from various points in Canada & the U.S. visiting Lakes Simcoe & Couchiching, Magnetawan River, the Lake of Bays, Georgian Bay & the Muskoka lakes; the object of the trip being purely an educational one. All the members of the party are engaged in securing tourist business, & the trip has been arranged for the purpose of letting them know intelligently what the attractions of the districts to be visited are from a tourist standpoint. The week's tour will enable them to thoroughly familiarize themselves with the tourist resorts and surroundings reached by the G.T.R. in Ontario.

Great Northern (U.S.A.)—It is said this Co., or persons allied with it, have acquired the Duluth, Mississippi, & Northern Ry., which starts from Swan River, on the Eastern Minnesota Division of the G.N.R., 93 miles west of Duluth, running northeasterly to Hibbing, 37 miles, & it is rumored that it is the intention to extend it some 80 miles, to Koochiching, which is situated on the Minnesota side of Rainy River, opposite Fort Frances on the Canadian side. From Koochiching connection could easily be made with the Ontario & Rainy River Ry., now under construction; & it is said that if the scheme is carried out an attempt will be made to secure running power over the O. & R.R. Ry. & the Manitoba & Southwestern to Winnipeg.

WHAT WE THINK.

For the information of the officials of the Kootenai Ry. & Navigation Co., who have their headquarters in London, Eng., we may state that Toronto is in Canada. The tired feeling that comes over us when we receive from officials of a Canadian railway, mail matter addressed "Toronto, U.S.A.," is beyond description.

Our esteemed contemporary, the Railroad Gazette, of New York, informs its readers that application has been made to "the Railway Committee of the Primitive Council" at Ottawa for running powers on the Crow's Nest Pass Ry. for the Nelson & Bedlington. What have Mr. Blair and his colleagues done that they should be thus libelled?

The Minister of Railways will do well to give careful consideration to the unanimous demand of the Nova Scotia boards of trade for improved passenger service in Cape Breton. The scenic beauties & splendid climate of that district have brought it to the front ranks as a summer resort, & it is every year becoming more popular, especially with visitors from the United States. It is also increasing in business importance, & requires a faster service than has been, which should be provided for the summer season, if not for the year round.

—As anticipated in our March issue the action of the Dominion Government in regard to the construction of a telegraph line to the Yukon Territory has resulted in a claim for compensation from one of the chartered companies. We have no objection to the Government building the line, though we think it could have been done more economically by a company, but the two charters to companies should not have been granted if the Government had any intention of building. If the decision to build by the Government was arrived at after the granting of the charters the companies should have been notified immediately to prevent them from incurring liabilities. Mr. Roche, M.P. for Kerry in the Imperial Parliament, recently stated that the company in which he is interested gave large orders for materials & supplies, & it is understood the company will ask compensation. We see no reason why it should not succeed in its claim if justice is done.

—The Rossland, B. C., Miner accuses the C.P.R. Co. of laying old rails on the Crow's Nest Pass line. As a matter of fact, better rails were put down than were required by the contract between the Government & the Co. That contract called for steel rails of a minimum weight of 56 lbs. a lineal yard for the whole length of the line. As will be seen by reference to the report of the Government Superintending Engineer, on pg. 114 of our April issue, rails of that weight were only used on the prairie sections & on the river bottoms,

where tangents & light curvature occur, the balance of the line being laid with a percentage of 60 lb. rails & fully 26% of the whole line having 73 lb. rails. The C.P.R. Co.'s record is of itself sufficient answer to any charge of scamping work. Even the Government standard is not good enough for it, as evidenced by the fact that when the Co. took over the B.C. section of the main line between Savona's Ferry & Emory's Bar it was found to be so much below the Co.'s standard that after most exhaustive arbitration proceedings the Co. was awarded \$579,255.20 to be spent in bringing it up to the C.P.R. standard. There is no doubt whatever that when the Crow's Nest line is fully completed it will be found just as good as the main line, but as Sir Wm. VanHorne has pointed out the management knows better than to put its heaviest rails on new earthwork, where they would be damaged during construction & early operation. On a great part of the Crow's Nest line the heavy rails are already laid, & the rest will follow in due course, & as soon as it is deemed wise to put them down. If the Rossland Miner wants to make points against the C.P.R. it will have to select some subject other than the quality of the Co.'s construction work, which is above criticism.

The Ontario & Rainy River Contracting & Supply Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$80,000, & head office at Port Arthur. The incorporators are, J. Conmee, A. W. Thompson, A. J. McComber, Mrs. Conmee & Mrs. Whalen, the first three named being the first directors. The objects are to carry on the business of contractors for the construction of railways & other public works, for the sinking of shafts & for other work in connection with the development of mines, & to manufacture & sell timber, ties, lumber, pulpwood & cordwood.

Dominion Notices to Mariners.

The Dept. of Marine has issued the following notices:—

No. 11, Apl. 18. British Columbia. 1. Change in the character of Sisters Rocks light. 2. Intervals between Prospect Point fog bell strokes.

No. 12, Apl. 20. Ontario. 1. Change in Parry Sound buoyage. United States inland waters. 2. Niagara river range rear light station. 3. Cleveland west breakwater light station. 4. Light on Carlton Island.

No. 13, Apl. 26. British Columbia. 1. Amended description of shoal off Cole Bay. 2. Possible uncharted dangers off the west coast of Vancouver Island. 3. Beacons in Baynes Sound destroyed. Empire of Japan. 4. Murotozaki lighthouse. 5. Taitatate lighthouse.

No. 14, Apl. 26. Ontario. Georgian Bay & North Channel pilot, 1899.

No. 15, Apl. 27. British Columbia. Garry Point light temporarily discontinued.

No. 16, Apl. 27. Quebec. Change in Platon beacons. New range lights.

No. 17, May 1, British Columbia. 1, Garry Point light again in operation. 2, Note on the use of the red sectors in Fiddle Reef light.

No. 18, May 10, Nova Scotia. 1, Color of Peases' Island fairway bell buoy. 2, Change of name of Hobson's Nose lighthouse. U.S.A., Maine. 3, Change in characteristics of fog signals.

No. 19, May 2, Nova Scotia. Government rifle ranges, McNab's Island.

No. 20, May 4, Ontario. 1, Burlington Bay inner light. 2, Discontinuance of Michael Point light. 3, U.S.A. The Great Lakes. Fort Gratiot range light station. 4, St. Mary's Falls canal, westerly entrance. North pier light discontinued. Vidal Shoal channel range lights. South pier light.

No. 21, May 5, Nova Scotia. 1, Harbor light at Port Medway, Quebec. 2, The Barre à Boulard range lights in operation.

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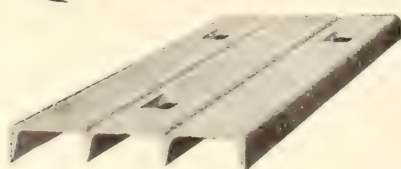
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No. 22, May 10, Quebec. 1, Changes in buoyage between Quebec and Portneuf. 2, Numbering of ship channel buoys.

No. 23, May 12, Ontario. 1, Beacons in entrance to Midland. 2, Lights at Point Edward discontinued.

No. 24, May 13, Quebec. Changes in buoyages between Portneuf & Montreal.

No. 25, May 13, Prince Edward Island. West Point whistling buoy not in position.



BURT VAN HORNE.

No. 26, May 15, British Columbia. 1, Buoy off Johnstone Reef. 2, Buoy off Governor Rock replaced. 3, Buoy off Indian Reef improved.

No. 27, May 15, Nova Scotia. Soundings off the South coast of Nova Scotia.

No. 28, May 16, Ontario. Improvements in Murray Canal entrance lights.

Steamers for Newfoundland Service.

There are at present building in A. & J. Inglis' yard at Glasgow, 7 steamers for R. G. Reid, proprietor of the Newfoundland Ry., for service between that island & the Labrador coast, & also to maintain a coasting service around the island of Newfoundland. The vessels are handsome looking models, with fine lines, having clipper stems & topgallant forecastles, & every provision has been made for the comfort & convenience of passengers. A complete installation of electric light, including a powerful search-light, will be fitted, & special attention has been paid to the heating of dining-saloon & all staterooms. A complete system of steam radiators, with copper piping for supply & exhaust steam, is being fitted throughout the vessels.

In the Labrador vessel accommodation is provided for 42 1st class passengers amidships, a very commodious cabin being set apart for ladies, & all lavatory conveniences are of the latest & most approved type. Sleeping accommodation is provided for 75 2nd class passengers forward of 1st class rooms, with independent lavatories, etc., all complete; while in the afterpart of the ship a cosy smoking-room is furnished with all requisites. The officers' & engineers' cabins are alongside the machinery casing, all comfortably fitted up. The dining-saloon is situated on the main deck amidships & is handsomely panelled & fitted, a feature of the design being the arrangement of small side tables for the convenience of passengers dining in small parties. In the vessels which are intended for the coasting trade around Newfoundland the accommodation is on the same lines, but of less extent, but all the rooms are fitted with the same comforts & in the same style.

Special attention has been paid to the extra strengthening of all these steamers, in view of the conditions of their service, & a complete system of water ballast tanks in a cellu-

lar double bottom is fitted in all, while the Labrador vessel has in addition peak tanks for trimming purposes. Steam steering gear of the most approved type is fitted in all the steamers, & steam winches for the speedy handling of cargo. The upholstery-work in dining-saloon & all staterooms is of the most approved designs & of best quality. The vessels will be rigged as schooners with 2 pole masts & everything required about hull or machinery will be of the best description. The engines & boilers are being constructed by the builders, & the vessels will fully maintain the reputation for speed, comfort & efficiency that the steamship Bruce has obtained for herself. The Bruce runs between Port-aux-Basques & Sydney, N.S., & was also built by A. & J. Inglis, Glasgow.

Improvements in Murray Canal Lights.

Official notice is given that the Department of Railways & Canals has improved the character of the lights at the east & west entrances of the Murray Canal, adjoining the Bay of Quinte and Presqu'île Bay, Ont. The former lights were fixed red lights shown from small lanterns standing on brown pyramidal open frames. The new lights which are now in operation are fixed white lights elevated 27 ft. above the level of the water & visible 5 miles from all points of approach. The illuminating apparatus consists of large pressed glass lenses. The light buildings, which stand on the same sites as the old frameworks, viz: 30 ft. from each end of the north pier of the canal, are enclosed hexagonal galvanized iron cabins, with cylindrical columns surmounted by the lenses rising from the apexes of the roofs. Each is 18 ft. high, from the deck of the pier to the lens, & is painted white. By a very ingenious contrivance the lamp is elevated to top of signal from inside, so that it comes exactly in proper focus for the fresnel lens, which produces a powerful & brilliant light, the operator not requiring to go outside at all, the hexagon house at base forming a perfect protection from the weather as well as a convenient storeroom for oil, lamp chimneys, &c. The house & tube through which the lamp is conducted to the lens are made of heavy galvanized steel, & are practically indestructible. An iron ladder is provided on the outside to enable the attendant to clean the lens, which is 12 ins. in diameter, made of best flint glass in 3 sections. Mariners will appreciate the great advantage of the new lights, as the entrance to the Canal will be thoroughly marked, & if the red lights on the bridge are in range a straight course for the entrance is assured. The manufacturers & patentees are Noah L. Piper & Son, Toronto.

ELECTRIC RAILWAYS.

International Traction Company.

The consolidation of the electric railways of Buffalo, Lockport & Niagara Falls, N.Y., & Niagara Falls, Ont., has been completed under this title, the Co. being organized under the laws of New Jersey. B. Franklin has been elected President, & C. McVeagh, Secretary & Treasurer. It is the belief that these officers are only temporary, & that in the course of time W. C. Ely will become President of the Co., in fact, all signs point to this. The merging of the various companies now controlled by the syndicate under the new organization is gradually going on. In all, 16 companies are concerned, with a total of about 318 miles of track. It is the belief of the men who have invested in the new deal that the various lines can be operated by the new organization with much greater economy than has been the experience of the several companies that formerly operated them, &

that in this way a great saving will be effected. One of the first steps taken by the new syndicate was to reorganize the Buffalo Railway Co., which was done at a meeting in the office of J. P. Morgan & Co., New York, when an election of officers took place with this result: President, W. C. Ely; Vice-President, D. S. Lamont; General Manager, B. Van Horn; Sec.-Treas., R. F. Rankine.

The Niagara Falls Park & River Ry. was transferred to the Co. at a meeting held in Toronto, April 18, when the following officers were elected: President, W. C. Ely, Buffalo; Vice-President, W. B. Rankine, New York; General Manager, B. Van Horn, Buffalo; other directors, E. B. Osler, T. G. Blackstock, W. H. Beatty, Toronto; W. Hendrie, Hamilton; Sec.-Treas., R. F. Rankine. We have been officially informed that it is understood none of the Canadian employes will be removed, but there is likely to be some rearrangement & changes in operation.

The financial strength of the new syndicate is apparent from a review of the names of some of the men. C. H. Coster is of J. P. Morgan & Co., of New York. T. De Witt Cuyler comes from Philadelphia. D. S. Lamont was Secretary of War under President Cleveland. F. L. Stetson is Vice-President of the Niagara Falls Power Co., & W. B. Rankine is Secretary of the same Co. C. C. Cuyler is of the firm of Cuyler, Morgan & Co., of New York. W. C. Ely is making a reputation as a great electric road financier, & is a man of wealth & ability; to him is given all credit for putting the big deal through successfully. R. F. Rankine, who is Secretary & Treasurer of the Co., is a brother of W. B. Rankine. His assistant will be J. S. Beacher, who held a position under the old Co.

It is said the Co. proposes to spend \$500,000 in improvements during the coming summer & will make changes in the schedule & service wherever they will be for the advantage or convenience of passengers. Currency was recently given to a report that important extensions would be made to the Canadian part of the system, including a line from Fort Erie to Point Albino, & another line from Fort Erie to Chippewa, also a branch from Fort Erie to the race track, & to the grove at Erie Beach. Mr. Van Horn recently informed us that the Co. was not contemplating building any more lines on the Canadian side.

J. C. Brewster, Superintendent of the Niagara Falls & Suspension Bridge Ry. since 1891, has resigned. Under his management



W. CARLY ELY.

the road has been changed from a horse car line to an electric railroad. This Co. is included in the absorption by the International Traction Co., & for the present C. K. Marshall will manage this property in connection with the Buffalo & Niagara Falls Ry.

We are indebted to the Street Railway Review for the photographs of Messrs. Ely & Van Horn, given on this page.

The Lines in Western Canada.

B. C. Electric Ry. Co.'s earnings and expenses for March:

	1897-8.	1898-9.	Increase or Decrease.
GROSS EARNINGS			
Railway Vancouver branch	\$4,020	\$6,003	\$1,983
Victoria	6,732	6,175	557
Westminster	6,438	6,492	54
Logging Vancouver	8,240	9,875	1,635
Victoria	4,399	5,259	860
Gross earnings	\$39,729	\$34,014	\$5,715
Working expenses	\$20,339	\$22,376	\$2,037
Net profits	\$19,393	\$11,638	\$7,755
Aggregate Gross Earnings, April 1 to March 31	\$305,132	\$410,099	\$104,967
Aggregate Net Profit, April 1 to March 31	\$97,490	\$159,734	\$62,244

The aggregate gross earnings and net profit for 1897-98 are from April 15 only.

The directors have declared a dividend at the rate of 5% per annum on the preference shares. The profits for the year ended Mar. 31, 1899, after deducting fixed charges & the preference dividend, amount, subject to final audit, to £16,283, & the directors recommend a dividend on the ordinary shares of 4% per annum free of income tax, absorbing £8,275, carrying £8,008 to special & general reserves.

The Co.'s offices in Vancouver have been moved to the new terminal buildings, corner of Hasting & Carrall streets.

The Co.'s tracks are being connected with the C.P.R. siding at the Co.'s Vancouver terminal building, so that freight cars may be transferred to the Vancouver-Westminster electric line.

Contracts were recently let for the two miles of track mentioned in our Apl. issue, pg. 118. Orders have been placed for 2 closed & 2 open motor cars.

Nelson.—W. A. Macdonald, solicitor, acting for the British Electric Traction Co., has asked for a 35 years' franchise for an electric railway in Nelson. It is thought the Council will grant the application, but will not agree to exemption from taxation for more than 10 years, while a complete transfer system & cheap rates for school children is likely to be insisted on. If the project goes through, the first line will probably be built from the C.P.R. station along Baker st. to Bogustown, with a branch up Stanley st. 2 miles in all. Ultimately another line will probably be built along Vernon st., forming a belt line that will include Baker st., the cars running one direction on one street & the opposite direction on the other.

The Winnipeg Electric St. Ry. has placed an order for two "1,000" 2-motor equipments.

The Co. is experimenting with fenders. R. P. Roblin, M.P.P., wants the Legislature to give the City of Winnipeg power to decide whether the cars shall run on Sunday. Now it is prohibited by a general act.

Maritime Provinces Electric Lines.

Bedford Electric Co.—The prospects for the speedy completion of the electric tramway from Halifax to Bedford & along the shore are said to be very good. A Halifax paper reports that the work will go ahead this summer, & that an engineer from England will be there shortly in connection with the matter. The work of building the tramways, as well as the proposed pulp mill at St. Margaret's Bay will, it is said, be carried on simultaneously & may begin about the same time.

The **Halifax Electric Tramway Co.** recently paid a quarterly dividend at the rate of 5% per annum.

Ontario Electric Railways.

The **Brantford St. Ry. Co.** is installing six "800" railways motors.

Cornwall Electric St. Ry. Co.—In the case of Kirkpatrick vs. this Co., the Co. has appealed from the judgment of Chief Justice Armour, in favor of plaintiffs in a mortgage action for foreclosure & payment of \$100,000, upon the grounds that the mortgage deed contained no covenant for payment & no acceleration clause; that the mortgage could not be extended to property other than that which it specifically included; that the defendant had no power to hypothecate any property except its real & personal property, & could not, as it professed to do, charge its franchises & income.

Goderich to Kincardine.—An electric line between these towns is talked of. J. J. Wright, of the Point Farm, Goderich, is interesting himself in the proposal.

Guelph.—G. Sleeman, owner of the street railway, says he has been approached by the Cataract Power Co. for an option on his line.

The Board of Trade has been discussing the building of electric lines to Hespeler, Arthur & Erin. The first-mentioned line is the most favored. It would run via Puslinch Lake & connect with the Galt, Preston & Hespeler St. Ry. A local paper gives this estimate of cost:

11 miles grading	\$ 6,000
20,000 ties	5,000
1,000 tons rails	27,000
Anchor bars, poles & spikes	4,000
Laying track	1,000
1,000 posts	1,500
1,000 post holes	500
11 miles of wiring	6,000
4 cars	8,000

\$59,000

This does not include power, which could probably be obtained from the Guelph St. Ry., nor right of way. It is thought \$25,000 capital would be enough to raise, & that the line could be bonded for the balance. Guelph people do not seem to favor the idea of an electric

line to Hamilton, thinking it would take trade away from them.

The **Hamilton, Ancaster & Brantford Electric Ry. Co.**'s annual meeting, fixed for May 3, was postponed to May 20, to permit of the continuance of negotiations with New Yorkers in regard to financing the enterprise.

Hamilton Projects.—J. Patterson, of Hamilton, has written Col. Higinbotham, of Guelph, as follows:—"We propose to build a double track line from Hamilton to the brow of the mountain, near Clappison's Corners. We will cross the G.T.R. & Desjardines Canals about 40 ft. higher than the present G.T.R. track in order to be able to ascend the mountain easier. After getting on top of the hill one branch will go through Millgrove in, as nearly as possible, a straight line to Guelph. The other one will go over towards Greensville & Bullock's Corners, & from there in as straight a line as possible through Galt & Preston to Berlin & Waterloo. We do not know about the extension of which Dr. Burns speaks to Mount Forest. The present ideas of our Co. are only to build to Guelph, but if we can see any business at all we would continue up to Fergus & Elora. This we think is quite probable. We expect the line to be built very much in the style of a first-class railway, & not in the manner in which many electric roads are built. If it is properly constructed, as we propose, there will be no difficulty in hauling freight, & in running an hourly service between Hamilton & Guelph, making the distance in three-quarters of an hour. At Hamilton we propose erecting a very large cold storage warehouse, & connecting all the electric roads with it, as well as the G.T.R. & C.P.R. We propose by this to establish connection with England. Refrigerator cars will be run, connecting with fast steamers, & a very large business can be worked up in this direction. We also think it will make a very central distribution point for the fruit trade.

T. E. Hillman has made a survey for the line between Hamilton & Guelph.

In our last issue, pg. 119, we gave particulars of the plan to secure control of the Hamilton St. Ry. & the electric lines running from Hamilton, by J. Patterson, for the Cataract Power Co. The deal includes the Hamilton St. Ry., the Hamilton & Dundas Electric Ry.,

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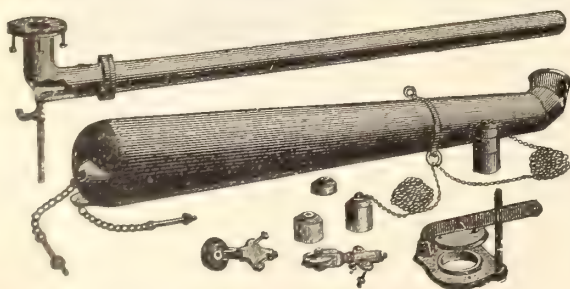
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& the Hamilton Radial Electric R., also the Hamilton & Caledonia, & the Hamilton & Guelph projected lines, while the Galt, Preston & Hespeler Electric St. Ry. is also mentioned in connection with the deal, which with completed & projected lines would give a system of about 150 miles. The purchase of the Hamilton, Grimsby & Beamsville Electric Ry. has not been mentioned, & it may be contemplated to build another line to Niagara Falls. The capital stock of the Hamilton St. Ry. is \$205,000, with a bonded indebtedness of \$500,000. It was recently announced that \$103,000 of the stock had been secured at par, but some of the persons who are alleged to have given options have not transferred the stock, & proceedings have been taken against one of them, B. E. Charlton, to compel delivery of 179 \$50 shares. The idea is to operate the lines with power from DeCew Falls.

The Hamilton St. Ry. Co.'s receipts for the quarter ended Mar. 31, were \$26,083.36 against \$23,403.63 for corresponding period in 1898. The percentage paid the city for the 1st quarter of this year was \$1,565, & mileage \$1,854.96.

Threatened difficulty between the Co., the city & the employes has been averted by the Co. agreeing to work the men not more than 60 hours a week, & to pay not less than 15c. an hour. The Co. employs 70 regular & 18 spare men, & it is said they average \$450 a year each.

Kingston Electric St. Ry.—B. W. Folger says the Co. will extend its tracks to Cataraqui this summer.

London St. Ry.—Gross earnings for Mar. \$8,911.46, an increase of \$1,124.14 over Mar., '98. Gross earnings for Apr., \$7,760.89, an increase of \$181.48 over Apr., '98.

The employes have asked Vice-President Smallman to arrange a meeting, at which their alleged grievances may be discussed, & Mr. Smallman has replied, asking the men to send the directors a written statement of grievances. The men hold their case is set forth in the copy of the new agreement which they wish the Co. to sign; that they have received no answer from the Co. regarding it, & that they wish to discuss with the directors their reasons why the agreement should be made.

In the case of Fraser vs. the Co., the Co. recently appealed from the judgment of the Divisional Court (29 O. R., 411) sustaining a verdict for plaintiff in an action for negligence, while reducing the amount of the verdict from \$3,300 to \$2,000, or directing a new trial if the plaintiff should refuse to consent to the reduction. The plaintiff, while standing on the foot-board of one of the defendant's cars, was struck by one of the side-posts of a bridge over which the car was passing, the space between the post & the side of the car being only 14 ins. The Court below held that an invitation to the plaintiff to stand on the foot-board must be implied, & while there he was entitled to be carried safely, which the improper construction of the bridge prevented. The plaintiff has also appealed from the judgment of the Divisional Court reducing the amount of the verdict. Defendant's appeal has been dismissed. Judgment has been reserved as to plaintiff's cross appeal.

The Ottawa Electric Ry. Co. will extend its track 2 miles to Rockcliffe rifle range, if the Dominion Government will give satisfactory assistance.

This Co.'s bill, now before Parliament, has occupied a large amount of time both in committee & in the Commons. The principal fight has been over the proposal to operate on Sundays. An early statute affecting the Co. forbids this. It seems probable this provision will be repealed, & that the Co. will be left subject to Ontario legislation in this respect. The Co. is also asking power to build

through the townships of Hintonburg & Nepean.

The Peterboro & Ashburnham St. Ry. Co. not being able to extend & improve its line so as to make it a profitable undertaking, is said to be desirous of selling it to the town or of securing some assistance from the corporation.

Port Arthur Electric Ry.—The Port Arthur Commissioners are complying with the demands of W. Phillips, of Niagara Falls, who was sent by the Ontario Government to inspect the line to Fort William, & are putting in a heavier trolley wire and other improvements.

St. Thomas St. Ry.—This Co. is putting in a signal system. According to the St. Thomas Times the grades, curves & single track require a signal which will operate positively & hold the cars on switches until the track between switches is clear. This system is a manual one, & this method has the advantage of making the conductor responsible for maintaining the right of way. The system is operated as follows: A conductor before entering a section between switches pushes a switch rod which sets a signal at the turnout ahead, a magnet operating a red semaphore & incandescent lights behind a red disk. This makes the signal visible both night & day. This semaphore stays set until he reaches the switch ahead; then the conductor opens the circuit which sets that track behind him at safety. If on reaching the switch he finds the semaphore is set to danger, he has to wait on the switch until the car passes. Conductors only set semaphores ahead of them & release them behind. The car is controlled by the semaphores operated by the conductors of cars passing it at the switches, & the signal systems for cars operating in opposite direction are entirely independent. In each signal box there is also a pilot lamp which is extinguished when the section of track is opened & illuminated when the section is closed. This gives the conductor knowledge that his signals have properly operated at the distant switch. As the first signal set gives the right of way, there is no meeting between switches. It is operated from the trolley current & will be the first system of the kind installed. Companies heretofore which operated single track roads have been entirely dependent on the telephone, which, at its best, for this class of work has been an annoyance and delay. With this new system a conductor can tell the moment he reaches a switch if his meeting car is coming & if the track ahead of him is clear. If it is clear he immediately protects his own car by setting a signal at the switch ahead & goes on. In this way if one car is delayed the others can continue to run on time.

The Co. has added 2 open cars to its equipment.

Smith's Falls to Gananoque.—The Ontario Legislature, at its last session, incorporated a Co. to build an electric line between these points by way of Merrickville.

Toronto Railway.—The gross earnings are:

	1899.	1898.	Increase.
Jan.	\$95,860.12	\$86,302.36	\$9,557.76
Feb.	91,860.30	82,402.19	9,458.11
Mar.	103,234.88	92,318.42	10,916.46
April	95,212.37	86,898.83	8,313.54
	\$385,997.67	\$348,121.80	\$37,875.87

A city by-law provides that the Co. shall, during Nov., Dec., Jan., Feb. and Mar., maintain vestibules upon its cars for the protection from inclemencies of weather of those who have charge of them. The Co. placed vestibules upon the front ends of cars, but not upon the rear, contending that that was all that was required by the law. As previously stated in these columns, an action was brought against the Co. before a police magistrate to compel the placing of vestibules

upon the rear ends, and judgment was rendered against the Co., imposing a fine & costs for the delinquency. An appeal was taken to the Divisional Court to set aside the judgment, & Judge Macdougall has sustained the lower court, dismissing the appeal. By this decision the Co., if sustained on further appeal, will be obliged to provide all cars with closed vestibules on the rear end as well as in the front during the months mentioned in the by-law. The Judge said the question he had been required to decide was whether the defendant, according to the by-law, was bound to provide a vestibule for each end of the cars, & to protect, by a vestibule, the conductor as well as the motorman. Evidence as to the convenience of vestibules on the rear end has been offered, but it was beside the mark as far as his jurisdiction was concerned. Referring to the contention that the Toronto Ry. was a Dominion concern, & in consequence not bound to submit to any other authority than the Dominion Government, he said that the objection could not be sustained. As to the merits of the case, he held that the language of the by-law forbade the operation by the Co. of any street car unless it was supplied with proper & sufficient vestibules. That meant that there must be 2 vestibules, not "a vestibule." The defendant had argued that the words motorman & other persons in charge of the car while engaged in operating the car did not include the conductor. He was of the opinion that the conductor was in charge of the car within the ordinary & common-sense meaning of the expression, & had it been meant otherwise the by-law would read to protect "the motorman in charge of the car." The conductor gave the signals by which the car started and stopped, & was consequently the person in charge of the car, the duties of the motorman being much the same as those of a locomotive driver on a steam railway. He thought that without a doubt both the conductor & motorman were engaged in operating the cars, and in support of that quoted a judgment of Chancellor Boyd. The conclusion he arrived at was that the meaning & interpretation of the by-law was plain, & that the conviction should be affirmed.

The Co. is experimenting with a device to relieve the overcrowding. A car has been supplied with 2 rows of automatic seats, which can be folded over the ordinary seats when not in use, & which do not in any way interfere with the comfort of the passengers. By the new arrangement, the seating capacity of the car will be almost doubled. The new rows of seats run the full length of the car & are raised higher than the ordinary seats.

Superintendent Gunn was recently given a complimentary dinner by the roadmasters.

Quebec Electric Railways.

The Hull Electric Co. has paid the C.P.R. \$100,000, the purchase price of the Aylmer branch, from Hull to Aylmer, Que., 7.5 miles.

The Chateaugay & Northern Ry. Co. is asking Parliament for power to construct & operate a railway from any point on the boundary between the Province of Quebec & the State of New York, thence to a point in Soulanges County, to connect with the Montreal Island Belt Line Ry., & follow the same route to the Island of Montreal, thence north-easterly across the Island of Montreal, through Hochelaga, in rear of the mountain, to a point on the Great Northern Ry. in the County of Joliette, passing near L'Assomption, to Joliette. The Co. also wants permission to construct & operate an extension of its main line to & through Berthier, & to construct & operate by electricity circuit lines of railway in towns, villages & parishes along its main line & branches.

The Montreal Island Belt Line Ry. Co. is asking Parliament to amend its amended Act of incorporation, to alter & change its bonding sections, to increase its bonding powers, to amend and extend its powers concerning branch lines, to change its corporate name, to purchase or otherwise acquire, in whole or part, the railway, charter rights, franchises & privileges of the Chateaugay & Northern Ry., to ratify & confirm agreements with other companies, &c., & to further amend its charter powers.

Judge Burbridge has granted an application to make orders of the Exchequer Court two orders of the Railway Committee of the Privy Council which authorize this Co. to build a branch line from its main line along Davidson St., Montreal, to the Montreal Cotton Mills Co.'s factory. The application of the Co. for permission to cross the Montreal St. Ry. tracks on St. Catherine & Notre Dame Sts., is still before the Railway Committee of the Privy Council. The M.S.R. Co. is stoutly opposing the M.I.B.L.R. Co.'s attempt to run cars within the city limits. The latter Co. says that if it gets the right to run into the city it will double-track its line through to Bout de L'Isle.

The Co. has purchased the str. Mansfield, which has been running between Ottawa & Gatineau Point, & will use her as a ferry between the end of its line at Bout de L'Isle & Charlemagne & Repentigny, on the opposite side of the river.

The Co. will run the Bout de L'Isle Hotel this year under the management of R. Houle.

The Montreal Park & Island Ry. has made many improvements recently. A number of new cars have been added, & all the summer cars have been remodelled. The equipment throughout is in the best & most modern condition.

Montreal St. Ry.—The gross earnings are:

	1898-9.	1897-8.	Increase.
Oct.	\$133,419.69	\$116,093.09	\$17,326.60
Nov.	125,126.10	110,698.98	14,427.12
Dec.	127,078.00	113,079.33	14,698.67
Jan.	125,276.04	110,155.96	15,120.08
Feb.	114,838.02	102,425.99	11,412.03
Mar.	124,754.11	114,476.98	9,277.13
April	139,405.46	110,619.27	19,786.69
	\$879,497.92	\$777,499.60	\$101,998.32

On May 1 the Co. paid a dividend of 2½% for the quarter ended Mar. 31.

In 1894 the Co. entered into an agreement with the City Corporation, under which the latter was to remove snow from the streets occupied by the Co., the Co. to pay \$1,650 a

year per mile of street, which was estimated as half the cost. For the 5 years, 1893-4 to 1897-8, the total cost of removing snow was \$393,315.68, of which the Co. paid \$255,360.71, the City paying only \$137,954.94. The management contends that the City has failed in its obligations, not having expended sufficient to effectually remove the snow, & that the Co.'s operations have been hampered thereby, rendering it impossible to furnish a satisfactory service.

The judgment of the Superior Court in the case of Leipschitz vs. the Co., has been reversed by the Court of Appeal. The plaintiff claimed the recovery of \$500, amount of 2 cheques signed by him & delivered to the Co. under the following circumstances: A party named Alder having bought from the Co. for \$500 a quantity of old material which it periodically sells, subsequently applied for the purchase of another lot, but his demand was refused on the ground that the previous purchase had not yet been paid for. Thereupon Alder went to Leipschitz & got 2 cheques from him, one for \$400, to the order of the Co., & the other for \$100, payable to bearer, for the intended purchase of the old iron by Leipschitz. However, when Alder paid in the two cheques the proceeds were applied to Alder's own previous debt, & when Leipschitz came to get the material he found it had been sold to a third party. The Court below dismissed the action, but the Court of Appeal reversed that judgment & held that Leipschitz was entitled to recover the amount of his cheques, as in accepting them the Co. had placed itself in the position of trustee towards him; it was obliged to render him an account, & had no reason to apply the money to the payment of his agent's debt.

The views on page 155 show the improved summer cars of this Co., which have been specially designed to meet the requirements of a northern climate, where the mornings & evenings are cool, & the middle of the day excessively hot. The cars are partly closed with wooden sheeting on the devil strip side, & are equipped with curtains which, when closed, make them absolutely weatherproof. A considerable number of these cars are already running, & it is expected to have 100 in operation by the middle of June. They are meeting with entire approbation by the public.

The Côte des Neiges line has been built to Pine Avenue, within 1,800 ft. of the summit of the hill, to which point the City is endeavoring to get the Co. to continue it.

A large amount of track is being relaid, the ordinary rail being replaced by 83 lbs. girder rails.

The Co.'s shops will be transferred from Coté street to Hochelaga in a few months, when the new buildings are completed there. When the Coté street shops are abandoned it is intended to use them for car storing purposes.

As soon as arrangements with Verdun municipality are made by the council of that place, the Co. intends completing its line from the city limits to Rielle avenue.

Quebec Bridge.—The project of connecting the mainland with the Island of Orleans by a bridge is being seriously agitated. The proposition is to erect a cantilever bridge from the Island to the Beauport shore for vehicles, foot passengers & electric cars. The shoals run out so far both from the Island & from the Côte de Beaupre, that the distance to be bridged would not be unusually great. At certain seasons of the year, the residents of the Island are now perfectly isolated from the rest of the world. Constant, easy & rapid communication between the Island & the mainland, would, it is thought, quickly double the value of property on the Island, while the circuit of it by means of an electric railway would make it a fashionable summer resort.

The Quebec St. Ry. Co. has gone into liquidation, its property having been acquired by the Quebec, Montmorency & Charlevoix Ry. Co.

Openings for Electric Lines.

J. C. Langelier, in recently reporting to the Quebec Woods & Forests Department on the great field for the manufacture of pulp & paper in the Lake St. John district, said:—"There is probably no other place where electric railways could be built under such exceptionally advantageous conditions. In addition to the fact that the ground is level & building timber right on the spot, there would be all along the line, at comparatively short intervals, water powers capable of giving an unlimited supply of electricity. Starting from the west there are the Mistassini falls, & a mile further those of the Mistassibi; 9 or 10 miles further to the east the White falls on the Little Peribonca; 9 or 10 miles still further east, the falls of the Great Peribonca. From these falls to those of the Little Discharge is less than 20 miles. At the same distance from the Little Discharge

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TORONTO.

Canada Southern Railway Company.

The annual general meeting of the Canada Southern Railway Company, for the election of directors & other general purposes, will be held on Wednesday, the 7th day of June, 1899, at the hour of eleven o'clock in the forenoon, at the Company's head office, in the City of St. Thomas.

NICOL KINGSMILL,

Secretary C. S. Ry. Co.

May 1st, 1899.

Sarnia, Chatham & Erie Railway Company.

The annual general meeting of the Sarnia, Chatham & Erie Railway Company, for the election of directors & other general purposes, will be held on Wednesday, the 7th day of June, 1899, at the hour of eleven o'clock in the forenoon, at the offices of the Canada Southern Railway Company, in the City of St. Thomas.

NICOL KINGSMILL,

Secretary, S. C. & E. Ry. Co.

April 20th, 1899.

Leamington & St. Clair Railway Company.

The annual general meeting of the Leamington & St. Clair Railway Company, for the election of directors & other general purposes, will be held on Wednesday, the 7th day of June, 1899, at the hour of eleven o'clock in the forenoon, at the offices of the Canada Southern Railway Company, in the City of St. Thomas.

NICOL KINGSMILL,

Secretary, L. & St. C. Ry. Co.

April 20th, 1899.

Niagara River Bridge Company.

The annual general meeting of the Niagara River Bridge Company, for the election of directors & other general purposes, will be held on Wednesday, the 7th day of June, 1899, at the hour of eleven o'clock in the forenoon, at the offices of the Canada Southern Railway Company, in the City of St. Thomas, Ontario.

NICOL KINGSMILL,

Secretary.

Toronto, 20th April, 1899.

Canada & Michigan Bridge & Tunnel Company.

The annual general meeting of the Canada & Michigan Bridge & Tunnel Company, for the election of directors & other general purposes, will be held on Thursday, the 8th day of June, 1899, at the hour of one o'clock in the afternoon, at the Crawford House, in the City of Windsor.

NICOL KINGSMILL,

Secretary, C. & M. B. & T. Co.

20th April, 1899.

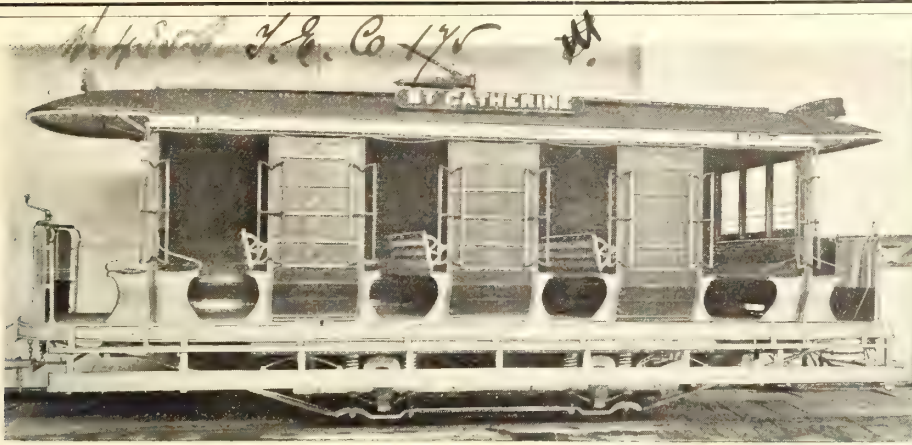
Niagara Grand Island Bridge Company.

The annual general meeting of the Niagara Grand Island Bridge Company, for the election of directors & other general purposes, will be held on Wednesday, the seventh day of June, 1899, at the hour of eleven o'clock in the forenoon, at the Company's head office in the City of St. Thomas.

NICOL KINGSMILL,

Secretary, N. G. I. B. Co.

20th April, 1899.



SUMMER CAR, MONTREAL STREET RAILWAY.

are the falls of the au Sable river, 249 ft. high. Six miles further & 12 miles from St. Alphonse is the Chicoutimi river, which could also supply power for producing electricity.

"It would be equally easy to establish an electric line between Mistassini & Roberval, the western terminus of the Quebec & Lake St. John Ry. From Mistassini to the Chamouchouan, there is barely more than 16 miles, & about midway the Tecouapee river could supply water-powers capable of providing an abundance of electric power.

"On the Chamouchouan the Bear falls could be utilized for the same purpose. From the Bear falls to Roberval, about 30 miles, the Salmon, Iroquois & Ouaitchouaniche rivers, nearly at equal distance from one another, also have waterpowers capable of supplying the electric power required for a tramway.

"The construction of an electric tramway between Montreal & Roberval, about 250 miles, could be effected under the most favorable conditions. The summit to be got over or the difference of level between the two places is about 725 ft. There would only be 2 bridges at all costly, those of the rivers des Prairies & St. Maurice.

"From Bout de l'Isle to the river Mastigouche, about 50 miles, there would be only the water-power obtained by damming the river L'Assomption for producing electricity by hydraulic power; but the Mastigouche, whose rapids & cascades could develop considerable motive power, there are the falls of the river a la Chienne, one 200 ft., the other 75 ft. high. the rapids of the Pabelognang & of the Vermillion, whose course is nothing but a series of cascades & falls; beyond the St. Maurice are the falls of the river Trenche, 6 miles from its mouth; those of the river Croche, & those of the river Ouaitchouaniche, which fall into Lake St. John at Roberval village. Finally, from the Mastigouche, 200 miles, water-powers capable of supplying an electric railway are not at greater distance from one another than 25 miles, so that there is no place where the current would have to be transmitted more than 25 miles.

"The traffic supplied by the paper mills would suffice to assure the success of such a railway, but there will also be many other sources, as it would serve to supply the great lumbering establishments on the Upper St. Maurice. It would likewise develop the settlements in the valley of the Mattawan, especially in the rich & fertile territory between the rivers Trenche & Croche, where there are nearly a million acres of the best farming lands, with a climate more favorable for farming operations than that of the neighborhood of Three Rivers."

Birmingham Tramways Company.

Jas. Ross, of Montreal, presided at the annual meeting in Birmingham, Apl. 5. The re-

port showed an available balance of £49,979, & recommended a dividend on the ordinary shares of 5%, while £33,686 was to be carried to reserve for depreciation of assets, redemption of debentures, & general purposes. In moving the adoption of the report Mr. Ross said that during the year large increases had been made in wages, & considerable had been expended on rolling stock, yet the net results were most satisfactory, & for the first part of this year there was a substantial increase in earnings. The property was in excellent condition, & improvements were being made continually. No progress had been made in arriving at a settlement of the difficulties with the City Corporation, which body had recently adopted a report in favor of the municipalization of the tramways. The Co. was formed in 1896 upon a resolution passed by the Council agreeing to give it 21 years' lease of the tramways, & he still relied upon the good faith of the Corporation & people of Birmingham to see that the Co. received fair treatment. The directors were at all times ready & willing to deal with the Corporation on the basis of any arrangement that would leave the Co. in as good a financial position as it was now in. He had hoped long before now to have taken part in a work of great public benefit by substituting a convenient & rapid electric service for the cumbersome & antiquated steam trams that ran in the streets of Birmingham.

H. Buckley, in seconding the resolution, said the Co. carried over 36,000,000 people last year. A resolution was adopted approving of the payment of dividends at the rate of 5% per year on the preference & ordinary shares. The retiring directors, J. Ross & H. Buckley, were re-elected.

H. Smith, in acknowledging the re-election of his firm as auditors, congratulated the shareholders upon the wise financial policy which the directors had marked out, by setting aside what they had done as provision

towards the repayment of capital. There had recently been letters in the Birmingham newspapers referring to some imaginary risk of the return of the capital when the leases fell in. Looking at the matter on the supposition that no further negotiations took place, & that the leases did fall in, he considered the course taken by the directors was the wisest they could take. At Dec. 31st last there was close upon £200,000 of what might be called cash assets in the bank & on deposit. The first leases did not fall in for about 8 years, & if the directors continued to put aside profits at the rate they had done it would mean an addition, leaving out the accumulation of interest, of between £200,000 & £250,000. So that by the time the first leases expired they would have over £400,000 cash assets, which was practically sufficient to provide for the repayment of debentures & more than half of the preference shares. They would retain for 5 years more certain other leases, which included the cable route, the most valuable of all, so that when those leases expired they would have another £200,000 roughly, which would more than provide for the remainder of the preference shares, & leave a very considerable sum for the repayment of the ordinary share capital. In addition to that, there were assets which would not fall to the Corporation, such as equipment, horses, cars, buildings, & outside lines.

Cuban Electric Railway Co.

E. Hanson, Montreal, writes: "The Company is now organized, the directors being A. F. Gault, E. Hanson, W. M. Doull & F. Paul, of Montreal; W. D. Matthews, of Toronto; B. F. Pearson, of Halifax, N.S.; Col. G. B. M. Harvey, of New York; P. Farquhar, of New York & Havana & Mr. Melvin, of New Jersey. F. S. Pearson, of New York, Consulting Engineer of the Metropolitan Traction Co., is the Chief Engineer of the Co., & under his supervision plans have been made for electrifying the railway belonging to the Co., which runs from Regla to Guanabacoa & through each of these two towns. We expect to have the work completed by Aug. 1, when we shall have the first electric cars in the Island of Cuba. As the steam railways of Havana are in a very dilapidated & fifth-rate condition, & as our line will be thoroughly equipped with heavy rails & the newest pattern cars, bright & airy, we have no doubt that we shall control the large suburban business at present done by the United Railways Co. as well as our own, & the Co., we think, may confidently look forward to a very successful future. The Co. also owns what is known as the Regla Ferry, running from Havana to Regla, & there connecting its electric line, & in connection with this ferry the Co. also owns first-class wharf property in Havana as well as in Regla, which is very useful as also very valuable."



SUMMER CAR, MONTREAL STREET RAILWAY.

The Gorge Route.—Work was started early in April to clear the track of the Niagara Falls & Lewiston R.R., but several more falls of rock occurred, some of them consisting of thousands of tons, & the work was abandoned. It is not expected that the line will be operated again this year.

A Newfoundland Electric Railway.—R. G. Reid, of Montreal, proprietor of the Newfoundland Ry., is about to build an electric railway in St. John's, Nfld. Power will be generated 8 miles from the city. Orders have been placed for cars, apparatus, plant, etc., & it is expected the line will be completed this year.

The Maritime Electrical Association met in Halifax April 18, when a number of interesting & valuable papers were read, one of which will be found in full on page 157 of this issue. The following officers were elected: President, F. A. Huntress, Halifax; Vice-President, P. R. Colpitt, Halifax; Sec.-Treas., R. T. Mackeen, Halifax; Executive Committee, H. Brown, St. John, N.B.; J. Eddington, Moncton, N.B.; J. A. Weddell, Charlottetown, P.E.I.; S. G. Chambers, Truro, N.S.; W. Pickles, I. Smith, J. A. Anderson & F. A. Hamilton, Halifax.

TELEGRAPHS & CABLES.

The G. N. W. Company's Defence.

Our Jan. issue, page 29, gave very full particulars of the suit to annul the agreement of 1881, by which the G.N.W.T. Co. assumed the control and operation for 97 years of the lines of the Montreal Telegraph Co., at a yearly rental of \$165,000. The plaintiffs are H. M. Morrow & W. A. Clark, jun., of Boston, Mass., who, as holders of 750 shares of the G. N. W., claim that the Co. had no power to enter into such an agreement, nor had the Western Union Telegraph Co. power to guarantee the rental, as it really did. The plaintiffs say the G. N. W. is in reality the Western Union, & that H. P. Dwight, who holds most of the G. N. W. shares & is President of the Co., is really an agent of the Western Union. They further say that the agreement in dispute is "an attempt by a foreign corporation, through possession of the majority stock of the G. N. W., to exercise & use the statutory powers & franchise of that Co. solely in their own interests; an attempted misuse & abuse of statutory powers & franchises."

In its statement of defence recently filed in the Ontario High Court the G.N.W. insists upon the validity of the agreement & the power of the Western Union to guarantee the rental thereunder. It says the agreement was made in the interest of all parties, & has for over 17 years been faithfully carried out.

Another paragraph of the statement of defence says:—"The holder of the shares now alleged to be held by the plaintiffs at the time of the entering into the agreement was Erastus Wiman, who was one of the most active shareholders in procuring the assent of the

companies to the agreement. The shares were used to vote upon, & by them the agreement was entered into. This defendant (the G.N.W.) submits such shares cannot now be used for the purpose of invalidating the same agreement, & that the plaintiffs are disentitled from using them for such purpose."

The other parties to the defence, the Montreal & Western Union companies, & Mr. Dwight, should the court consider him a co-defendant, set up the same pleas, with one or two additions. The Montreal Co. adds that even if the agreement, when it was made, was not strictly within the powers of the companies concerned, it was executed in good faith, & has been acted upon & carried out for nearly 20 years by the companies; that since then new rights & interests have arisen. For instance, the stock of the Montreal Co. has been purchased, & is now held as an investment, & the Co. says that the court should not interfere with the vested rights of innocent holders of such stock, but protect them.

The G.N.W. says the amalgamation was necessary to end the injurious competition that previously existed, & was advantageous to all parties. It also states that the dividends paid by the G.N.W. after the agreement was made were very high. Then, as the statement of defence relates, other telegraph lines came into existence, followed by a season of financial depression. It is added that but for the guarantee it would have been necessary to call upon the shareholders of the G.N.W. to make good the rental in arrear to the W.U. And that had not the shareholders of the G.N.W. insisted on receiving the \$325,000 as profits on their stock, there would have been ample to have paid a reasonable dividend of 6%, & also to have discharged the total liability guaranteed & paid by the W.U. But the prospects, it is said, are that the Co.'s earnings will be sufficient within a reasonable time to discharge the indebtedness to the W.U., & then pay reasonable dividends.

The G.N.W. also submits that if, for any reason, the court should hold the agreement of 1881 to be invalid, that the plaintiffs should be compelled to repay the large sums of money received by them as shareholders under the agreement, in order that the accounts, as between the G.N.W. & the W.U. may be adjusted.

The case will be heard at the next assizes.

C.P.R. Company's Telegraph.

Offices closed—Acadia Iron Mines, N.S.; Bass River, N.S.; Economy, N.S.; Five Islands, N.S.; Highland Village, N.S.; Mount Rose, N.S.; Port-au-Pique, N.S.; Shakespear, Ont.; Woodslee, Ont.; Seguin Falls, Ont.

New offices—Camp McKinney, B. C.; Columbia, B.C.; Fort Steele, B.C.; Moyelle, B.C.; Angus, Que.; Bishops Crossing, Que.; Hall's Stream, Que.; High Forest, Que.; Marbleton, Que.; Randboro, Quebec; Sawyerville, Que.; Hull Station, Que.

Since the Front St. fire, which badly damaged the C.P.R. wires, the various lines have been carried into the Toronto office by cables from the street poles. The protection against heavy electric light, or electric railway currents has been altered by substituting fuse wires for the electro magnetic breakers which have been in use for some years.

The first floor of the Burns & Murray building in Halifax, N.S., which was purchased by the Provincial Government a short time ago, has undergone a great transformation, & is now one of the finest office floors in the Dominion. The entrance on Hollis street, as well as the whole interior, is finished in American quartered oak, all panelled. The steps from the vestibule are of marble, & the floor is tiled in a pretty design of brown, grey & white. The ceiling is a neatly designed metal one. A hallway leads from the entrance in the centre to the stairways in the rear, & on either side are the telegraph & cable offices. The Commercial Cable Co.'s office is situated in the northwest corner, to the left of the entrance, & has oak counters the same as the other departments. The whole of the remainder of the north side of the floor is occupied by the C.P.R. telegraph offices, splendidly lighted from the windows on the Cheapside end of the building, while opposite, the south half of the floor is occupied by the Halifax & Bermuda Cable Co. The recorder & transmitter of the cable offices, & the operators' tables in the C.P.R. rooms are in view over the wide counters. The C.P.R. has always used a duplex wire to Montreal. To this equipment it is now adding quadruplex instruments, which make it possible at the same time, on one wire, to send 4 messages—2 simultaneously each way. All the operators in the C.P.R. office are expert typewriters, & the tables have been arranged for the use of either the pen or typewriter. In the rear of the respective operating rooms are the private offices of the Superintendent of the Cable Co., & the Manager of the C.P.R. Telegraphs. A portion of the basement floor is fitted up for the batteries, of which there are 500 cells of the gravity type. Adjoining this is the messengers' room. Another portion of this floor is used for the testing apparatus, etc., of the Cable Co. The wiring of the office was done by F. T. Jennings, Inspector of the Eastern Division C.P.R. Telegraphs, & is a very neat piece of work. Cables were used throughout. The new quarters are splendidly situated, are well lighted, airy & attractive, & by combining the three companies in what is practically one room, the interchange of business is greatly facilitated. The upper floors of the building are to be fitted up for Government offices.

At the annual convention of the Brotherhood of Railroad Telegraphers, which opens at Peoria, Ill., May 12, the C.P.R. telegraphers will have 9 representatives, & the G.T.R. 5. This will be the first time the G.T.R. men have been represented.

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MATCHES

Great Northwestern Telegraph Co.

Offices have been opened at Burketon, Ont., & Les Ecureuils, Que. The office at St. Scholastique, Que., has been closed.

An elevator is being installed in the Co.'s office in Montreal, where a number of handsome suites have recently been fitted up & are under lease to two or three steamship lines.

The Co. has appealed against the municipal tax on its poles in Quebec city, on the ground that the by-law imposing the tax is ultra vires, the corporation having no power to pass it.

The proposed extension of the Northern Pacific Ry. in Manitoba, over which the G. N. W. has exclusive working arrangements, will open up for the Co. some new territory, embracing several places of considerable importance west of Portage la Prairie. The telegraph line along the Souris River branch has been completed, & some half dozen places have been given telegraphic communication for the first time.

The wiring in the Head Office, Toronto, is being re-organized. At present all wires come in through the tower on top of the building & are brought from there through grooved boards to the switch. The change now being made is doing away entirely with the tower & grooved boards, the wires being brought in directly back of the switch where all lightning arrestors & other protectors against foreign currents will be placed.

The officials are congratulating themselves on the success of their service between Eastern Canada & Vancouver & Victoria, B.C. The time made on mining quotations between Toronto & Vancouver recently has been a feat of which they claim to be justly proud. Toronto mining quotations are being got through & delivered in Vancouver inside of 10 minutes, a service which they say it would be only possible to surpass on a direct wire between these points, which does not exist. The business of the Company between Eastern Canada & Vancouver is said to be making rapid strides.

The Commercial Cable Co.'s report for 1898 states that the net traffic earnings from cables & land lines increased \$107,409.83 over 1897. Out of the balance to the credit of revenue account there has been set aside \$350,000 as an addition to the reserve, & also \$100,000 to the fund for the insurance of stations, apparatus & repair steamer, & these sums will be invested in first-class securities. The reserve now amounts to \$3,037,103.43, & the insurance fund to \$200,000. During the year there have been issued \$2,000,000 4% 1st mortgage bonds. The proceeds have been partly expended in acquiring the property of the Pacific Postal Telegraph-Cable Co., & further extensions of land lines, thereby adding to the Co.'s land line system 3,449 miles of poles, 12,841 miles of wire, & 468 offices. After providing for all operating expenses & reserves, the balance of net revenue, including the amount brought forward from 1897, amounts to \$1,908,758.83, out of which have been paid interest on bonds & debenture stock \$704,296.48, & dividends & bonus on capital stock, \$800,000, leaving a balance of \$404,462.35, to be carried forward to the present year.

The Yukon Telegraph. It is said the telegraph construction party sent out by the Dominion Government has lost no time in getting to work on the line from Lake Bennett to Dawson, Yukon. At the end of April the poles were cut down as far as White Horse, & the wire will very soon be strung to Cariboo Crossing. Two camps are operating, one from Bennett, & one from Cariboo Crossing, but as soon as the lake & rivers open, the construction corps will be divided into three parts, the men living on camp scows, which will drop down the river, keeping abreast of the work. The materials & supplies will be delivered on scows. It is expected the line will be completed this year.

D. C. Corbin, of Spokane, Wash., D. Ross, of Greenwood, B.C., & others have a bill before the Dominion Parliament to incorporate the Northern Telegraph Co., with a capital of \$50,000 & head office at Greenwood. Power is asked to construct & operate lines in Yale & East & West Kootenay.

The Northern Commercial Telegraph Co. is applying to the Dominion Parliament for an Act amending its charter by providing that the majority of its directors need not be resident in Canada; that branch lines built by it shall not exceed 70 miles in length; & to increase its capital stock; & for other purposes.

Mr. Carter, an old time Canadian operator, tells an interesting story of his work with Edison 25 years ago. The two were working at Stratford, Ont., where Edison was station telegraph operator. There was a mistake in some order, & a collision was narrowly averted. Edison, in consequence, had to face the Superintendent at the old Union Station, Toronto, who rated him roundly for his "criminal carelessness." It was more than the young genius could stand, & quietly exclaiming that he had had enough, Edison slipped on his coat & then severed his connection with the Co. A short time ago Mr. Carter visited Edison at Jersey City, & the two laughed over the Stratford episode.—Canadian Electrical News.

A New York despatch of Apl. 26 says:—"The record for long distance practical telegraphing was broken yesterday by the Associated Press on its regular system of wires, leased from the Western Union Telegraph Co. A continuous circuit of 6,000 miles, reaching from New York city to the Pacific coast, & from Chicago to New Orleans, touching Philadelphia, Pittsburg, Cincinnati, Atlanta, Memphis, St. Louis, & Kansas City, Omaha, Denver, San Francisco & all the larger intermediate points south & west, was successfully worked for several hours. There were 41 operators copying from a sender in New York with newspapers being served directly from this one circuit in 38 of the leading cities of the U.S. Longer circuits have been worked for short periods, but as far as known yesterday's record has never been equalled considering the number of operators copying, the number of newspapers served, & the territory covered by the circuit."

TELEPHONE MATTERS.

Long Distance Transmission.

By J. H. Winfield, Eastern Superintendent
N. S. Telephone Co., New Glasgow, N.S.

Long distance work is every day becoming a more important factor in the telephone business, & toll lines, instead of (as a few years ago) being regarded as mere accessories to the city exchanges, are now recognized as absolute necessities. We are talking over longer distances almost every month. A few years ago 500 miles was considered quite a feat, to-day we have conversations carried on over 1,000 miles of wire with perfect ease. In view of this it may not be amiss to speak of a few of the difficulties that are encountered in the design, construction & operation of these long lines.

The apparatus used in making a toll line connection may be divided into three parts: 1. the line; 2. the instruments; 3. the switching apparatus. The chief factor in extending the talking limit, has been the improvement in the line. Grounded circuits of iron wire are now practically obsolete, the recognized standard being a metallic circuit of hard drawn copper wire, generally no. 10 B. & S., weighing 170 lbs to the mile, but sometimes for short distances of no. 12, weighing about 104 lbs to the mile. The New York & Chicago line is constructed of wire, weigh-

ing 435 lbs to the mile, but that is an exceptional case.

In speaking of the line I shall confine myself to the electrical rather than the mechanical difficulties that have been met with and overcome. Our object is to so construct the line & arrange the apparatus, that the sounds at the receiving end shall possess the following characteristics: loudness or volume; clearness; quality. Of these three clearness is by far the most important, for a faint sound, if clear, is perfectly intelligible, & a change in quality may only have the effect of disguising to some extent the speaker's voice. Volume is affected by any conditions which alter the amplitude of the wave.

Clearness is affected by any conditions which alter the position of the waves in regard to each other. Quality is affected by any conditions which alter the form of the wave. Therefore, the volume is reduced by resistance, leakage, static induction, & self-induction, the effect of these properties being to reduce the amplitude of the wave.

Clearness is reduced by static induction, & self-induction, these tending to alter the inter-relations of the waves; static induction causing a rounding off of the top of the wave, thereby involving a loss of sharpness, & both static induction & self-induction produce an unequal retardation of phase for vibrations of different periods, thus causing interference & a resulting deformed wave. In other words, the telephone current being an alternating current of a frequency varying from 200 to 1,500 periods a second, according to the sound produced, static induction & self-induction produce a greater retardation on the waves of high frequency than on the lower ones, thus mixing up the waves to some extent, & rendering the speech muffled.

Quality is changed by all the properties which reduce the clearness, & by self-induction in another sense as well, this effect of self-induction being to reduce the amplitude of the overtone waves to a greater extent than of waves of a longer period.

Evidently then, in order to accomplish good telephonic transmission of speech we must make the self-induction & electro static capacity of our line & apparatus as low as possible, resistance & leakage being of less importance, though of course they should not be lost sight of. A small & well distributed leakage is often an advantage, as it allows the static charges to escape, clearing the line & to some extent neutralizing the effect of capacity, the slight loss in volume being more than counter-balanced by the gain in clearness. When iron wire is used there is a much further deformation of the waves than is caused by the increased resistance, due to the fact, the wire is circularly magnetized & this magnetism has to be reversed twice in every vibration. There is also a considerable increase in self-induction due to the magnetic properties of the metal.

The self-induction of a copper metallic circuit of no. 10 or 12 wire is very small, but the self-induction of the apparatus which always forms part of a telephone circuit is sometimes very high & has a considerable effect on the current. Long distance lines would be particularly liable to disturbance from cross-talk if no means were taken to prevent it. There are two cases in which cross-talk will not be produced on a metallic circuit by a neighboring wire. The first is when the disturbing wire is at an equal distance from each of the wires of the metallic circuit. Were it always possible to string wires in this manner, there would be no trouble from cross-talk; but a little consideration will show that this is only possible for two circuits. The second method is known as transposing. The two wires of the metallic circuit are transposed at regular distances, or, in other words, they change places, A changing to the pin B was on & B going to the pin A was on, the effect being to

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" " \$3,000 " " "	7 00
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Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300 00	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	12,058 86	2,967 93	2 61	11.00
1883	2,210	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	59,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	24,604	181,846 79	283,967 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.40
1892	43,024	344,748 82	580,597 85	13 49	6.25
1893	54,484	392,185 93	858,857 89	15 76	5.47
1894	70,055	511,162 30	1,187,225 11	16 94	5.47
1895	86,521	685,000 18	1,560,733 46	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.50
1897	124,685	992,225 60	2,538,832 78	20 52	5.56
1898	144,000	1,176,125 14	3,186,370 36	22 12	5.67

For Further Information Respecting this Great Fraternal Benefit Society, Apply to

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James Marshall, 24 Charing Cross, London, Eng.

John A. McGillivray, Q.C., S.S., Toronto, Ont.

A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.

Or Any Officer or Member of the Order.

place each wire of the circuit at an average distance from the disturbing wire or wires. As the number of wires on a pole increases, the difficulty of planning the transpositions increases also. With two circuits it is an easy matter; if, however, we have a third & transpose it, the same as we did the second, there will be cross-talk from the second to the third, because their relations to each other are the same as if there had been no transpositions at all. To get over this difficulty we must transpose the third twice as often as we did the second. A fourth circuit may be transposed at the middle points of the third, & so on. It has not been found necessary to transpose each circuit so that the induction currents are exactly balanced, & it is possible to use the same transpositions for every second cross-arm, so that the 1st, 3rd & 5th are alike, also the 2nd, 4th & 6th. Transpositions are usually placed half a mile or a mile apart.

There has been very little change in the instruments in the past few years. The transmitter usually used is of the Hunnin's type, & is known as the solid back; it does its work remarkably well. Some of them require a little attention now & then on account of the packing of the carbon granules, but a judicious tap generally puts matters to rights. The ringer magnets of the call bells should be wound to a resistance of 1,000 ohms on long spools, bringing the wire close to the core, & thus giving them a high co-efficient of self-induction, which effectually prevents any shunting of the high frequency telephone, while allowing the ringing current to pass freely, the ringers being bridged across the circuit.

In order to connect a metallic circuit to a grounded line, what is known as a repeating coil or transformer must be used, otherwise the balance of the circuit would be destroyed and the line would become noisy. This piece of apparatus is nothing more than a specially made induction coil, the metallic circuit being connected to the primary & the grounded line to the secondary, the other end of the secondary being put to ground. In connecting together two metallic circuits through an intermediate office, the connections should be so arranged that the lines are directly connected, & the two transformers cut out; otherwise, as a transformer only has an efficiency of from 85 to 90%, there would be a serious loss in volume.

All apparatus at intermediate stations should be bridged across the lines & the parts that are permanently in connection should have a high self-induction in order to avoid shunting the telephone current when the line is being used to stations farther on. Ring off drops should be wound to 1,000 ohms resistance & also bridged. It is a good plan to use a tubular drop, as it not only increases the self-induction, but it also tends to prevent cross talk between the coils themselves, which is a frequent cause of disturbance and often not suspected.

Long distance lines should always be well equipped with protective devices. The best form for protection from lightning consists of two carbon blocks, separated by a thin sheet of perforated mica, one block being connected to line & the other to ground. These have proved very efficient & when properly installed generally prevent any damage to instruments or transformers. They also prove useful in another respect, as the static changes seem to find their way across from one plate to the other, clearing the line to a great extent. Many lines could be improved by a judicious use of these protectors at different points such as the way stations. A fuse is also generally inserted in order to prevent the entrance of heavy currents which might otherwise do considerable damage, when, as sometimes happens, an electric light or power wire comes in contact with the circuit.

In regard to the operation of toll lines, long

distance telephony is much more expensive than telegraphy, as may easily be seen when we consider that a single iron telegraph wire can easily transmit 40 messages an hour & when duplexed the number is doubled; whereas in the telephone work we have to use 2 wires & they must be of copper instead of iron, and even then under the best conditions it is hard to get more than 7 or 8 messages through in an hour. Add to this the fact that the sender of the message is aware of every minute of delay, & is usually very impatient when he has to wait a few minutes for the line, where in sending a telegram he just hands it in at the office & thinks no more about it even though the message may not be sent for half an hour or longer; & it is easily seen that not only must the telephone message cost more than a telegram, but the lines are apt to be choked with business during a few hours in the middle of the day & comparatively idle the rest of the time. A great deal can be done by keeping the subscribers posted in reference to the hours when the lines are rushed, & very often they can so arrange their business so that it will not come in the rush hours. They would thus save themselves the annoyance of having to wait for a connection & the lines would be worked more steadily.

The foregoing paper was read at a recent meeting of the Maritime Electrical Association in Halifax. In the discussion which followed Mr. Hamilton expressed surprise that telephone communication between cars on trains had not become more popular. Mr. Freeman stated that telephones were used for that purpose in Pennsylvania.

The Bell Telephone Company.

In the Ontario Divisional Court, May 3, in the case of *Bonn vs. Bell Tel. Co.*, Judges Boyd & Robertson gave judgment on motion by defendant to set aside verdict & judgment for plaintiffs in action for damages for injuries sustained by them, caused by the buggy in which they were driving coming in contact with a telephone pole planted in Main St., Wallaceburg, 14 ft. from the south limit of the street & leaving a passage way on the north of 22 ft. The Erie & Huron Ry. Co. had procured authority from the corporation to run its line over the town streets & subsequently made an agreement with defendant to use its wires, the defendant on its part to keep the poles in order, the pole, the cause of the accident, being placed there by it, the former one placed by the railway having worn out. Defendant contended that the pole was not an obstruction of the highway. The jury found that the public right was sensibly interfered with by the pole being placed where it was, & that it formed a place of danger, owing to the proximity of the railway track, which laterally encroached on a great part of the street. Held that the defendant had no right to use the streets without legislative sanction, either directly or indirectly, though the action of properly authorized municipal bodies & the right of the public was to have the whole width of the roadway preserved free from obstructions, & it is not confined to that part which is used as the *via trita*. The effect of Canadian legislation is to legalize the obstruction created by the poles so far that they cannot be abated or complained of as a public nuisance, but the defendant may be liable for particular injury to a traveller if the obstruction is found to be dangerous, as in this case. Motion dismissed with costs.

Wm. Quinn, of Lindsay, has been appointed Manager of the Co.'s branches at Port Hope & Cobourg, Ont.

The Co. has decided to place its wires on Main St. & Portage Avenue, Winnipeg, under ground, as asphalt pavements are to be laid shortly.

Underground conduit cables & wires are

being placed in a number of additional streets in Toronto. Similar work is being done in Hamilton.

A plan to prevent non-subscribers using telephones without paying is being introduced in Montreal. The number of people who use other people's 'phones throughout the city, particularly those in the drug stores, during the course of the year, would doubtless number thousands. Druggists & most store-keepers are usually repaid for the use of their telephones by the popularity which they suppose it attaches to their stores & some of them have provided an extra 'phone with a switch, so that it can be placed in a convenient position for the use of their customers in particular & the public generally. Lots of places in Montreal have 50 to 100 people a day use their 'phones in that way, & the Bell Co. has been seeking for a plan to derive some financial benefit from the telephone borrower. The new system will be distinct from the ordinary telephone in the store, having no connection therewith. The person who desires to use the instrument will call up Central, when he will be requested to put 5c. in the slot & the required number will be called. If the person desiring to speak does as requested an indicator before Central will signal that the money has been deposited & everything will be all right, but if no money goes in the slot that ends the matter so far as Central is concerned. Central will be supposed to keep a strict watch on all private 'phones where a slot one is available to see that no one but those who are entitled to use it are permitted to do so. The girls in the exchange will become so well acquainted with the voices of those who ordinarily operate them that it will be easy in most of the cases for them to detect who should & who should not use the various instruments. Among the advantages of this scheme is that people who cannot afford to keep a telephone will be able to use a convenient one without being under an obligation to any person. Another advantage is that druggists & others who have telephones will be saved a great deal of inconvenience.

In the recent case of *Atkinson & others vs. the Bell Co.*, before Judge Ferguson, in Toronto, it was shown that the Co. had planted a pole on a street 66 feet wide under the superintendence & with the sanction of the Corporation & by agreement. The pole was 12 feet from the centre line & near an angle formed by a sharp turn in the street & far enough from the sidewalk to allow a beaten track for carriages to pass. The plaintiffs were driving a sleigh to which were attached a team of horses, along the street in daylight, when the driver lost control at some distance from the angle & the sleigh was dashed against the pole by which it, the horses & one of the occupants were injured. The Judge held the plaintiffs should recover. That the pole was an obstruction & defendant had notice & knowledge of it & of its dangerous character. That the fact that the team of horses had once before run away would not help defendant & that the Corporation could not recover from the Telephone Co.

After negotiations extending over 2 years, during which the Co. has paid nothing for a franchise in Brantford, Ont., the city has granted it an exclusive franchise for 5 years for \$450 a year.

The Co. will put up a copper-metallic line between Ottawa & Arnprior, Ont.

Telephone Items.

It is proposed to convert the Nicola, B.C., telegraph line into a telephone line.

The Pontiac Telephone Co. recently offered for sale its rights & plant, including about 60 miles of line.

A bill to enable towns of 1,000 people & over to acquire & operate electric light & telephone

plant for public service, is before the Manitoba Legislature.

The Inverness & Victoria Telephone Co. has about completed its lines between Baddeck, Little Narrows, Margaree, Orangedale & Whycomagh, N.S.

The New Westminster & Burrard Inlet Telephone Co. has decided to string an additional wire between Vancouver & Westminster, B.C., & from Westminster to Steveston.

A London cablegram of Apl. 5 says: "The story reaches here that during the recent violent storm, the telephone wires between Brussels & the suburb of Ixelles being broken & communication interrupted, it was suggested that telephoning without wires be attempted. This was tried, with satisfactory results, & since then the inhabitants of Ixelles have been telephoning to Brussels with the greatest ease. Electric experts here more than doubt the story so seriously set forth. Telephoning demands conditions so different from those requisite for telegraphing that they declare telephony without wires is practically impossible."

A Kingston, Ont., despatch says: "A. T. Smith, District Superintendent of the Bell Telephone Co. at Kingston, has invented special instruments of unique design for communication between the attendants on the surface and the diver at the bottom of the river, where he is engaged in the work of raising the Cornwall bridge. The ordinary diving apparatus has been dispensed with, & supplemented by special diving bells, so constructed as to withstand the pressure of the current. They are also protected by heavy metal shields. The telephone is put inside the bell, & electric alarms give the signal when either party desires to converse. Anybody can operate the ingenious mechanism."

H. W. Kent, Superintendent of the Nelson & Vernon Telephone Co., which owns & operates all the lines in Kootenay & Yale, B.C., states that from Bossburg to Spokane the line is but a single wire, grounded, which is owned by the Spokane & B. C. Telephone Co. This

does not give very satisfactory service, although the Nelson & Vernon part of the line north of the International boundary is a metallic circuit. The Inland Co., however, owning the exchange in Spokane, Wash., has built a metallic circuit to Rossland, is now building to Republic & will build from Bossburg to Russell, at the boundary, shortly. When this is done, the Nelson & Vernon Co. will have all its connections with the Inland Co., & will have a metallic circuit throughout. It is believed this will give a satisfactory service. In the meantime, the Columbia Telephone & Telegraph Co., a subsidiary flotation of the Spokane & B. C. Co., has let a contract for the poles for a line to parallel the present Nelson & Vernon line into Greenwood, & also, it is stated, to go on to Camp McKinney. Whether all these lines will be built this year remains to be seen. But the chances are that some of the contracts will go through, & that the whole Boundary Creek country will have a greatly improved telephone service.

Among the Express Companies.

The Western has notified agents to discontinue issuing money orders payable at Havana, Cuba.

From May 1, during navigation on the St. Lawrence, all matter for Europe will be routed via Montreal.

The Dominion has opened offices at Dunmore Jct., Assa., Fort Steele, B.C., Cowan, Man., Ethelbert, Man., Garland, Man., Pine River, Man., Sclater, Man.

Capt. J. Irving, formerly manager of the Canadian Pacific Navigation Co. is said to be organizing in Victoria, B.C., the Irving Express Co., for the quick handling of goods to the Atlin district.

The B. C. Ex. Co. has issued a folder with a map and time-table of the route travelled by its stages which carry the mail from Ashcroft to all points in Cariboo & Lillooet besides passengers & express. The head office is at Ashcroft; J. A. Bremner is Secretary-Treasurer.

General Manager Stout, of the Dominion & Western, left Toronto May 10 on an inspection trip to the Pacific Coast. He is accompanied by Superintendents Stewart, Boswell, & Ford, Auditor Burr & Tariff Clerk Meyer, of the Dominion, & by Superintendent S. A. Davis, of the Western.

Live stock cannot be shipped from a point located within the Northwest Territories to any point outside the Territories, without first obtaining a certificate from an inspector of brands, setting forth that he has made an inspection of stock & recorded the age, sex, brands & marks of every head of such stock.

The B. C. Express Co. does not allow examination of shipments sent c.o.d. until full amount of c.o.d. & all accrued charges are paid, except c.o.d. shipments destined to Barkerville, Clinton, Lillooet, Quesnelle & Soda Creek, B.C. All packages destined to offices of that Co. should be enclosed in oilcloth or other strong or waterproof coverings, as a protection against rains.

The Canadian laws require importers of cattle, sheep & swine to produce a declaration stating that they are intended for breeding purposes only, and that there is no disease existing among the animals in the particular locality from which they come. The following are the declared cattle quarantine stations: Halifax, N.S., St. John, N.B., Quebec (Levis) Que., Point Edward (Sarnia) Ont., Emerson, Man., Estevan, Assa., Huntingdon, B.C., New Westminster, B.C., Vancouver, B.C., Victoria, B.C.

The Dominion has opened a wagon route between Fort Steele Jct. & Fort Steele, B.C. The following routes have been opened: Kootenay Lake Steamboat Route, between Nelson & Kootenay Landing, B.C.; Rainy River Navigation Co., between Rat Portage & Fort Frances, Ont.; Toronto, Port Dalhousie & St. Catharines Steamboat Line, between Toronto & St. Catharines, Ont., re-opened for season of navigation; Bay of Quinte Navigation Co., re-opened for season of navigation; Navigation on Georgian Bay re-opened for summer season.

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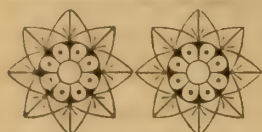
The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Steamship, Express, Telegraph & Telephone supplies, &c.

Accident Insurance Canadian Ry. Accident Ins. Co. Ottawa, Ont. Travelers' Insurance Co. Montreal.	Foghorns Rice Lewis & Son. Toronto.	Shafting Rice Lewis & Son. Toronto.
Aerated Waters E. L. Drewry. Winnipeg.	Forgings Rhodes, Curry & Co. Amherst, N.S.	Shipbuilders' Supplies Rice Lewis & Son. Toronto.
Air Brakes & Fittings Westinghouse Mfg. Co. Hamilton, Ont.	Gates Page Wire Fence Co. Walkerville, Ont.	Ship Carpenters' Tools Rice Lewis & Son. Toronto.
Ales E. L. Drewry. Winnipeg.	General Supplies The Hudson's Bay Company.	Ships Polson Iron Works. Toronto.
Aluminum Rice Lewis & Son. Toronto.	Grease Eureka Min. Wool & Asbestos Co. Toronto.	Shovels Rice Lewis & Son. Toronto. The Hudson's Bay Company.
Anchors Rice Lewis & Son. Toronto.	Groceries The Hudson's Bay Company.	Signal House Numbers Acton Burrows Co. Toronto.
Anti-Friction Metal Canada Metal Co. Toronto.	Half Tones Acton Burrows Co. Toronto.	Signals Noah L. Piper & Sons. Toronto.
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Babbit Canada Metal Co. Toronto. Rice Lewis & Son. Toronto.	Hose Rice Lewis & Son. Toronto.	Solder Canada Metal Co. Toronto.
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Carpets The Hudson's Bay Company.	Numbers Acton Burrows Co. Toronto.	Toilet Paper Rice Lewis & Son. Toronto. The Hudson's Bay Company.
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Car Wheels Rhodes, Curry & Co. Amherst, N.S.	Oils Eureka Min. Wool & Asbestos Co. Toronto. Galena Oil Co. Franklin, Pa.	Track Jacks Duff Manufacturing Co. Allegheny, Pa.
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Chains Rice Lewis & Son. Toronto.	Packing Eureka Min. Wool & Asbestos Co. Toronto.	Trucks Rice Lewis & Son. Toronto.
Curtains The Hudson's Bay Company.	Pipe Rice Lewis & Son. Toronto.	Uniform Caps W. H. Coddington. Hamilton, Ont.
Cuts Acton Burrows Co. Toronto.	Pipe Covering Eureka Min. Wool & Asbestos Co. Toronto. Mica Boiler Covering Co. Toronto.	Valves Rice Lewis & Son. Toronto.
Door Signs Acton Burrows Co. Toronto.	Plushes Lister & Co. Manningham, Eng. The Hudson's Bay Company.	Varnishes McCaskill, Dougall & Co. Montreal.
Dry Goods The Hudson's Bay Company.	Porter E. L. Drewry. Winnipeg.	Vessels Polson Iron Works. Toronto.
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Central Vermont Reorganization.

A special general meeting of proprietors of the Grand Trunk was held in London, Eng., May 29th, to approve an agreement made May 1 between the Co. & the Central Vermont Ry. Co. for working arrangements between the two companies for 22 years. The notice of the meeting gave the following particulars: The C.V. system forms the chief connection of the G.T. Co. with Boston & the New England States. In 1895, for the protection of the interests of the G.T. Co., & also on account of its valuable traffic relations with the C.V. R.R. Co., it was found necessary in conjunction with E. C. Smith, the President, to apply to the courts for a receivership of that Co., & C. M. Hays & Mr. Smith were appointed Joint Receivers. The President of the G. T., when in Canada in Aug., 1897, arranged with a committee of C. V. bondholders a plan for placing that Co. on a sound financial footing, & after prolonged & anxious negotiations, the reorganization of the Co. has been completed, & unencumbered by unprofitable leases, it has been incorporated by the laws of the State of Vermont under the title of the Central Vermont Ry. Co. The capital of the reorganized Co. consists of \$3,000,000 common stock, & \$12,000,000 twenty-one-year 1st mortgage bonds bearing 4% interest. Of these bonds \$1,000,000 will be set apart & applied as required for improvements in the property, & the remainder will be issued by the C.V.R. Co. in exchange for the bonds & in the payment of certain liens, charges & equities upon the property of the old C. V.R. Co. The G.T. Co. will receive \$1,186,000 of the said 4% bonds; \$435,000 being in payment of that amount of traffic balances due by the C.V.R.R. Co. at the date of the receivership, & the remaining \$751,000 on account of investments made by the G.T. Co., in the securities of the C.V.R.R. Co. The G.T. Co. will also receive \$2,180,000 of the common stock of the reorganized company. In consideration of this settlement the agreement provides for the interchange of traffic between the two companies to continue during the currency of the 4% mortgage bonds, the G.T. Co. undertaking, in the event of the net receipts of the C.V. Co., as defined in the agreement, being in any year insufficient to meet the interest on such bonds as may from time to time be outstanding, to make good such deficiency, provided that the G.T. liability payable in any year shall not exceed 30% of its share of the gross earnings from traffic interchanged between the two companies.

In moving a resolution approving the agreement Sir C. Rivers Wilson detailed at length the history of the C.V., which was

chartered in 1843, opened in 1849, & gradually grew by extensions & by the acquisition of leased lines to 772 miles. When the G.T. management changed in 1895 it was found that the previous board, rightly appreciating the importance of the G.T. having a connection with the C.V., & securing access to Boston, had in 1883 begun to purchase a considerable amount of C.V. securities. By 1885 the G.T. had \$1,768,000 of securities, comprising \$751,300 of 1st mortgage bonds, \$114,775 of notes given by the C.V. on account of traffic balances & preferred & common stock amounting to \$902,000, which though a large majority of the stock did not

decided to put it into the hands of receivers as explained in the notice of the meeting. In Jan., 1897, there was default on the bonds & foreclosure followed. Negotiations with the bondholders followed, a new company was chartered & took over the line on May 1, making with the G.T. Co. the agreement under consideration. The G.T. Co. has a majority of the stock & a controlling influence in the new company. Several of the unproductive leased lines have been surrendered, reducing the system to about 470 miles. The main line has a few branches, some of which have been acquired by purchase by means of issue of bonds. Three small lines,

aggregating 77 miles, for which \$90,000 a year rental was paid, have been secured for \$1,000,000, saving \$50,000 a year. Judging by results while in the receivers' hands it is estimated there will be a very considerable surplus over the fixed charges, admitting, it is hoped, of something material for the common stock. The line had been worked in interests which were not those of the G.T. Henceforth it would be run on a business basis, & the undue extravagance of the past would be stopped. The President warmly commended Mr. Hays' services in connection with the reorganization, & referred approvingly to the appointment of E. H. Fitzhugh as Vice-President & General Manager, & to that of G. B. Reeve as Traffic Manager. The agreement was unanimously approved of.

Quebec Central Railway Co.

At the annual meeting in London, Eng., June 5, the President, E. Dent, said:—"The gross earnings for 1898 were \$450,249, against \$457,643 for 1897, a decrease of \$7,394. The working expenses were \$303,908, against \$309,555 for 1897. The net earnings were \$146,341, against \$148,088 for 1897, to which is added \$1,013 for interest earned, making total net earnings \$147,354. After paying \$85,166 for interest on prior lien bonds & writing off \$5,863 for settlement of some old claims, there remains a net balance of \$56,325, which, added to the \$13,450 brought forward from 1897, makes an available balance of \$69,775, out of which a dividend of 1 1/2% has been declared on the income bonds, leaving a balance to carry over of \$12,203. The percentage of working expenses was 69.24, against 69.64 for 1897. The decrease in the gross earnings was due mostly to the falling off in the lumber traffic to the U. S. It was known at the close of 1896 that on July, 1897, there would be a duty of \$2 upon every 1,000 ft. of lumber sent to the States from Canada, & the consequence was that owners sent every ton they could during the first 6 months of 1897. The traffic, therefore, for the first 6



DAVID MCNICOLL,

Assistant General Manager, Canadian Pacific Railway.

give the G.T. control, as the Vermont Legislature passed an act prohibiting any holder of stock, no matter how large the holding, to have more than one-tenth voice in the meetings of the Co. In 1895 the C.V. had an issue of \$7,000,000 1st mortgage bonds, an indebtedness of about \$360,000 equipment bonds, a floating debt of about \$2,000,000 & a 2nd mortgage of \$15,000,000, made to extinguish liabilities, but only partly issued. There was a liability of \$900,000 a year for leased lines, many of which were unproductive & traffic balances of \$400,000 due to the G.T.R. The C.V. Co. being practically bankrupt, it was

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NEXT ANNUAL MEETING at Toronto, Sep. 20, 1899.

Canadian Ticket Agents' Association.

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PRESIDENT, G. Duncan, Quebec; 3rd VICE-PRESIDENT,
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Hooke, London, Ont.; AUDITOR, S. H. Palmer, St.
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Hamilton, Ont.; T. Long, Port Hope, Ont.; A. Calder,
Windsor.

NEXT ANNUAL MEETING at Winnipeg, Oct. 13, 1899.

Canadian Marine Engineers' Association.

HONORARY PRESIDENT, O. P. St. John, Toronto;
PRES., H. Parker, Toronto; 1st VICE-PRES., A. J. Wood-
ward, Toronto; 2nd VICE-PRES., D. F. Campbell, To-
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ston.

TREASURER, H. Brownley, Toronto; SECRETARY, S.
A. Mills, Toronto; GUARD, H. Bowler, Toronto; AUDI-
TORS, D. L. Foley, Toronto; E. J. O'Dell, Owen Sound.

months of 1898 compared unfavorably with
the corresponding period of 1897. It is satis-
factory to know that from August onwards,
when the traffic compared with what may be
called the normal traffic, increases were again
shown. The Manager says that generally,
with the exception of lumber shipments to the
U. S., business has been good, trade in a
healthy condition, & the prospects for the
future encouraging. He has sent a telegram
announcing the earnings up to the end of
May this year, which were \$168,512, an in-
crease over the corresponding period of \$29,-
069. The net earnings for the same period
were \$50,824, an increase over those of the
corresponding period of \$8,168. He ends his
telegram by saying, 'The outlook is good.'

The report was adopted, & the retiring
directors, other than the Provincial Govern-
ment one, were re-elected. Special meetings
of the prior lien bondholders, income bond-
holders & shareholders were afterwards held
to approve the Act obtained from the Quebec
Legislature for the purpose of rearranging
the bonded debt of the Co.

The President stated that by the Act the prior
lien bonds would be repayable at par Feb. 1,
1908, and that it authorized the creation of first
debenture stock bearing interest not exceed-
ing 4% per annum, the total interest upon which
shall not exceed an annual sum of £20,000.
It was proposed to offer now to the holders
for their 5% prior lien bonds 4% 1st debenture
stock at par, exchangeable up to Aug. 1, 1899,
& to pay in cash £3 as a bonus, besides £2,-
10s. for the ½ yearly coupon due on that
date. For the past two years the net revenue
of the Co. had exceeded £30,000 a year,
being £10,000 or 50% more than the interest
on the total amount of 1st debenture stock
which the directors were enabled by the Act
to issue. Assuming that the future net
revenue continued at the present rate of
£30,000, there should be a surplus of about
£15,000, or sufficient to pay increased inter-
est on the income bonds. The directors were
authorized to exercise the power conferred
by the Act.

General Manager Grundy states that the
shipments of dairy produce over the line are
increasing rapidly. The shipments of butter
& cheese for export to Great Britain
amounted in 1898 to nearly 3,800 tons, an
increase of 400 tons over 1897. The ship-
ments of asbestos show an increase, while
those of chrome ore show a reduction of some
600 tons.

Traffic receipts for May, \$42,127.44; in-
crease over May, '98, \$358.92. Receipts
Jan. 1 to May 31, \$168,511.60; increase over
corresponding period \$9,825.53. There is a
variation between these figures & those at-
tributed to the Chairman above, which is
probably owing to an error in reporting.

Michigan Central Railway.

The annual report of this Co.'s subsidiary,
the Canada Southern, for 1898, just issued,
shows that the Co. has 457.30 miles of 1st
track, 97.56 of 2nd track & 238.06 miles of
sidings, which does not include the 15 miles
of the London & Port Stanley, over which its
trains run between St. Thomas & London,
Ont. The financial statement is as follows:

RESOURCES OF THE YEAR 1898.

Net earnings...	\$300,666.69
Received from M. C. R. R. Co.	
balance of 1897 account...	132,244.07
Receipts from other sources...	1,859.12
Cash & cash assets, Dec. 31,	
1897.....	24,241.95
	<hr/>
	\$459,011.83

DISPOSITION OF RESOURCES.

Dividends 26 & 27, paid Feb. 1	
& Aug. 1, 1898.....	\$300,000.00

Balance net earnings, 1898, due	
from M. C. R. R. Co.....	150,666.69
Cash & cash assets, Dec. 31,	
1898.....	8,345.14
	<hr/>
	\$459,011.83

The annual meetings of the C. S. & other
subsidiary companies were held at St. Thomas,
June 7, when the following directors were
elected:

CANADA SOUTHERN RY.—C. Vanderbilt, W.
K. Vanderbilt, C. M. Depew, S. F. Barger,
E. A. Wickes, J. E. Brown, C. F. Cox, New
York; H. B. Ledyard, Detroit; N. Kings-
mill, Toronto.

LEAMINGTON & ST. CLAIR RY.—C. Vander-
bilt, W. K. Vanderbilt, C. M. Depew, C. F.
Cox, New York; N. Kingsmill, J. J. Kings-
mill, Toronto; James Ross, Montreal.

NIAGARA GRAND ISLAND BRIDGE.—C. Van-
derbilt, W. K. Vanderbilt, C. M. Depew, S.
F. Barger, E. A. Wickes, E. D. Worcester,
C. F. Cox, New York; H. B. Ledyard, De-
troit; N. Kingsmill, Toronto.

NIAGARA RIVER BRIDGE.—C. Vanderbilt,
W. K. Vanderbilt, C. M. Depew, S. F. Barger,
E. A. Wickes, E. D. Worcester, C. F. Cox,
New York; H. B. Ledyard, Detroit; N.
Kingsmill, Toronto.

SARNIA, CHATHAM & ERIE RY.—C. Vander-
bilt, W. K. Vanderbilt, C. M. Depew, C. F.
Cox, New York; N. Kingsmill, Toronto.

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings sup-
plied from the Montreal office, includes the
G.T. of Canada, the Chicago & G.T., & the
Detroit, Grand Haven & Milwaukee Rys.:

	1899	1898	Increase	Decrease
Jan.....	\$1,956,281	\$1,916,332	.....	\$39,949
Feb.....	1,824,434	1,674,453	.....	149,981
Mar....	2,186,359	2,048,970	.....	137,389
April....	1,942,543	1,918,477	.....	\$24,066
May....	2,039,239	1,940,980	.....	98,259
	<hr/>	<hr/>		
	\$9,948,856	\$9,499,212	.....	\$449,644

The following figures are issued from the
London, Eng., office:

GRAND TRUNK RAILWAY.

Revenue statement for Apl., 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£321,700	£318,000	£3,700	.....
Working expenses.	205,700	203,902	1,798	.....
Net profit.....	£116,000	£114,098	£1,902	.....

Aggregate for 4 months, from Jan. 1 to
Apl. 30, 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£1,288,900	£1,238,006	£50,894	.....
Working expenses	893,900	877,955	15,945	.....
Net profit.....	£395,000	£360,051	£34,949	.....

CHICAGO & GRAND TRUNK RAILWAY.

Revenue statement for Apl., 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£62,600	£61,280	£1,320	.....
Working expenses.	56,400	49,754	6,646	.....
Net profit.....	£ 6,200	£11,526	£7,966	£5,326

Aggregate for 4 months, from Jan. 1 to
Apl. 30, 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£279,700	£255,331	£24,369	.....
Working expenses.	234,800	205,095	29,705	.....
Net profit.....	£44,900	£50,236	.....	£5,336

DETROIT, GRAND HAVEN & MILWAUKEE RY.

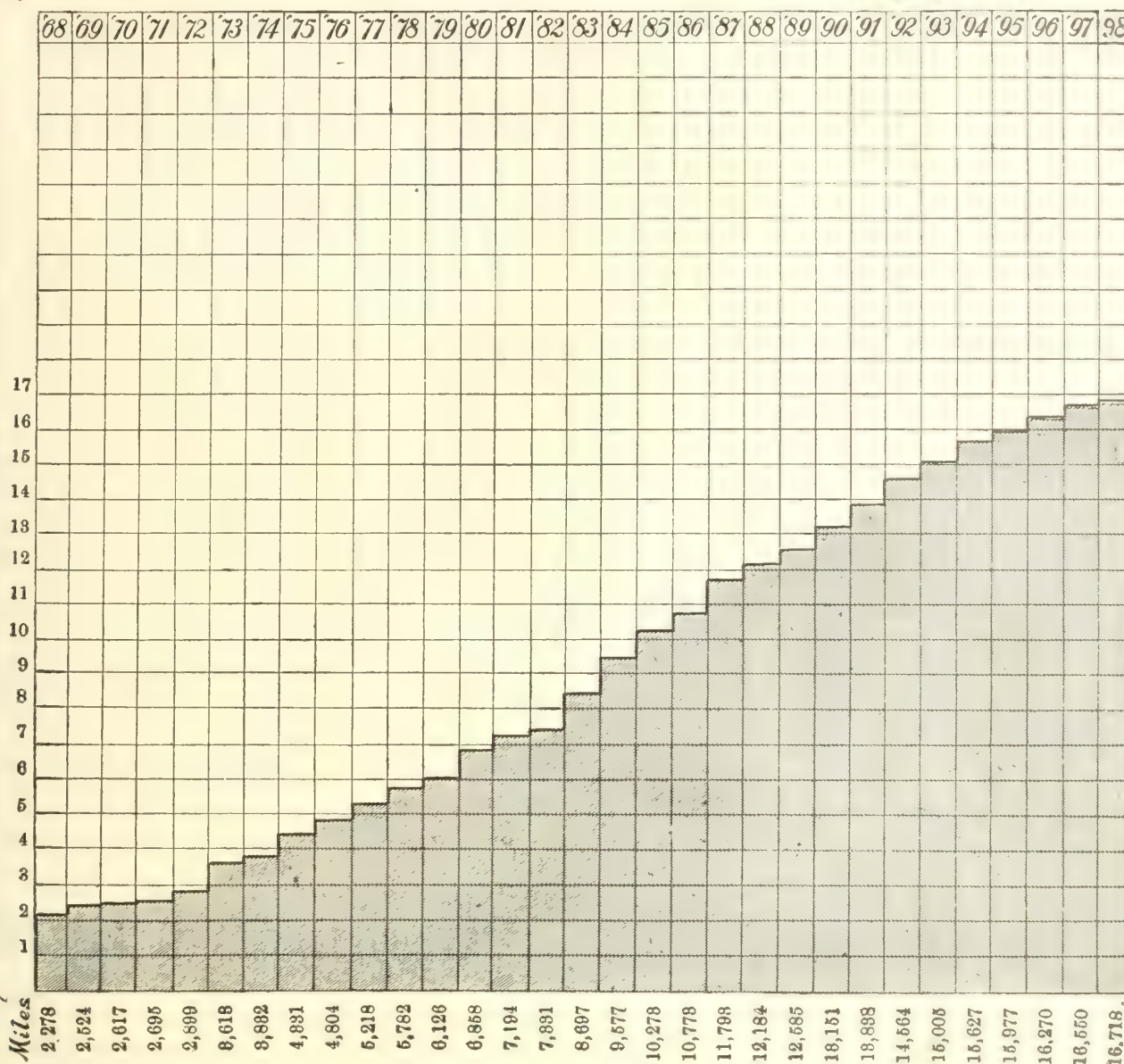
Revenue statement for Apl., 1899.

	1899	1898	Increase	Decrease
Gross receipts....	£14,700	£14,926	.....	£ 226
Working expenses.	12,300	10,910	£1,390	.....
Net profit.....	£2,400	£4,016	.....	£1,616

Aggregate for 4 months, from Jan. 1 to
Apl. 30, 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£56,400	£59,434	£3,034
Working expenses..	49,500	48,890	610
Net profit.....	£6,900	£10,544	£3,644

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DETAILS OF G.T.R. RECEIPTS JAN. 1 TO APR. 30.

	1898.	1898.
Passengers, number	1,728,569	1,849,755
amount	£ 298,071	£ 278,525
Immigrants, number	1,723	1,851
amount	£ 793	£ 892
Mails, express, &c.	£ 56,302	£ 56,158
Freight, tons	3,211,253	3,104,099
amount	£ 889,591	£ 873,598
Miscellaneous receipts	£ 43,355	£ 28,938
Total receipts	£ 1,289,012	£ 1,238,126
Increase	£ 50,886	

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, Jan. 1 to May 31.

	1899.	1898.	In- crease.	De- crease.
Grand Trunk	£1,633,350	£1,561,058	£72,292	
Chicago & G.T.	338,985	317,092	21,893	
D., G. H. & M.	71,952	73,749		£1,788
Total	£2,044,285	£1,952,900	£91,385	

C.P.R. Earnings & Expenses.

Gross earnings, working expenses, net profit and increases or decreases over 1898, from Jan. 1, 1899.

	Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan.	\$1,804,570.36	\$1,247,096.50	\$557,473.86	\$101,000.00
Feb.	1,754,382.82	1,154,081.34	600,301.48	179,034.12
Mar.	2,109,667.58	1,280,772.01	828,895.57	75,662.06+
Apr.	2,196,112.10	1,276,008.91	920,103.19	203,207.80+
	\$7,923,933.16	\$4,957,498.76	\$2,966,434.40	\$556,815.25+
				+ Increase.

Approximate earnings for May, \$2,375,000, against \$2,229,000 in May, 1898; increase, \$146,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—Approximate earnings for May, \$204,182; increase over May, 1898, \$31,091.

Net earnings for March, \$53,385, increase over March, 1898, \$3,609.

MINERAL RANGE, HANCOCK & CALUMET.—Approximate earnings for May, \$36,589; increase over May, 1898, \$7,458.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Approximate earnings for May, \$337,765; increase over May, 1898, \$2,078.

Net earnings, 9 months, to Mar. 31, \$164,396.45. April gross earnings, \$348,912.97; expenses, \$184,516.52; net, \$164,396.45.

Canadian Pacific Railway Land Sales.

	Acres.	Amount.
Jan.	11,708	\$19,411.35
Feb.	13,747	43,371.00
Mar.	24,045	74,430.00
Apr.	36,626	110,285.00
May	57,573	137,835.00
	128,709	\$275,331.35

RAILWAY FINANCE, MEETINGS, &c.

Calgary & Edmonton net earnings for Apr. \$9,482.89, against \$25,721.96 for Apr. '98.

The Cassiar Central Ry. Co. gives notice that a power of attorney given by it to E. D. Self, of the District of Cassiar, B.C., May 10, 1898, has been revoked.

Canadian Pacific.—Last month the Co. offered for subscription in London, Eng., at £196 per bond of \$1,000, an issue of \$3,500,000 4% 2nd mortgage 50-year gold bonds of the Minneapolis, St. Paul & Sault Ste. Marie Ry., the interest on which is guaranteed unconditionally by the C.P. Co., & which is payable in gold in New York, or by the C.P. Co. in London, at the fixed exchange of 4s. 1½d. per dollar, less income tax. The prospectus announced that the total amount of bonds secured by the 2nd mortgage is \$5,000,000, of which only \$3,500,000 will be certified at present by the trustees & delivered to the M. St. P. & S. Ste. M.R. Co., to be disposed of. The remaining bonds to the par value of \$1,500,000 will only be certified by the trustees, & delivered by them from time to time in such amounts as the C.P. Co. may approve in writing. The agreement between the C.P. Co. & the M. St. P. & S. Ste. M. Co. provides that the proceeds of the bonds shall be applied for terminal yards & facilities at

Minneapolis, reconstruction bridges, & general additions & improvements, redemption of interest-bearing securities coming due for payments on accounts of rolling stock equipment (mainly mortgaged), for additional equipment, & for payment of floating debt incurred for additions & improvements to the property. The cases were opened in London May 15 & closed May 16. Speaking of it the Canadian Gazette says: "By this issue the 'Soo' Co. will clear off all capital engagements, & have the means of providing the additional facilities of business which the prevailing activity has shown to be necessary, while its surplus revenue will at the same time be set free for dividend or reserve purposes. The C.P. Co. is to be congratulated upon having thus got its important connection into a secure situation."

The Chignecto Marine Transport Ry. Co.'s annual meeting was held in London, Eng., June 3. The Chairman stated the meeting was purely formal, there being no accounts to present. Negotiations were being followed up, but the reply of the Canadian Government was not altogether of a satisfactory character. A. D. Provand, M.P., said he went to Ottawa in Oct. last, saw the Premier, & arranged to make proposals for a settlement. These were submitted by letter in Jan., and the reply recently received was very unsatisfactory. The matter could not be dealt with at the shareholders' meeting, because all the questions relating to the negotiations had been considered at a joint meeting of debenture-holders & shareholders. The correspondence would be printed & circulated. The Chairman said the works had been kept in constant repair, money advanced from various sources, chiefly by debenture-holders, having been used therefor.

Duluth, South Shore & Atlantic.—At a meeting of stockholders, June 1, Lord Strath-

cona & R. B. Angus, Montreal, were elected directors.

Dominion Atlantic receipts for Apl., \$45,179 increase over Apl., '98, \$4,453. Four months to Apl. 30, \$156,367, increase over corresponding period \$15,429.

Manitoba & Northwestern.—On May 31 the General Manager issued a circular stating that the Co. hoped to be in a position very shortly thereafter to settle the outstanding working expense claims contracted prior to the appointment of the Receiver on June 7, 1893, & requesting statements of claims from creditors.

The trustees of the 1st mortgage bondholders announce that, having received a refund of certain expenses originally debited against the trustees, the distribution announced in the notice of May 29 will be increased from £3 10s. 6d. to £3 12s. per bond in respect of the proceeds of the sale of land warrants & rights to land.

Minneapolis, St. Paul, & St. Ste. Marie.—

At the annual meeting in Minneapolis, June 6, the following were elected directors: T. Lowry, J. Martin, W. D. Washburn, J. S. Pillsbury, Sir Wm. Van Horne, T. G. Shaughnessy, C. H. Pettit, F. H. Peavy, W. B. Dean, W. H. Bradley, R. B. Angus. The old officers were re-elected.

The Ontario & Rainy River Ry. Co.'s bill, empowering it to buy the Port Arthur, Duluth & Western Ry., has passed the Railway Committee at Ottawa, having been amended so as to protect the creditors & to protect the town of Port Arthur, which gave a bonus of \$25,000 in consideration of the terminals & shops being located there.

Port Arthur, Duluth & Western.—D. F. Burke, Port Arthur, has taken action against this Co., the Toronto General Trusts Co., as executor of the late John Leys, of Toronto,

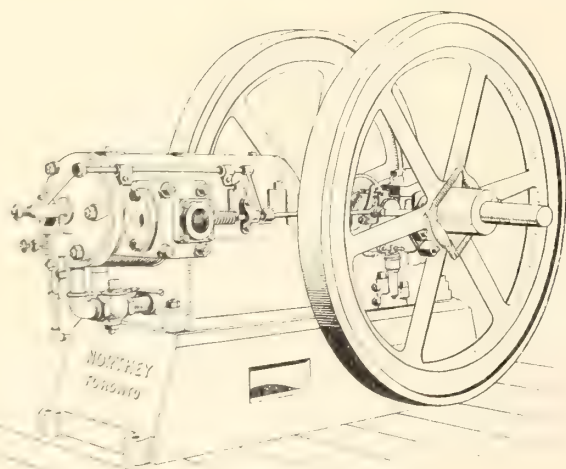
& several mortgagees of the Co. Mr. Burke, who is one of the biggest bondholders of the Co., claims \$62,556 for moneys advanced & for services rendered to the Co. He asks for \$155,000 worth of bonds which he claims to own, or a declaration that the Toronto General Trusts Co. holds them as trustee for him. As a creditor, shareholder & bondholder, he sues to set aside a consent judgment entered in an action on Feb. 14 last, which amounted to an agreement between the bondholders to sell the road, on the ground that it was obtained by fraud & misrepresentation, that the Ry. Co. had no power to give a consent judgment, & that the court had no jurisdiction to direct a sale of the road under the statute. Mr. Burke also attacks the mortgage, holding that it covers property which the Co. had no power to mortgage, its powers of mortgaging its assets being expressly limited by statute. He asks that the mortgage be set aside in so far as the power of sale was given, & in so far as the mortgage purports to cover the property & assets of the Co. other than the undertaking as defined by the statute of incorporation. He also asks for an order restraining defendants from selling the railway, for an account of the dealings with the railway, for damages for the alleged fraudulent dealings with the railway through which he claims to have sustained loss, or in the alternative he asks the court to set aside the whole issue of bonds by the Ry. Co. to its co-defendants, on the ground that it was obtained by fraud & misrepresentation.

Pembroke Southern.—A mortgage given by this Co. Mar. 20 last, to the Ottawa Trust & Deposit Co., as trustee, to secure an issue of bonds, has been deposited with the Provincial Secretary, Toronto.

Qu'Appelle, Long Lake & Saskatchewan net earnings for Apl. \$2,371.66, as against net loss of \$677.99 in Apl. '98.

The Northey Gas or Gasoline Engine.

In Connection with Pumping Machinery for Tank Duty.



"BUILT FOR HARD WORK."

Railway Officials will find the Northey Engine to be a marked improvement over steam or other forms of power for this duty. It is simple of construction, and easily managed, necessitating only the turn of a fly-wheel to start, while it can be going at full speed in a few seconds and be shut down on the instant. Needs no engineer to look after it, the station hands can do all that is required, while it will run for hours at a time with little or no attention. The Engine is compactly built and of the best materials; it uses either gas or gasoline for fuel, and its safety and economy with either have proved it to be the most satisfactory power in the market.

We will cheerfully send Booklet and every information upon request.

The Northey Mfg. Co., Limited, 1032 KING ST. SUBWAY, Toronto, Ont.

Seattle & Northern.—This line, which runs from Hamilton to Anacortes, Wash., 35 miles, & has been owned by the Pacific Coast Co., is said to have changed hands. In Seattle it is asserted that it has been secured by J. J. Hill, of the Great Northern (U.S.A.)

Toronto, Hamilton & Buffalo.—At the annual meeting in Toronto, June 6, the following were elected directors:—W. K. Vanderbilt, New York; J. N. Beckley, Rochester, N.Y.; T. G. Shaughnessy, Montreal; S. R. Callaway, New York; S. E. Peabody, Boston; H. B. Ledyard, Detroit; C. F. Cox, New York.

Wellington, Grey & Bruce.—The estimated earnings for the ½ year ended June 30, applicable to meet interest on the bonds, will admit of the payment of £2 1s. %. This payment will be applied as follows: 1s. in final discharge of coupon 37, due Jan., 1889, & £2 on account of coupon 38, due July 1, 1889. Payment will be made on & after July 1 at the offices of the G.T.R. Co., in London, Eng. The numbers of bonds, amounting to £2,200, drawn to be paid off at par on July 1, are announced.

This line is worked by the G.T.R., which gives the W.G. & B. bonds 30% of the gross receipts as interest, and sets aside a further percentage for redeeming the bonds by drawings in May & Nov. Coupons subsequent to those mentioned above are in arrear.

RAILWAY APPOINTMENTS, Etc.

Alberta Railway & Coal Co.—W. D. Barclay, C. E., General Manager, has resigned to enter the service of Foley Bros., railway contractors, St. Paul, Minn. Mr. Barclay, who was engaged on C.P.R. surveys & construction for some years, had charge of the construction of the A.R. & C. Co.'s line from Lethbridge to the International Boundary, & of the Great Falls & Canada Ry. from the Boundary to Great Falls, Montana. On the completion of these lines in 1890, he was appointed General Superintendent of both, & then became General Manager. The President, E. T. Galt, will discharge the duties heretofore devolving upon Mr. Barclay, it not being the intention to appoint another Manager.

Canadian Pacific.—At the monthly meeting of directors, June 12, Sir Wm. Van Horne resigned the Presidency & was elected Chairman of the Board, the Vice-President, T. G. Shaughnessy, being elected to succeed him as President. No one was elected to the vacant Vice-Presidency. After the meeting Sir Wm. made the following statement:—"The reason for the change from a railway standpoint is the need of providing for the enlargement of the executive organization of the Co., the vast growth of its system & the wide extent of its operations having resulted in an amount of executive work quite beyond the powers of endurance possessed by any two men. As to myself I am not cutting loose from the C.P.R. & I shall take just as much interest in its affairs as I ever did; but I shall now be free from every-day duties & able to see something of the world should I feel like it. This is my 42nd year of continuous railway work & my 18th with the Canadian Pacific. In all these years I have had but two short holidays & I have felt for a good while back that I ought to free myself from the many demands of business & at the same time make way for the younger men. The present seems a most favorable time for such a change, for the Co. is in a splendid position in every way & its prosperous future seems quite assured. But one of my chief reasons for asking our directors to permit me to relinquish the duties of the office of President was to secure the well-earned promotion of Mr. Shaughnessy, whose services to the Co. have been beyond estimation & whom I look upon as all that could be wished for as the chief executive officer of a

great corporation, honorable, capable, energetic & fair-dealing. I have known him intimately for many years & have never yet discovered a fault in him, unless it be injustice to himself. The warmth of my feelings towards him can only be imagined by those who know him well. The shareholders of the C.P.R. Co. are to be congratulated on having such a man in command.

A portrait & short biographical sketch of Mr. Shaughnessy appeared in our issue of Oct. last. His first official act as President was to appoint as Assistant General Manager, D. McNicoll, heretofore Passenger Traffic Manager. Mr. McNicoll was born at Arbroath, Forfarshire, Scotland, April, 1852. He entered the railway service in Aug., 1866, as clerk in the Goods Managers' office of the North British Ry. In 1873 he removed to England & obtained a similar position with the Midland Ry. At the age of 21 he came to Canada. He first worked on the Northern Ry. at Meaford & Collingwood, & in less than a year became chief clerk, removing to the general office of the Toronto, Grey & Bruce Ry. at Toronto. He remained in this position until 1881, when he became General Freight & Passenger Agent of the same railway & General Traffic Agent of the Owen Sound Steamship line trading on the upper lakes. In 1883 he became General Passenger Agent of the Credit Valley, Toronto, Grey & Bruce, & Ontario & Quebec Rys., & he retained this position when these lines became amalgamated with the C.P.R. In 1885 he was removed to Montreal & became the General Passenger Agent of all the lines of the C.P.R. east of Port Arthur. On Jan. 1, 1896, he was appointed Passenger Traffic Manager.

For the present at least, & probably until the completion of the extension to the Windsor St. station & general offices building, Sir Wm. Van Horne & Mr. Shaughnessy retain their old offices. Mr. McNicoll has moved into the 1st room of Sir William's suite, heretofore occupied by A. R. G. Heward, who has gone into the room made for Mr. Osborne when he was Assistant to the Vice-President. Mr. McNicoll's clerks are located in the 2nd room of Sir William's suite, which is also occupied by the Chairman's Secretary. G. Hodge, heretofore Mr. Shaughnessy's Chief Clerk, has been given a similar position in Mr. McNicoll's office.

R. Kerr, heretofore Traffic Manager of the Western Lines, with headquarters at Winnipeg, has been appointed Passenger Traffic Manager at Montreal to succeed Mr. McNicoll. Mr. Kerr was born in Toronto in Aug., 1845, & entered railway service at the age of 21, being first employed as warehouse clerk, & afterwards filling various positions with the Northern Ry. In 1879 he was appointed Passenger Agent of that line, afterwards becoming General Freight & Passenger Agent of the Northern & North-Western Ry., which position he filled until June, 1884, when he was appointed General Freight & Passenger Agent of the lines of the C.P.R. west of Lake Superior, with headquarters at Winnipeg, his title being subsequently changed to Traffic Manager of Western Lines. Consequent on the promotion of Mr. Kerr to Montreal the following changes have been made in the traffic department of the lines west of Lake Superior, the position of Traffic Manager having been abolished.

Passenger Department.—C. E. McPherson, heretofore Assistant General Passenger Agent at Toronto, is appointed General Passenger Agent of Western Lines, headquarters at Winnipeg. E. J. Coyle, heretofore District Passenger Agent at Vancouver, is appointed Assistant General Passenger Agent of Pacific Division, Kootenay & Pacific Coast, headquarters at Vancouver, authority extending west of Laggan & Fernie. W. Stitt, heretofore Chief Clerk of the passenger branch at Winnipeg, is appointed Assistant General

Passenger Agent of Western Division, office at Winnipeg, authority extending from Port Arthur to Laggan & Fernie inclusive.

Freight Department.—W. R. MacInnes, heretofore General Agent Freight Department at Chicago, is appointed General Freight Agent of lines west of Lake Superior, headquarters at Winnipeg. G. H. Shaw, heretofore Chief Clerk Freight Branch at Winnipeg, is appointed Assistant General Freight Agent of Western Division, main line & branches, Port Arthur to Laggan & Fernie, headquarters at Winnipeg. A. Cameron, heretofore District Freight Agent at Vancouver, is appointed Assistant General Freight Agent, Pacific Division, main line & branches, west of Laggan, headquarters at Vancouver. F. W. Peters, heretofore District Freight Agent at Nelson, B.C., is appointed Assistant General Freight Agent Kootenay & Boundary Creek districts, comprising lines west of Fernie & south of Golden, Arrowhead & Penticton, headquarters at Nelson, B.C. W. A. Kittermaster, heretofore District Freight Agent at Detroit, Mich., is appointed General Agent Freight Department, at 234 La Salle St., Chicago. M. H. Brown, heretofore Chief Clerk in Freight Traffic Manager's office at Montreal, is appointed District Freight Agent at 11 Fort St. West, Detroit, Mich.

A. H. Notman, heretofore Assistant General Passenger Agent at St. John, N.B., succeeds Mr. McPherson as Assistant General Passenger Agent at Toronto, with authority extending west of Kingston & Sharbot Lake to Detroit, & south of North Bay. This is a curtailment of the district, which under Mr. McPherson included the province of Ontario west of & including Kingston & Sharbot Lake, & the line of the K. & P. Ry. between those points; all south of the C.P.R. main line west of Renfrew, the C.P.R. main line North Bay to McLeans, also the Sault Ste. Marie branch, the town of Sault Ste. Marie, Mich., Mackinac Island, & Detroit, Mich. The territory which has been detached from the Toronto office will come under the direct control of C. E. E. Ussher, General Passenger Agent, Montreal. Mr. Notman has been succeeded at St. John, N.B., by A. J. Heath, heretofore Chief Clerk in his office, & formerly General Passenger Agent of the New Brunswick Ry., which was absorbed by the C.P.R. Mr. Heath is given the title of District Passenger Agent Atlantic Division, with authority extending east of Lake Megantic, the Maritime Provinces, & State of Maine, Oldtown, & north.

Circulars issued by Freight Traffic Manager Bosworth in connection with some of the above mentioned appointments are approved by Mr. Shaughnessy. Those issued by Passenger Traffic Manager Kerr are approved by Mr. McNicoll.

G. W. Smith, heretofore Secretary to the Traffic Manager at Winnipeg, has been appointed District Passenger Agent at Seattle.

D. McLean, fuel inspector, at Moose Jaw, Assa., has been transferred to Calgary, Alta., with jurisdiction over the main line from Swift Current to Laggan & the Crow's Nest branch. J. Armstrong has been given a similar position between Fort William, Ont., & Swift Current, Assa.

J. E. Parker, City Ticket Agent at Ottawa, has resigned owing to continued ill health. He started with the G.T.R. in Ottawa in 1874, then was Canadian Agent of the Union Pacific, with office in Montreal, & has been with the C.P.R. 15 years. He is succeeded by G. Duncan, heretofore Passenger Agent at Quebec, who is succeeded by E. H. Crean, heretofore City Ticket Agent at Sherbrooke, Que.

Central Vermont.—J. A. Allen, Trainmaster, has resigned, & the office is abolished. H. Brainerd, General Baggage Agent, has resigned, the office is abolished, & the duties will be performed by the General Passenger Agent. F. S. Holbrook has been appointed

Commercial Agent at 88 Wall Street, New York City.

Grand Trunk. J. A. Sheedy, Master of Bridges & Buildings, Middle Division, having resigned to accept a more lucrative position with a Philadelphia shipbuilding company, has been succeeded temporarily by J. Wilson, heretofore District Inspector at London, who is said to be likely to be appointed to the position. Mr. Wilson is succeeded at London by W. Kirkpatrick, heretofore District Inspector at Hamilton who is succeeded there by J. Kennedy.

Spokane Falls & Northern. H. A. Jackson has been appointed Commercial Agent of the Great Northern Ry., & General Freight & Passenger Agent of the Spokane Falls & Northern Ry. at Spokane, Wash., vice C. G. Dixon, who died suddenly June 10 of heart disease. Mr. Dixon was born at Indianapolis, Ind., in 1851, & entered railway service in 1883 as Assistant District Passenger Agent of the Cincinnati, Indianapolis, St. Louis & Chicago, which position he held for a number of years. In 1892 he went to the Great Northern as Travelling Freight & Passenger Agent of the coast lines, & was City Passenger & Ticket Agent of the same road at Seattle, Wash., from May to Dec., 1893, when he was appointed General Agent at Spokane. On Aug. 10, 1898, he was appointed General Freight Agent & General Passenger & Ticket Agent of the Spokane Falls & Northern, in addition to his duties with the Great Northern.

Mainly About People.

J. R. Joughins, Mechanical Superintendent of the Intercolonial, has gone with his family on a trip to Virginia.

Major Girouard, Chief of the British Government Railways in Egypt, is expected in Montreal in Aug. to visit his father.

L. A. Hamilton, Land Commissioner, C.P.R., Mrs. & Miss Hamilton, have returned to Winnipeg after a 5 months' European trip.

A. D. Hewat, until recently General Passenger Agent of the Dominion Atlantic Ry., died at Annapolis, N.S., June 28, of consumption.

Lord Strathcona has offered \$10,000, \$15,000 or \$20,000 if necessary towards the \$100,000 fund which is being raised for Sir Wilfrid Laurier.

F. L. Wanklyn, Manager Montreal Street Ry., has purchased the summer residence of

the late H. Abbott, Q.C., at Ste. Anne de Bellevue, Que.

Roadmaster Bruce, of the G.T.R., at Sarnia, had a shoulder dislocated & his head injured by being thrown from a gasoline velocipede near Sarnia recently.

At the recent convention of the Association of American Railway Accounting Officers in Montreal, I. G. Ogden, Comptroller C.P.R., was elected 1st Vice-President.

B. D. Caldwell has resigned the chairmanship of the Western Passenger Association at Chicago to become General Traffic Manager of the Delaware, Lackawanna & Western Ry.

T. Tait, Manager C.P.R. Eastern Lines, is expected to return to Montreal from England early in July. Mrs. Tait & her father, G. R. Cockburn, are staying at Ocouquit, on the Maine coast.

Sir Wm. Van Horne started railroading at 14, Mr. Shaughnessy at 16 & Mr. McNicoll at 13. Evidently they have to be caught young if they are going to succeed at the business.—Montreal Herald.

The Hamilton, Ont., Board of Trade seems partial to ex-railway men. S. Barker, formerly of the Northern Ry., is its President; and C. Stiff, formerly of the Great Western, is Secretary-Treasurer.

R. G. Reid, proprietor of the Newfoundland Ry., who has been spending the winter in Northern Africa, has returned to Montreal accompanied by Mrs. & Miss Reid, & is greatly benefited in health.

On leaving St. John, N.B., recently for Toronto, A. H. Notman, Assistant General Passenger Agent of the C. P. R., was presented with a handsomely fitted suit case by the St. John Passenger staff.

On leaving the service of the G.T.R. recently J. A. Sheedy, who had been Master of Bridges & Buildings of the Middle Division for a little over a year, was presented by the staff with a silver tea service, a cabinet of silver & a pair of gold cuff links.

J. Mooney, Superintendent of the Brockville, Westport & Sault Ste. Marie Ry., had his horse run away on May 16. The animal went for 5 miles before the buggy collided with a telegraph pole. Mr. Mooney, who is 75 years of age, has suffered very much from the shock.

J. M. Graham, at one time General Manager of the Northern Pacific & Manitoba Ry., with headquarters at Winnipeg, & latterly General Superintendent of the Trans-Ohio

divisions of the Baltimore & Ohio, has been appointed Chief Engineer of that system, with headquarters at Baltimore, Md.

President Sir C. Rivers Wilson, of the G.T.R., sailed from Liverpool on the Lucania, June 5, & arrived in Montreal June 11, accompanied by Lady Wilson, A. Hubbard, one of the directors, & W. Lindley, Secretary of the Co. General Manager Hays & Traffic Manager Reeve met them at New York. They are now making a trip over the system.

Alex. Milloy, formerly Traffic Manager of the Richelieu & Ontario Navigation Co., died in Montreal June 1, aged 77. He was born in Kintyre, Argyleshire, Scotland, & went into the service of the Canadian Steamboat & Mail Coach Co. in 1840. In 1875 this Co. was amalgamated with the R. & O. N. Co. Mr. Milloy only resigned from the latter Co. a little over a year ago.

H. B. Plant, President of the Plant Investment Co., controlling the great system of railways and hotels in Florida, the steamers between Tampa & Havana & the Canada Atlantic & Plant Steamship Co., operating steamers between Boston, Nova Scotia & Prince Edward Island, died suddenly in New York, June 23, aged 80. He was engaged in business till within a few hours of his death.

Sir Wm. Van Horne went to his summer residence at St. Andrews, N.B., recently, to make arrangements for spending the summer there. A Montreal paper says Sir Wm., when not actively engaged in railroading, is a country gentleman of the best type, & devotes much attention to farming pursuits, to the rearing of the choicest cattle, & the finest breeds of horses; & he will be able to gratify his tastes in these directions more than he has been in the past.

Some changes are said to be imminent in the Mechanical Department of the C.P.R.'s Western Lines. It is said to be probable that W. Cross at present General Master Mechanic of the Western & Pacific Divisions, will be appointed Assistant Mechanical Superintendent, & that he will have special charge of the Winnipeg shops, & that a Master Mechanic will be appointed for the Western Division. It is also thought some re-arrangement of the engineering staff of the Western Lines is in contemplation.

T. Ridgedale has been appointed Canadian Freight & Passenger Agent for the Chicago Great Western Ry., with headquarters at Montreal. He entered the G.T.R. service in 1868, & after filling several positions, the last

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of which was that of Travelling Passenger Agent, he resigned to accept the Canadian passenger agency of the Wisconsin Central lines, which he held for about 8 years, when it was closed. He then entered the service of the Chicago & Alton Ry.'s General Passenger & Ticket Department, from which he has just resigned.

Sir Wm. Van Horne is establishing a large farm near East Selkirk, Man. F. W. Barber, of Georgetown, Ont., has been appointed Superintendent. A residence & large farm buildings will be erected at once. Sir Wm. says his chief object in starting the farm is to stimulate the cultivation of the unoccupied lands in the vicinity & about Winnipeg by showing what results can be obtained from them. The farm extends about 5 miles along the railway on both sides, & is so situated that he thinks it will, with proper cultivation, make a good advertisement.

J. W. Brewster, formerly agent for the C.P.R. at Trail, B.C., & J. H. Sinclair, his assistant, have been found guilty of embezzlement of the funds of the Co., & sentenced respectively to 15 & 30 months' imprisonment with hard labor. Brewster's sentence was somewhat mitigated, as the evidence showed he was largely influenced by Sinclair. The latter fled to Spokane, but was extradited, whereas the former was arrested in Trail shortly after the discovery of the shortage. Strenuous efforts were made by Brewster's friends to effect a settlement with the C. P.R., but without avail, as the case had been put in the hands of the Crown Attorney.

Major Bennett, of Toronto, who died at Parkhill, Ont., early in June, was born in Cornwall, Eng., in 1823, being the only son of Capt. Bennett, & nephew of Sir John Bennett, of London. When a boy he was apprenticed to Sir John Rennie to learn engineering. He came to this country in 1846 & took the management of the Northern Ry. shops at Toronto. In 1871 he was appointed Deputy Collector of Inland Revenue. He was captain of no. 3 company, Q. O. R., at the Fenian raid in 1866. He was an Orangeman, held the office of Grand Master of Ontario West, & was also elected Vice-President of the Triennial Council of the World. He was also a Freemason.

Before leaving Toronto for Winnipeg, to assume the General Passenger Agency of the C.P.R. Western lines, C. E. McPherson received numerous marks of appreciation. His fellow-members of the Toronto Club tendered him a dinner, the staffs of the passenger & ticket offices presented him with a cut glass liqueur set, and a number of personal friends gave him a gold watch. His farewell card, a clever adaptation, read:

"To the west, to the west! to the land of the free,
Where the mighty Red River rolls down to the sea;
Where a man is a man if he's willing to toil
And the humblest may gather the fruits of the soil
Good-bye."

The career of Lucius Tuttle, President of the Boston & Maine, furnishes an excellent example of how ability & hard work will come to the front in the traffic department. Mr. Tuttle began railway life in 1865, when he was 19 years old, as a clerk in the ticket office of the Hartford, Providence & Fishkill R.R. He became General Ticket Agent of the road in the following year & held that position for 12 years, until in 1878 he became Assistant General Passenger Agent of the New York & New England. In Feb., 1879, he was made General Passenger Agent of the Eastern Railway, & in 1885 went to the Boston & Lowell with the same title. In 1887 he became Passenger Traffic Manager of the Canadian Pacific, which place he left in 1889 to take the Commissionship of the Passenger Department of the Trunk Line Association. In the following year he was appointed General Manager of the New York, New Haven & Hartford, & in Oct., 1893, was elected to the Presidency of the Boston & Maine, which position he still holds. It is evident from the foregoing that Mr. Tuttle must be thoroughly

pany may advance money, & the business of the railway be resumed.

Canadian Pacific.—The Imperial Privy Council has reversed the judgment of the courts of British Columbia, & has granted an injunction restraining Parke & Pritchard, owners of a ranch in the Thomson River Valley, from irrigating in a manner injurious to the C.P.R. track.

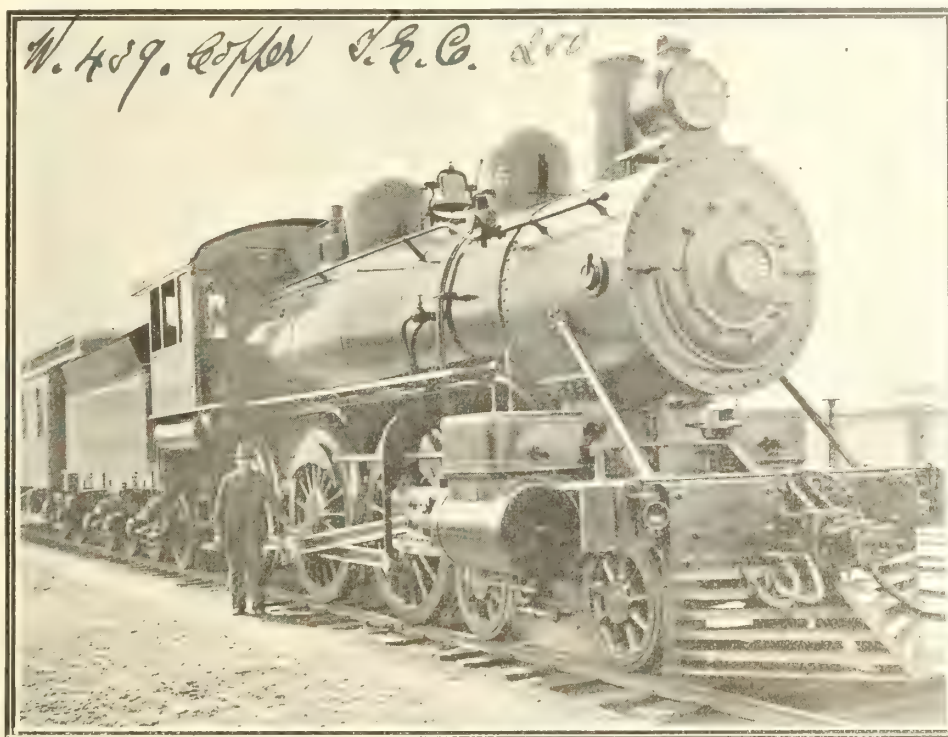
The Woods Motor Co. has been organized in New Jersey, with a capital of \$1,000,000, to manufacture automobiles under the patents of C. E. Woods. A factory will be established in Canada. F. Nicholls, of Toronto, is Vice-President of the Co., & H. P. Dwight, President of the G.N.W. Telegraph Co., is one of the directors.

The Hudson's Bay Route.—Sir Wm. Van Horne, in a recent interview in Winnipeg, referred to the question of a railway to Hudson's Bay, & said that though he did not think that its construction would be easily attained or that it would soon be begun, yet he did not doubt its ultimate construction without

regard to its usefulness as a through route of transportation. With reference to its value as a route of grain transportation, Sir Wm. was unable to give other than an adverse answer, saying that until a feasible scheme was devised to open up the straits to navigation for a longer season than is at present possible, the proposal was untenable. "The real trouble," he said, "is not in Hudson's Bay itself, but in the fact that ice packs drift in from Fox & Inlet block Davis Straits."

The Chilkoot Pass Route to the Yukon, which is composed of the lines of the Chilkoot R.R. & Transport Co., the Alaska Ry. & Transportation Co. & the Dyea-Klondike Transportation Co., is a system of aerial tramways or cables over

the Chilkoot Pass, Alaska. These cables extend from Canyon City, at the entrance to Dyea Canyon, over the summit of the pass to Crater Lake, a mile beyond. Freight is transported on these tramways by means of buckets suspended from a stationary cable & propelled by a traction cable. The weight limit of a single article is about 400 lbs., & the length limit about 40 ft. The cables are propelled by 2 power plants, 1 at Canyon City & the other at Sheep Camp, about half-way from Canyon City to the Summit of the Pass. From Dyea to Canyon City, freight is transported by waggon, & from the terminus at Crater Lake to Lake Lindeman, the head water of the Yukon River, in part by pack horses & in part by boat, on a chain of 3 or 4 small lakes. At Lake Lindeman the freight is placed on barges & transported one mile to Lake Bennett, where the Yukon steamers leave for Dawson City. The distance from Dyea to Lake Bennett is about 30 miles. The average time consumed in transit is about 3 days, but this time is sometimes extended by reason of storms.



GRAND TRUNK 10-WHEELED PASSENGER LOCOMOTIVE.

familiar with traffic affairs in New England, while his former connection with the C.P.R. of course peculiarly adapts him to his present position with a road with which it has such close association. Apart from his experience, however, Mr. Tuttle is a man of great natural ability, of a vigorous & forceful personality, & is cordially liked by those who know him well.—Railway Age.

The Hamilton, Ont., Incline Ry. at the east end of the city, with about 40 acres of land adjoining it on the mountain, will be sold July 14 under mortgage.

Prescott Elevator Co.—In our last issue the capacity of this Co.'s elevator at Prescott, Ont., of which an illustration was given, was stated as 1,000 bus. Of course, the mistake was obvious. The capacity is 1,000,000 bus.

Montreal Incline Ry.—It is said that holders of mortgages on the East End Incline Ry. are pressing for their money, & that the property may be sold. The cars have not been running since last fall. A Montreal loan com-

Grand Trunk Equipment.

The 10-wheel passenger locomotive illustrated on page 107 is the first of an order for 5 recently turned out at the G. T. R. shops, Montreal. Following are the general dimensions:

CYLINDERS.—Diameter.....	20 in.
Stroke.....	26 in.
Boiler.—Diameter.....	62 in.
Working pressure.....	200 lbs.
Fire Box.—Material.....	Steel.
Length.....	120 in.
Width.....	40½ in.
Depth, front.....	70½ in.
Heating Surface.—Grate area.....	33-43 sq. ft.
Driving Wheels.—Diameter, outside.....	72 in.
Journals.....	15 x 12 in.
Wheel Base.—Driving.....	15 ft. 8 in.
Total engine.....	26 ft. 11 in.
Total engine & tender.....	53 ft. 9 in.
Weight.—Total engine.....	100,000 lbs.
Total engine & tender.....	268,000 lbs.
Tender.—Tank capacity.....	4,500 gallons.

These monster locomotives are 64¾ ft. long & in order to pass under the bridges are 14¾ ft. high.

The Co. is also building 6 moguls for freight service, the general dimensions being as follows:—

CYLINDERS.—Diameter.....	20 in.
Stroke.....	26 in.
Boiler.—Diameter.....	62 in.
Working pressure.....	200 lbs.
Fire Box.—Material.....	Steel.
Length.....	120 in.
Width.....	40½ in.
Depth, front.....	73¼ in.
Heating Surface.—Grate area.....	33-43 sq. ft.
Driving Wheels.—Diameter, outside.....	62 in.
Journals.....	9½ x 12 in.
Wheel Base.—Driving.....	15 ft. 8 in.
Total engine.....	24 ft. 1 in.
Total engine & tender.....	50 ft. 11 in.
Weight.—Total engine.....	153,000 lbs.
Total engine & tender.....	253,000 lbs.
Tender.—Tank capacity.....	4,500 gallons.

A little while ago the Co. called for tenders for 500 box cars, but the prices quoted were so high that they will be built at its Montreal shops.

The Co. has recently placed on the day run between Montreal & Toronto, both ways, 2 magnificent vestibuled trains, entirely built in the Montreal shops; each train consists of parlor car, composite cafe-parlor car, 1st class car, & composite baggage & 2nd class car, with compartment for smokers. The parlor compartment of the composite cafe-parlor car has 10 revolving chairs covered in peacock blue plush, & 2 wicker chairs. Large windows are another feature. The dining-room has seat-

ing capacity for 12. It is handsomely carpeted, & furnished with leather-covered movable chairs. The kitchen, pantry, refrigerator, wine locker, gas range & buffet, are arranged in a most compact way with a view to quick service & a saving of space. At the further end of the car are the smoking room & men's saloon with large open lavatory. The smoking room is supplied with 5 arm chairs & a sofa, the latter accommodating 3 persons.

Intercolonial Equipment.

Following is a list of orders placed during the past few months for I.C.R. equipment, most of which has already been delivered:

1 locomotive, with Cleveland cylinders, built by Baldwin Locomotive Works; 5 express locomotives.

8 sleeping cars, 4 dining cars, 10 1st class cars, 9 2nd class sleepers, 6 baggage cars, the latter by Rhodes, Curry & Co., Amherst, N.S.; 4 postal and baggage cars, by Rhodes, Curry & Co.

100 flat cars, & 250 box cars, by Rhodes, Curry & Co., also 150 box cars.

The Dominion estimates for 1899-1900 provide \$343,000 for rolling stock chargeable to capital, against \$600,000 in 1898-9. To apply air brakes to freight cars \$20,000 is provided, the same as for the current year. \$5,000 is provided for machinery at Moncton. The P.E.I. Ry. is to get \$8,000 for rolling stock, against \$3,500 this year.

Canada Atlantic Equipment.

The Ottawa, Arnprior & Parry Sound Ry. has had a number of locomotives for both passenger & freight service built at the Baldwin Locomotive Works, Philadelphia, during the past few months. No. 631, illustrated on page 169, has been in service for some little time. Following are the general dimensions of some of the locomotives:

FOR FAST PASSENGER SERVICE.

CYLINDERS.—Diameter, (high pressure).....	13 in.
Stroke.....	22 in.
Boiler.—Diameter.....	26 in.
Working pressure.....	200 lbs.
Fire Box.—Material.....	Steel.
Length.....	103-16 in.
Width.....	42½ in.

IREBOX.—Depth.....	F, 71½ in.; B, 69 in.
Thickness of Sheets, sides.....	5-16 in.
back.....	5-16 in.
crown.....	½ in.
tube.....	½ in.
TUBES.—Number.....	262
Diameter.....	8 x 12 in.
Length.....	15 ft.
DRIVING WHEELS.—Diameter Outside.....	78 in.
of Centre.....	72 in.
Journals.....	8 x 12 in.
ENGINE TRUCK WHEELS.—Diameter.....	36 in.
Journals.....	5½ x 10 in.
TRAILING WHEELS.—Diameter.....	54 in.
Journals.....	5 x 12 in.
WHEEL BASE.—Driving.....	6 ft. 9 in.
Total Engine.....	25 ft. 6 in.
Rigid.....	13 ft. 9 in.
TENDER.—Diameter of Wheels.....	36 in.
Journals.....	5 x 9 in.
Tank Capacity.....	6,000 gals.

FOR FREIGHT SERVICE.

CYLINDERS.—Diameter, (high pressure).....	14 in.
Stroke.....	24 in.
Valve.....	26 in.
Boiler.—Diameter.....	60 in.
Thickness of Sheets.....	5/8 & 11-16 in.
Working Pressure.....	180
Fuel.....	Soft Coal.
FIREBOX.—Material.....	Steel.
Length.....	102½ in.
Width.....	42 in.
Depth.....	F, 69½ in.; B, 58½ in.
Thickness of Sheets, sides.....	3/8 in.
back.....	3/8 in.
crown.....	½ in.
tube.....	½ in.
TUBES.—Number.....	280
Diameter.....	2 in.
Length.....	14 ft. 4½ in.
DRIVING WHEELS.—Diameter outside.....	56 in.
of centre.....	50 in.
Journals.....	8½ x 11 in.
ENGINE TRUCK WHEELS.—Diameter.....	30 in.
Journals.....	6 x 10 in.
WHEEL BASE.—Driving.....	13 ft.
Total Engine.....	24 ft. 9 in.
WEIGHT.—On Drivers.....	116,850 lbs.
On Truck.....	33,930 lbs.
Total Engine.....	150,780
TENDER.—Diameter of Wheels.....	33 in.
Journals.....	5 x 9 in.
Tank Capacity.....	4,000 gals.

FOR FREIGHT SERVICE.

CYLINDERS.—Diameter (high pressure).....	15½ in.
Stroke.....	26 in.
Valve.....	30 in.
Boiler.—Diameter.....	68 in.
Thickness of Sheets.....	11-16 x 3/4 in.
Working Pressure.....	180
Fuel.....	Soft Coal.
FIREBOX.—Material.....	Steel.
Length.....	120½ in.
Width.....	42 in.
Depth.....	F, 72¼ in.; B, 69½ in.
Thickness of Sheets, sides.....	3/8 in.
back.....	3/8 in.
crown.....	½ in.
tube.....	½ in.



IF time has a commercial value;
promptness secures business
immediate information is required;
an answer is wanted;
and wanted quick;
you are not in business for exercise:

**STAY AT HOME
AND TELEPHONE.**

The Bell Telephone Company of Canada
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Annual Capacity 1,000.

Baldwin Locomotive Works.

SINGLE EXPANSION AND COMPOUND LOCOMOTIVES.

Broad and Narrow Gauge Locomotives; Mine and Furnace Locomotives; Compressed Air Locomotives; Steam Cars and Tramway Locomotives; Plantation Locomotives; Oil Burning Locomotives.

Adapted to every variety of service, and built accurately to gauges and templates after standard designs or to railroad companies' drawings. Like parts of different engines of same class perfectly interchangeable.

*Electric Locomotives and Electric Car Trucks with
Approved Motors.*

Burnham, Williams & Co., Philadelphia, Pa., U.S.A.

TUBES.—Number.....	321
Diameter.....	2 in.
Length.....	13 ft. 6 in.
DRIVING WHEELS.—Diameter Outside.....	56 in.
of Centre.....	50 in.
Journals.....	8½ x 11 in.
ENGINE TRUCK WHEELS.—Diameter.....	30 in.
Journals.....	6 x 10 in.
WHEEL BASE.—Driving.....	15 ft. 1 in.
Total Engine.....	23 ft. 9 in.
WEIGHT.—On Drivers.....	164,585 lbs.
On Truck.....	19,325 lbs.
Total Engine.....	183,910 lbs.
TENDER.—Diameter of Wheels.....	33 ft.
Journals.....	5 x 9 in.
Tank Capacity.....	4,500 gals.

A large amount of work is being done at the Canada Atlantic shops in Ottawa. Twenty-five stock cars have recently been completed, 25 refrigerator cars are being built & 500 box cars have been commenced at.

Entirely new trains, with thoroughly up-to-date cars, have been put on between Ottawa & Montreal, both ways.

We are officially informed that the report recently published in some daily papers to the effect that this Co. had built car shops in Ottawa was unfounded, as a start has not yet been made at the permanent shops. The report probably arose from the erection of some temporary buildings, put up for the construction of a lot of freight cars pending the construction of the permanent shops. The first temporary building is to be used as an erecting shop and is 450 x 80 ft. The second one, which contains the machinery, is 225 x 90 ft.

Sydney & Louisburg Equipment.

This Co. has recently placed an order for 3 freight locomotives, 2 moguls & 1 consolidation, the principal dimensions being as follows:

	Consolidation.	Mogul.
Gauge.....	4 ft. 8½ in.	4 ft. 8½ in.
Fuel.....	Bituminous coal.	Bituminous coal.
Cylinders.....	22 in. x 28 in.	19 in. x 26 in.
Drivers.....	55 in. diam.	55 in. diam.
Rigid wheel base.....	36 ft. 3 in.	13 ft. 2 in.
Total wheel base.....	172,000 lbs.	33 ft. 6 in.
Weight in working order, 243,000 lbs.	172,000 lbs.	122,000 lbs.
on drivers.....	172,000 lbs.	122,000 lbs.
Tubes.....	348, 2 in. diam.,	236, 2 in. diam.,
115 ft. 6 in. long.	12 ft. long.	12 ft. long.
Firebox.....	114 in. x 41½ in.	90 in. x 41½ in.

The Co. has ordered 3 passenger cars & 12 flat cars from Rhodes, Curry & Co., Amherst, N.S., & has also placed an order for 50 steel coal cars of 100,000 lbs. capacity.

Equipment Notes.

The Esquimalt & Nanaimo Ry. has ordered a 10-wheel locomotive from the Baldwin Works.

The Bay of Quinte Ry. recently placed an order for 5 box cars.

The Quebec Central Ry. is having built two 8-wheel passenger engines with 18 in. x 24 in. cylinders.

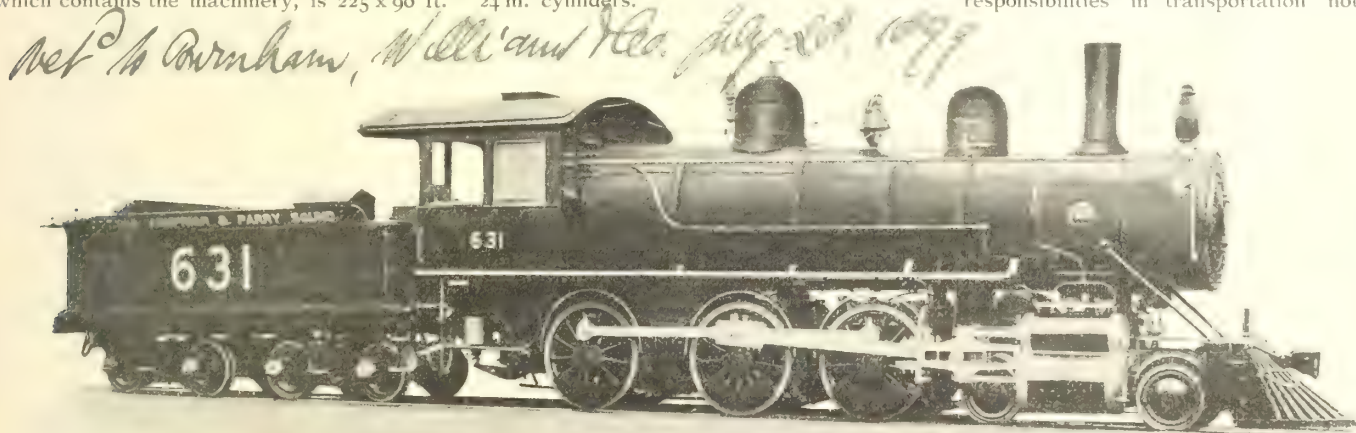
repair no more jimmies." The General Superintendent of the Lehigh Valley informs us that this is not correct. The 4-wheel coal cars were not sold to a Canadian road, but to a Detroit car company which proposes cutting them down & utilizing the scrap material. He understands the New Jersey Central has also disposed of its similar cars to car-builders, & not to a Canadian line.

The C.P.R. Co.'s saw-mill at Fernie, B.C., has been swept away by a freshet on Elk River.

Canadian Freight Association.—At a meeting of the Tariff Committee at Toronto, June 1, special rates & arrangements 1,605 to 1,625 were agreed to.

R. Marpole, General Superintendent C.P.R., Vancouver, writes:—"THE RAILWAY & SHIPPING WORLD proves very interesting indeed & contains much useful information pertaining to railway matters. If there is anything I can do to encourage or further the interests of your paper please command me."

The Transportation Question.—At the recent annual meeting of the Bank of Commerce, General Manager Walker, in referring to what he termed the ever-pressing question of transportation, said: "It would be well for all of us to consider that we have ahead of us responsibilities in transportation not only



BALDWIN LOCOMOTIVE FOR OTTAWA, ARNPRIOR AND PARRY SOUND RAILWAY.

Canadian Pacific Equipment.

There are being built at the Montreal shops six 10-wheel passenger engines, of which the following are the principal dimensions:—Weight in working order about 140,000 lbs.; cylinders 19 by 24 ins.; boiler of Belpaire type, with working pressure of 200 lbs.; fire-box, 9 ft. 1½ ins. long, 3 ft. 6¾ ins. wide, 5 ft. 6½ ins. deep at front, & 4 ft. 3 ins. at back; heating surface, tubes, 1,717 sq. ft.; fire-box, 155 sq. ft.; total, 1,872 sq. ft.; steel tender frame, cast-steel driving wheel centres. Two simple consolidation engines are being built with cylinders 20 x 26 ins., & 57 in. driving wheels, also 8 compound consolidation engines, cylinders 21 & 33 x 26 ins.; weight about 150 lbs. An order has also been placed outside for 6 large engines.

At the Montreal shops are being built 4 1st class cars, 1 smoking car, 1 2nd class car, 5 mail & express cars, & 5 baggage & smoking cars, all 57 ft. 2 ins. long, also 2 parlor cars 70½ ft. long.

At the Perth shops there are being built 10 ventilated fruit cars, 50 ft. long, 40 stock cars of 80,000 lbs. capacity, & 500 box cars of 60,000 lbs. capacity.

Under the title of "Locomotive Data," Burnham, Williams & Co., Baldwin Locomotive Works, Philadelphia, have issued a handy little book for the pocket which contains a lot of valuable information & tables compressed into a small compass.

The Canadian Northern Ry. has recently bought 3 consolidated engines, cylinders 20 x 24 ins., with 50 in. driving wheels, for freight traffic, & 1st class coaches, standard size, finished inside in cherry, with plush seats; orders have also been placed for a number of box & platform cars.

The Minister of Railways recently stated in the House of Commons that no private car had been purchased or constructed by the Department of Railways since July 1, 1896, but the official car Montreal had been purchased for the use of the Traffic Manager at a cost of \$4,500.

The Railway World, Philadelphia, recently published the following item: "To avoid the expense of putting patent couplers on their six-ton jimmy cars, the Lehigh Valley & Jersey Central have sold their thousands of these cars to a Canadian road & as soon as possible will use only gondolas, equipped as the law requires. Shops have instructions to

pressing, but requiring us to hold wider views of our national destiny than we are in the habit of holding. Russia, according to a recent report, had in 1897 about 25,000 miles of railroad in operation, against our 16,000 miles, & there were in 1898, according to the Journal de St. Petersburg, in course of construction & authorized to be commenced shortly, over 8,000 miles. Of this total, additions to over 20 existing lines of over 3,700 miles are actually under construction. In Canada we are not building more than 200 or 300 miles of new railway per annum. Russia, therefore, with only 50% more railway in 1897, is building at more than 10 times the rate of Canada. There is, perhaps, not much value in comparing two countries, one with 5,000,000 people, & the other with over 100,000,000, but territorially there is certainly some room for comparisons. Clearly we need more railways, more inland ships, & on entirely new models, quicker transportation at sea, deeper canals, better terminal facilities at our seaports. If we were carrying our own products to the European countries where they are consumed, these needs would still exist, but they would not be so pressing, their absence would not be so much in the nature of a national shame."

Passenger Traffic Matters.

The Ottawa & New York Ry. has increased its service to 4 trains each way daily between Ottawa & Cornwall.

Tourist travel to Cape Breton will be very heavy this summer. Newfoundland will also be a good many tourists.

On July 1 the Northern Pacific will reduce passenger rates on its branch lines in Manitoba from 4c. to 3c. a mile.

I. C. R. sleepers now run through between Montreal & Ottawa, going over the G. T. R. & Canada Atlantic west of Montreal.

Passenger rates between Victoria, B.C., & Dawson, Yukon, via St. Michael's, have been raised to \$200 1st class & \$150 2nd.

Some months ago the Northern Pacific put on a second daily train between St. Paul & the Pacific Coast, but has withdrawn it, business not having proved sufficient.

The members of the Canadian Ticket Agents' Association, who will meet at Winnipeg in Oct., will return through the U.S., going south from Winnipeg over the Northern Pacific.

The G. T. R., the Maine Steamship Co., & the Lehigh Valley R. R. ticket offices have resumed business in new & large quarters at the corner of Broadway & Reade St., New York.

The C.P.R. Passenger Traffic Department is equipping a number of its ticket agencies with handsome enamelled iron signs, in blue & white, for outdoor use, supplied by the Acton Burrows Co., Toronto.

A recent number of the New York Outlook contains an article by Geo. Kennan, in which he refers to the advertising of Canada in distant lands by the C.P.R., mentioning more especially the case of a Cuban school, where the pupils got their knowledge of geography from one of the Co.'s charts.

"Summer Homes in the green hills of Vermont, islands & shores of Lake Champlain, Adirondacks & Canada," is a charmingly written, well printed & beautifully illustrated pamphlet of over 100 pgs., describing the summer resorts reached by the Green Mountain route, the Central Vermont Ry., from the Passenger Department of which it can be obtained.

The C.P.R. has imported three of Switzerland's most experienced & intrepid Alpine climbers, & has sent them out to help visitors tackle the Rockies in the vicinity of Banff, The Lakes in the Clouds & the Great Glacier. They are sturdy, picturesque fellows, wearing

grey suits & broad-brimmed hats, set off with black cock feathers. They are decorated with the gold & enamel medal of the Alpine Club & other trophies of their calling.

"The Montreal Witness pays a compliment to Sir W. Van Horne as the author of what used to be called in a half-jocular way, Parisian politeness, the courteous, & even kindly, treatment of its passengers, which has been the rule of conduct from the first among officers & employes of this Co., & has resulted in reforms in the same matter in other companies serving the public. We think that the compliment is well deserved, & that it is largely due to the officers of the Co. that passengers travel in much greater comfort to-day than was obtainable some years ago."—Toronto Globe.

W. A. D. Lees, an Ottawa barrister, who has a branch office in Russell, 20 miles distant, which he visits once a week, is suing the Ottawa & New York Ry. for \$49.55 for alleged excessive charges on tickets & \$148.65 for damages. The return fare to Russell, 20 miles, is \$1.20. The Co. has stopped giving 2nd class fares, but maintains 2nd class cars on the line. Mr. Lees says the Co. has refused to give him commutation tickets, & charges him at the rate of 3½c. a mile. He enters his action under clauses of the Railway Act dealing with unjust charges, & says the tariff of rates charged by the Co. has not been approved by the Governor-in-Council, as required by the Act, & consequently the Co. has no right to charge fares.

From June 5 to 12 General Passenger Agent Davis, of the G.T.R., took about 30 of the Co.'s principal ticket agents & a few others on an educational trip from Toronto to Lakes Simcoe & Couchiching, the Muskoka Lakes, the Lake of Bays, The Magnetawan River & Georgian Bay. On every hand were seen evidences of additional & improved accommodation for tourist travel, which will undoubtedly be very large to all that region this year, as the result of the elaborate & extensive advertising the G.T.R. has done. This year the Muskoka Express from Toronto will run through to Scotia Jct.; on the O.A. & P.S. Ry., instead of only to Muskoka wharf. Mr. Davis says he believes that the Muskoka business will increase so much that in a short time the G.T.R. will receive \$1,000,000 a year out of it.

The most important recent event in passenger matters is the inauguration by the C.P.R. of its fast service between Montreal & Vancouver. Heretofore the journey has taken 5 days, now it has been reduced to 99 hours &

45 minutes, & a daily transcontinental service takes the place of the 6 days a week trains, the daily service not having hitherto extended east of Winnipeg. The increased & quicker service has been rendered necessary by the congestion of through travel, & will undoubtedly largely augment the Co.'s business. Montreal is left at 9.30 a.m., Vancouver being reached at 1.15 p.m. on the 4th day. Vancouver is left at 1.15 p.m., Montreal being reached at 6.10 p.m. on the 4th day. It must be remembered that there are 3 changes in time between Montreal & Vancouver of 1 hour each at Fort William, Brandon & Laggan, so that when it is 9.30 a.m. in Montreal it is 6.30 a.m. in Vancouver. The new service was inaugurated June 18, trains starting from Montreal & Vancouver. They crossed at Burrows, Assn., 1,667 miles from Montreal & 1,239 miles from Vancouver, on June 20, & reached the terminal points promptly on time on June 22. The distance between Montreal & Vancouver is 2,906 miles. Of course but few stops are made by the Imperial Limited, & the local travel is provided for by additional train service. The new service places Vancouver within 10 days of London, Eng., & Japan within 3 weeks of London, & has attracted great attention in England. Besides its practical utility, it will prove a most valuable advertisement for the Co.

Freight Traffic Matters.

The Transcontinental Freight Rates Bureau has appointed inspectors at Vancouver & Victoria, B.C., to enforce uniform freight rates.

The Sun Oil Refining Co. has instituted proceedings against the G. T. R., to recover \$184,86, alleged to have been collected illegally in freight rates on oil under the discriminatory tariff.

The offices of the Central Vermont Ry., in the Board of Trade Building, Montreal, have been abolished, & all matters pertaining to freight traffic affecting Montreal will hereafter be managed by F. J. Watson, Division Freight Agent G. T. R., Board of Trade Building, Montreal.

The statistician of the New York Produce Exchange gives notice that from July 1 the stock of grain at Fort William & Port Arthur, Ont., will be included in the report of the visible supply. The entire change contemplated is to drop Albany, Oswego & Cincinnati & add Fort William, Port Arthur, New Orleans & Galveston. The change is significant of the wonderful development of the Canadian west and the progress of the new south.

Edward L. Drewry

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... AND ...

PREMIUM LAGER.

Most Extensive and Complete Brewery
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CHOICE MALT FOR SALE.

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THE BARRETT TRACK JACK.

Recommended as a standard by the

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These Jacks are made with Malleable Iron Frames, Steel Pawls, Machinery Steel Bearings and Pivots, forged Steel Rack. The wearing parts are removable and readily renewable at slight expense. The rectangular base gives great lifting strength and fits into close quarters better than other shaped stands. Adaptable to either high or low set loads.

The Barrett Jack is the safest, best and strongest known to the railroad world to-day.

Lifting capacity,
10 to 15 tons.

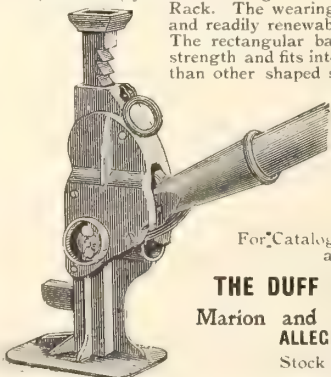
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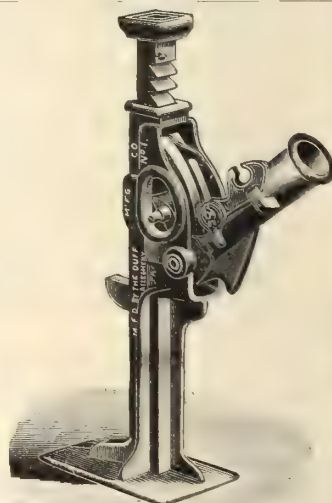
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Stock carried by

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No. 2 Automatic
Lowering.



No. 1 Trip.

The C.P.R. has made a reduction of from 20 to 40% in the rate for live stock shipments from the North West Territories to Kootenay points. The 40% reduction applies to live stock shipped from Macleod, & is due to the fact that former shipments from the southern points had to go round by way of Calgary, whereas now they go over the Crow's Nest road.

The customs complications until recently attendant on the shipment of merchandise from B. C. ports to Dawson, Yukon, will for the future be avoided by an arrangement recently concluded. The White Pass & Yukon Ry. Co. & the Canadian Development Co. have in conjunction put up the necessary security with the customs collector at Victoria, & have become bonded carriers, authorized to take dutiable goods through to Dawson without any customs detention.

The C. P. R. has given notice that in the shipment of bulk wheat from Fort William to Montreal for export by its steamers via Owen Sound, it will deliver to barges at Montreal or to ocean steamships (if the grain is loaded direct from the elevator to the steamer) the exact quantity of grain specified on the bill of lading, but will not assume any responsibility for any difference in outturn from the barges to the ocean vessel in the port of Montreal. On all rail shipments the Co. will deliver to barges or to steamers if alongside the elevators the actual inturn of the car & will not assume any responsibility for subsequent shortages.

Heavy reductions in rates have been made on the Western Division of the C.P.R., & on the Northern Pacific lines in Manitoba. From Winnipeg to Brandon 1st class freight has been reduced from 37c. to 20c. per 100 lbs.; 2nd class, 31 1-2c. to 18c.; 3rd class, 26c. to 16c.; 4th class, 19 1-2c. to 14c.; 5th class, 14 1-2c. to 9c. From Winnipeg to Brandon 1st class is reduced from 57c. to 37c.; 2nd class, 48c. to 32c.; 3rd class, 39c. to 27c.; 4th class, 29c. to 22c.; 5th class, 23c. to 16c. From Winnipeg to Portage la Prairie the reduction is, 1st class, 40c. to 20c.; 2nd class, 34c. to 18c.; 3rd class, 28c. to 16c.; 4th class, 21c. to 14c.; 5th class, 16c. to 9c.

The Michigan Central issued a tariff to take effect June 28, making the rate from Chicago to New York 13c. per 100 lbs. on oats, & 11c. per 100 lbs. on corn, the respective reductions being 4c. & 6c. The G.T.R. followed & made the cut. The M.C.R. holds that in making this cut it was only issuing a public tariff to meet the secret cutting of other systems. Mr. Loud, of the G.T.R., thinks the trouble will not last long, & that the sweeping cut will have the result of quickly restoring the rates to their old basis. The C.P.R. freight authorities state they do not propose to be dragged into this war, which is causing a good deal of bitterness in railway circles in Chicago.

G. T. R. Trackmen's Strike.

On May 22 the trackmen generally on the G. T. R. system struck work, giving as a reason that demands made on the management had not been complied with. The demands were as follows:—

That all permanent employes under a road-master be granted a raise of 25c. a day on present wages.

That all permanent employes are to be regarded as in line of promotion, seniority to have preference where merit & other qualifications are equal.

That all trackmen who resume duty after hours, as on Sunday, receive time and a half for the same.

That the permanent staff on each section be 1 man to every 2 miles of track, or fraction of 2 miles, not including foreman. All terminal points & yards to have 1 man to every 10

switches in addition to 1 man to every 2 miles of main line track.

That the wages of men employed on snow-ploughs & scrapers be:—Foremen, \$3 a day of 10 hours; trackmen, \$2 a day of 10 hours.

That the hours of work on Saturday be from 7 a.m. to 12 m., & from 1 p.m. to 4 p.m., with a full day's pay for the same.

That trackmen be given all reasonable leave of absence to attend monthly meetings, & a pass be given to attend the annual conventions.

That there shall be no discrimination against trackmen for being members of the Order of Railroad Trackmen, & when called to serve on boards of adjustment they shall be relieved without unnecessary delay for such purpose, but only on request of the Chairman of their Executive Committee.

During the strike the men, with very few exceptions, behaved in a most orderly way; some demonstrations took place but they were most likely got up by indiscreet sympathisers. On Saturday, June 3, as the result of conferences between General Manager Hays & two members of Parliament, Messrs. Taylor & Powell, the men's committee called the strike off & told the men to report on Monday, June 5, for work. On going to resume work the men were told they were out of the Co.'s service & would have to make formal application for re-employment. This they contended was a breach of faith & most of them resumed the strike which continued until June 19, when as the result of negotiations between J. Sutherland, M.P., representing the Dominion Premier & Mr. Hays they resumed work, the arrangement being that within 30 days Mr. Hays would discuss the whole question with a committee of 5 representing the trackmen, that none of the strikers be refused employment unless they had been guilty of acts of violence or of having used menacing language towards the new men or the foremen & others who refused to go out. During the strike the operating department did splendid work, trains being run on time & there being nothing to show that things were not going on in the usual way.

Railway Operating Matters.

It is said the Wabash will oil its road bed between Detroit & Buffalo.

Coke made in Halifax is being used experimentally on locomotives on the Dartmouth branch of the I.C.R., also between Halifax & Truro.

Negotiations are going on between the G.T.R. locomotive drivers & the management in regard to an increase in wages & some other matters.

The C.P.R. has been experimenting with an automatic mail catcher on its main line near Ottawa, with a view to use it on the Imperial Limited.

Negotiations in regard to the running of the C.P.R. trains over the I.C.R. between St. John, N.B., & Halifax appear to be at a standstill; at all events no progress has been made public.

A handsome set of the Acton Burrows Co.'s enamelled iron signs is now being used at Winnipeg station as sign boards to show the destinations of the various trains departing from the station.

Dominion Railway Legislation.

A bill introduced in the House of Commons by the Minister of Railways to amend the general Railway Act, proposes to amend section 90, relating to general powers of railway companies; to add as sec. 192a. a section providing that power under a special act to construct & use a bridge shall be exercised, subject to the provisions of the section to be added; and to substitute new provisions for

sec. 273, subsections 2 and 3, relating to trespasses, damages, etc. The most important features of the bill are the two last clauses.

One of these provides that if it appears to the Railway Committee of the Privy Council that for the public convenience a station should be located at any point on a railway subsidized by the Parliament of Canada or of any province in which the railway is constructed, the Committee (with the approval of the Governor-in-Council) may order the Co. to erect, maintain & operate a station at that point, & may define the accommodation to be provided in connection therewith, & the Co. shall obey every such order whether there be or be not any covenant on the subject in any agreement relating to the subsidy.

The last clause provides that the Railway Committee may, from time to time, make rules & regulations, not inconsistent with the Railway Act, for the operating of all or any of the railways subject to the jurisdiction of Parliament, & such rules & regulations shall supersede all previous rules & regulations made by the Co. operating any of such railways in so far as they differ therefrom. It will be remembered that the new rules framed by the G.T.R. on the basis of the rules of the American Railway Association were approved by the Government last year, but subsequently the Minister of Railways requested the management to defer putting them in force. It is now probable that they will not go into effect, but that their place will be taken by rules to be framed by the Railway Committee.

Vancouver Island Railway Projects.

Several schemes are on foot to give Vancouver Island, or more properly speaking the city of Victoria, improved connection with the mainland & connection with more railways. The matter is occupying the attention of a committee of 50 citizens, numerous meetings have been held, & the local press is devoting much space to the subject. One proposal comes from the Port Angeles Eastern Ry., which is projected from Port Angeles, Wash., on the Strait of Juan de Fuca. It was at first intended to build to a connection with the Port Townsend Southern Ry., which runs from Port Townsend southerly 27 miles & is owned by the Pacific Coast Co., but the projectors now talk of building to Olympia, Wash., 111 miles, where connection can be made with the Northern Pacific. The estimated cost of the line is \$2,250,000. Port Angeles is aiding the project to the extent of \$50,000, including land, & through the Squim Valley the Co. will receive timber grants. A survey of a portion of the route has been made & some six miles have been built. The promoters claim that Port Angeles has exceptional advantages as a port, being 80 miles nearer the Pacific than Seattle & 120 miles nearer than Tacoma, being naturally the 1st port of call from the Orient & having a splendid harbor. The promoters want to secure connection with Victoria, B.C., across the Strait, the distance from dock to dock being between 18 & 19 miles. They propose to operate a twin screw ferryboat with a capacity of 10 loaded freight cars, or 6 to 8 passenger coaches, with accommodation for broken freight, making one or more trips a day at the rate of about 9 miles an hour, also to operate a steel passenger steamer, to also carry fast freight & express matter, with a speed of 18 knots, to provide the necessary wharves & other accommodation for the traffic, & to give Victoria transcontinental connection at Olympia, for which the Co. asks a bonus of \$350,000 from the city of Victoria.

The Esquimalt & Nanaimo Ry. has also made a proposition to the city to operate a steam freight & passenger ferry between Vancouver & some point on the E. & N. line

most suitable for connection with the C.P.R. transferring freight to & from Victoria in the original cars, the service to be 1st class, freight to be handled promptly & at a saving of \$1 a ton on wharfage charges. For passenger service 2 round trips daily 6 days a week, each trip to be made in 3½ hours, & one trip by a relief steamer on the other day. The E. & N. management says the scheme would require a large outlay to provide facilities for transferring cars at Vancouver & at a point on its line, steam ferry, relief steamer, additional railway equipment, terminal buildings, &c., & asks the city for \$700,000 in cash & to secure about 19 acres of land situated on the Indian reserve at Victoria for terminal grounds, with exemption from taxation for 15 years, also to secure permission for the construction of a bridge across the harbor from the Indian reserve to the outer wharf, the Co. to convey its present terminal grounds & bridge to the city.

Other schemes are for the route advocated by the late Premier DeCosmos via Swartz Bay to the nearest point on the mainland, & for the utilizing of the Victoria & Sidney Railway as a link in the chain of communication.

Canadian Pacific Betterments, &c.

Mattawamkeag to Princeton.—Unconfirmed reports say that surveys are being made for a connecting line from the Co.'s main line at Mattawamkeag, Me., some 50 miles southeast to Princeton, Me., to connect with the St. Croix & Penobscot.

Windsor St. Station, Montreal.—The plans for the extension of this building have been practically settled on, & work is expected to start very shortly. (May, pg. 138.)

Owen Sound Branch.—Surveys are being made by H. W. D. Armstrong, C.E., on which to base estimates for the improvement of the northern portion of this branch. Between Rockford & Flesherton, some 28 miles, some of the present gradients are as much as 106 ft. to the mile, & it is the intention to reduce them to 43 ft. The line must necessarily cross the ridges of the country, the summit at Dundalk being 1,050 ft. above the track at Owen Sound station. To reach this summit in crossing these ridges the gradient cannot be reduced without deviations from the present alignment, unless by extensive excavations & filling. To overcome the present expense of haulage of freight, it is proposed to make some detours by building pieces of new line at different points, which will reduce the gradients to 43 ft. per mile. With the present gradient in places a consolidated locomotive

will not haul more than 400 to 450 tons, whereas with the proposed reduction of gradients it will be possible to haul 1,000 tons.

The Fort William Round House. recently destroyed by fire, is to be replaced by a much larger solid structure, which is likely to be located near the Co.'s coal wharves there.

Bonnet Lake Branch.—A survey is being made for this proposed branch from Tyndall, 29 miles east of Winnipeg, some 40 miles to Bonnet Portages, on the Winnipeg River a little north of Bonnet Lake. The decision of the Co. to build an hotel in Winnipeg is likely to hasten the construction of this branch, as there is magnificent clay on its route from which the brick for the hotel could be manufactured to great advantage. (May, pg. 139.)

Winnipeg Terminals.—We are officially informed that the Co. has decided on expenditures on its terminals at Winnipeg which will aggregate about \$850,000. At present the tracks at the station are laid on Point Douglas Avenue, which is owned by the city, so that it is impossible to close them in, & there is not sufficient track accommodation for the business, there being but 2 main tracks & 2 sidings. The present station building will be taken down & a number of tracks laid on its site, the whole to be covered in by a train shed. Immediately south of this a building for station purposes, divisional offices, etc., will be erected, then immediately south again will be reared a magnificent hotel structure which will far eclipse the Manitoba hotel destroyed by fire last winter & will have rooms for 250 guests. The western front of the hotel will be on Main St. & the south front on Fonseca St., along which it will run some 300 ft. Sir Wm. Van Horne has very kindly shown us a perspective view & floor plans of the hotel & station buildings which will be of Renaissance architecture.

The Winnipeg stock yards are to be entirely roofed over & provided with floors.

Winnipeg Cemetery Spur.—The Winnipeg City Council is endeavoring to get the Co. to build a spur from its main line to Brookside Cemetery & to run funeral trains.

Stonewall Branch.—It is not probable that any extension will be made this year beyond Teulon, to which point the branch was extended last year. The Parliamentary Railway Committee at Ottawa recently refused an application of the Co. for power to build from a point on this branch near Foxton to Sifton's Landing, on the east side of Lake Manitoba, on the ground that it would interfere with the Canadian Northern Ry., which has acquired the charter of the Winnipeg & Hudson's Bay Ry.

Snowflake Branch.—The Co. has let a contract for the construction of a short line from La Riviere, on its Pembina Mountain Branch, 112 miles southwest of Winnipeg, a distance of some 20 miles southerly to the Snowflake district. The southern terminus of the branch will be very near the International Boundary.

Deloraine to Waskada.—The Co. is applying to the Manitoba Legislature for power to build a line from or near Deloraine southerly & westerly, in townships 1, 2 & 3, to the western boundary of the province. This line would pass through the Waskada district, & much, if not all, of the right of way has already been secured. (May, pg. 139.)

Crow's Nest Pass Branch.—A large force of men are at work putting this line in shape & making improvements where the operation so far has shown them to be necessary. No decision has been announced as to the completion of the line from Kootenay Landing to Nelson. (May, pg. 139.)

Vancouver Station.—In our issue of Nov. last we published a perspective view of this building, & a pretty complete description of it supplied by the architect. As it is now practically completed, it may be of interest to reproduce another description of it, recently given by the Vancouver World:—The general style of the architecture is of the French Renaissance period, with the famous portal towers & huge roof that form the features of that model. Artistic & symmetrical as the building is, viewed from the city side, its imposing appearance is particularly striking as viewed from the harbor. The north side is perhaps somewhat plain, but it is from this splendid extent of architecture, set off by shapely bands & cornices of stone, that the building is gaining its reputation as a handsome structure. In appearance, as well as for general utility, the new station will be one of the finest railway buildings in Canada. In modern convenience it will be second to none in the country. Approaching the station from Cordova St. the design of the two towers & the archway is particularly striking. The west tower is round, & the east one octagonal. The width of the arch is over 40 ft., & there is some fine carved stonework at either end, giving the entrance in detail a very handsome appearance. The main floor opposite the entrance is one of the special features. For half the length of the building, about 100 ft., & nearly the same in width, are the general waiting-room & ticket office, the latter a circular box office in the centre. This corridor is very handsomely fitted up, & is flanked on one side by a special room for ladies. Toward the opposite end of the room is the ele-

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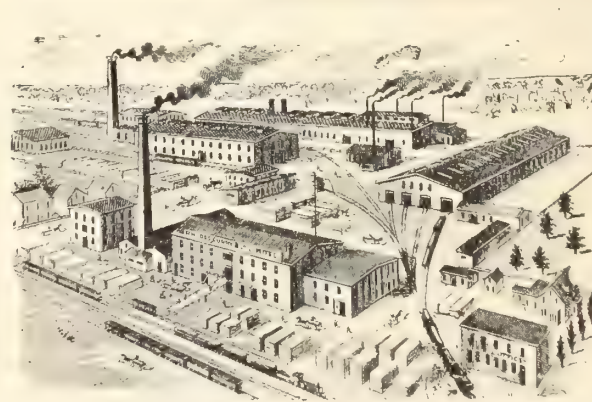
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vator. The design of the columns & windows, which give a very fine view of the harbor, is very attractive, & the appearance of the room is enhanced by the winding staircases that descend to the floors below. The office in one of the towers on this floor will be devoted to the commercial telegraph department, specially for business that will naturally come from people passing through the building; while the apartment in the west tower will be used as a parcel room. In the eastern wing of the main floor are the offices of the General Superintendent, & across the hall are those of the Local Treasurer, as well as those of the Accountant, Purchasing Agent & Car Accountant. The Local Superintendent's & the train despatchers' rooms occupy the east wing on the intersol floor, while in the main building is a bonded-warehouse for ship's stores. The officials of the steamship service will also be on the intersol floor, with offices overlooking the Inlet. All these are fitted with vaults & the other arrangements are of the most convenient kind. The corridor of the ground floor will be one of the features of the building, & every convenience will be furnished there for passengers coming in & going out. Two huge stairways lead from it to the main floor above, & all the fittings are very artistically arranged. In the west wing will be the Dominion Express office & the offices of the Land Commissioner & Auditor, while in the east wing a restaurant with smaller rooms attached, conductors' & baggage rooms, besides another bonded-warehouse for foreign baggage will occupy the space. The 2nd floor will be occupied by the Engineer's department, the 3rd as a telegraphic department, the 4th & 5th have not yet been allotted. The building is replete with modern conveniences. It will be heated by steam & the same plant will operate an electric generator, which will supply all the Co.'s offices on the wharves & elsewhere. There are a hydrant & hose appliances on each floor. The grounds will be neatly arranged in front of the building. There will be a retaining wall on the east side, & on the west it will be on the slope of the street, capped with granite & an iron fence. Along the track front & western end, there will be a covered walk 15 ft. wide. British Columbia material has to a large extent been used in the construction of this building, which is 200 ft. long by 80 in width. Even taking its size into consideration, the quantity of material is remarkable. Sixty-five carloads of stone were brought from Calgary, while 3,000 yards of granite were used. There are 13,500 yards of plastering in the building, & the 240 squares of slate were obtained from B.C. quarries. Two million bricks were used, these being purchased in Victoria.

New Westminster.—Work on the station building is progressing satisfactorily. If the city will grant certain concessions, it is said the Co. will make extensive improvements on the water front, including additional tracks, & a stone sea wall.

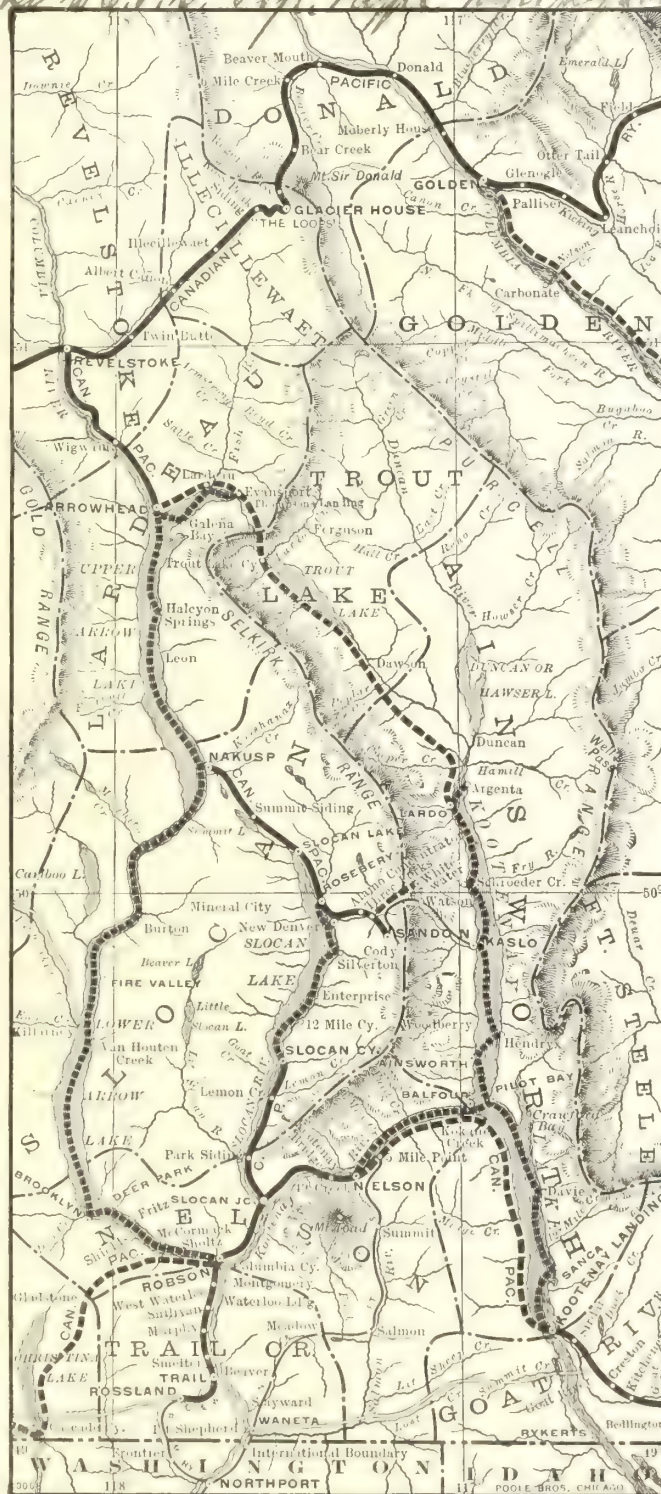
Rossland Branch.—The narrow gauge portion of the Columbia & Western Ry. from Trail to Rossland, B. C., 13.6 miles, was built in the winter of 1895-6. Its peculiar features were its steep grades & sharp curves, rising

2,300 ft. from the wharf track at Trail to the railway ore bunkers at Le Roi mine, Rossland. The grade on all tangents was 4% & the curves were compensated .04 per deg. The maximum curves were 25 degrees, of which there were 38, whose aggregate length was approximately 3 miles. There was a switch-back between Smelter Jct. & Trail, &

nal trestles have been filled & the others strengthened. The grading was done during Sept., Oct. & Nov., 1898, by Winters, Parsons & Boomer, contractors. Track laying was deferred until the spring, on account of the severity of the winters in that locality, when it was done by the Ry. Co. The work was done under the immediate direction of F.

P. Gutelius, Superintendent of the Co.'s Rossland branch, to whom we are indebted for the data of this article. He was General Superintendent of the road under the old management & had charge of its original construction. The entire work of grading & track laying was completed without delaying traffic for an hour, except that all freight & passenger trains were scheduled to run at night. The new track, which follows the same general alignment & has the same grades, is laid with 6 ft. ties & 60 lbs. steel rails, the material for which was delivered along the track by narrow gauge work trains, & by laying towards Trail, the supply point for track material, these trains were able to deliver the material just ahead of the tracklayers in the day time. The system of renewing out of face was adopted, thus allowing joint ties to be properly placed & rails to be full spiked as new track was being laid. By this method a gang of 40 men would remove 2,500 ft. of old track & replace it with standard track in a day. The greatest record for any one day was 3,800 ft. Upon the new track a 3rd narrow gauge rail half spiked was laid. Each evening the track so laid was connected to the undisturbed narrow gauge track, over which the narrow gauge trains were run during the night. The operation of narrow gauge trains on one 28 lbs. rail & one 60 lbs. rail was not attended with any difficulty or accident, so that to the successful use of the one 28 lbs. rail in maintaining the narrow gauge track must be attributed the ease with which the change in gauge was executed. Rails were cut for standard gauge switches for all spurs, passing sidings & switch-backs, although temporary narrow gauge switches were laid as the work progressed, except in case of Smelter Jct. yard where the tracks were arranged for use of both gauges. Here a combination switch was used. On June 14 the entire standard gauge track was laid except the substitution of standard for narrow gauge switches, of which there were 14. On June 15, Roadmaster Sullivan divided his 100 trackmen into 6 gangs, & the work of changing the switches was started at 7 o'clock, after all the narrow gauge equipment was unloaded & taken to Smelter Jct., where it was stored. At 13 o'clock the first passenger train started from Smelter Jct., arriving at Rossland at 15 o'clock. The train consisted of a consolidated locomotive & 2 passenger cars, rounding successfully the thirty 20 degree curves, whose

aggregate length is nearly 3 miles. These curves are laid with gauge widened 1 in. & with only 1 in. elevation to outer rail. No guard or check rails are used & running rails are laid on service tie plates with 3 spikes in each, which are holding the track to gauge without the use of rail braces. Passenger trains are run up & down this incline at the rate of 12 miles an hour & freight trains at 8



C.P.R. LINES IN KOOTENAY DISTRICT, BRITISH COLUMBIA.

miles an hour. In the passing of this narrow gauge railway, it may be interesting to know that during its original construction, 3 years of operation & its reconstruction, not a single fatality on account of accident to passenger or employee has occurred.

A station 64 ft. long, 33 ft. wide, & 1½ stories high, is being built at Rossland. A round-house will also be built there.

West Robson to Boundary Creek.—In a recent interview W. F. Tye, Chief Engineer of Construction, said this is the most difficult piece of road-building ever attempted in Canada. Mr. Tye landed at the mouth of Dog Creek, on Lower Arrow Lake, Feb. 1, 1898, with a force of engineers, & began the work of running the location lines. Some idea of the difficulties to be overcome by the engineers may be gained when it is stated that on this survey 100 pairs of snowshoes were worn out. The contract for 105 miles was let to Mann, Foley Bros. & Larson in June, 1898, & active construction at once begun. Mr. Tye divided the engineers into 4 divisions, with about 25 miles each to deal with. The 1st was under F. M. Young, whose work is now done, & he is out near Pentiction; the 2nd is under G. Farr, with a camp at the Summit; the 3rd is in charge of O. England, at Cascade, while F. M. Rice, located at Greenwood, is division engineer for the balance of the line. The grading of the whole line to Midway is nearly completed, track laying is progressing rapidly, & the whole line is expected to be completed by the fall. (May, pg. 130).

Work is being pushed as fast as possible on the branch lines to the various mining camps,

which were described in our May issue, pg. 130.

Branch to Republic, Wash.—President Shaughnessy gives an emphatic denial to the report that the C.P.R. & Great Northern have arrived at an agreement to build a joint line to connect the Boundary Creek district of B.C. with the Republic mining camp in Washington, saying that he knows absolutely nothing concerning the reported agreement, that no conference bearing upon the subject has been held, & that the story has evidently been manufactured out of whole cloth. (May, pg. 130).

On to Pentiction.—It is evident that the Co. intends to examine the country lying between the Kettle River & Okanagan valleys. It is reported that a party is working eastwards from the Okanagan Valley. Recently a party under J. J. Odell passed through Midway en route, it is thought, for the West Fork of Kettle River, in the valley of which stream he was at work nearly all last winter. Whether this party will work up to the summit of the divide forming the watershed of the creeks running westwards to the Okanagan Valley or eastwards to the Kettle River Valley has not been made public, but it is probable that either the survey of the line from Midway to Beaver Creek—a tributary of the West Fork, was not completed before Mr. Odell's last party was recalled, & is to be finished now, or, if it were completed, the work now being undertaken is a survey from Beaver Creek over the divide to Okanagan Lake at either Pentiction or the outlet of the Mission Valley.

Arrowhead to Kootenay Lake.—The legal fight between the C.P.R. & the Kootenay

Valley Ry. Co.'s subsidiary, the Kaslo & Lardo Duncan Ry., for the possession of the Duncan Pass, has been settled. The C.P.R. is pushing construction from Kootenay Lake to Trout Lake, some 600 men being at work. H. B. Walkem, C.E., is in charge. (May, pg. 140).

Grand Trunk Betterments, Etc.

Work was commenced on the general office building in Montreal May 30. P. Lyall & Sons, Montreal, have the contract for masonry, amounting to over \$250,000. The lower part of the buildings will be of grey granite from Stanstead Jct., & the balance of the structure of Oolitic limestone from Bedford, Ind.

It was the intention of the management to have had the Victoria Jubilee Bridge opened on Dominion Day, but as the work was not completed, the opening had to be postponed, & it is not likely there will be any ceremony in connection with it.

Owing to the height of the locomotives recently constructed, & the lowness of the tubular span over the Ottawa river at St. Annes, the Co. is unable to use them on the western section. This difficulty will be remedied by the demolition of the tube & the erection of an open span bridge similar in height to the Victoria bridge. The engines are now running on the eastern & southern divisions out of Montreal.

The superstructures of all the iron bridges between Montreal & Island Pond are being renewed. It is said contracts have been let for the renewal of the superstructure of the

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$3 to \$4 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

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Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

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International bridge over the Niagara River between Fort Erie & Buffalo.

A contract has been let for a Y.M.C.A. building in the Co.'s yards at Detroit, Mich.

Considerable improvements are being made to the road bed of the Southern Division, which is occupied jointly by the G.T.R. & the Wabash. The work includes a good deal of ballasting, reducing grades, etc., near Cayuga & Renton, & the laying of 80 miles of heavy steel rails between Delhi & Glencoe.

Surveys, Construction, Betterment. &c.

Alaska.—The Alaska Yukon River Transportation Co. will, it is said, build some 75 miles of line from Norton Sound, near the mouth of the Imalakli River, to the Yukon River, which will save about 700 miles of river travel.

Algoma Central.—Surveys have been made from Sault Ste. Marie, Ont., to Missinabie, Ont., some 225 miles, & it is said right of way has been secured.

The Atlin Short Line Ry. & Navigation Co., projected by R. Dunsmuir & Sons, Victoria, B.C., is said to be building a narrow gauge line $2\frac{1}{4}$ miles long from Taku City to Atlin Lake, to connect steamboat navigation between Lakes Bennett & Atlin. It is said it will be finished this month.

Bangor & Aroostook.—C. L. B. Miles, Chief Engineer of the Restigouche & Western Ry., has been assisting Chief Engineer Burpee of the B. & A., in completing the location surveys from Caribou, Me., the present terminus of the B. & A., to Van Buren, Me., on the international boundary at St. John River, some 34 miles. The B. & A. proposes to build this section this year, & to connect by an international bridge across the St. John River, between Van Buren & St. Leonards, with the Restigouche & Western, also with the C.P.R. & the Temiscouata.

Brandon & Southwestern.—The promoters are applying for Dominion aid, & were recently reported to have said that the Dominion Government had passed an Order-in-Council granting \$3,200 a mile. We were recently informed on excellent authority that no Order-in-Council had been passed, but it is believed application for aid has been made. (May, pg. 132.)

Buffalo Union Station.—The new building will, it is said, cost \$6,000,000. The main waiting-room will be 86 by 235 ft., the midway or entrance to the train sheds, 65 by 400 ft., & the dining-room 47 by 125 ft. The station will be so constructed as to allow every street car line in the city to pass in a circuit under it.—Railway Age.

Canadian Northern.—W. Mackenzie states that work on the extension from Cowan towards the Saskatchewan is progressing favorably, though it was delayed in the spring owing to the lateness of the season. In a recent interview at Winnipeg he said that the terminus of the line would be some point on Hudson's Bay, probably York Factory or Fort Churchill, & that it would be the first step towards the Hudson's Bay Navigation service. He expressed his faith in the Hudson's Bay route, considering a steamship service quite possible. D. D. Mann has recently stated that the C.N.R. will ultimately be extended to Edmonton, Alta. An arrangement has been effected between the Co. & the Manitoba Government for a 25 miles branch of the line to be built from Dauphin, 120 miles from Gladstone Jet., into the Gilbert Plains district. The Government guarantees the bonds to the extent of \$8,000 a mile, taking a 1st lien on the line as security. (May, pg. 132.)

The C. N. Co. controls the charter of the old Winnipeg & Hudson's Bay Ry., of which 40 miles were built from a point on the C.P.R.

just west of Winnipeg to St. Laurent, on the east side of Lake Manitoba, but the line was never operated. It is said this line will be put in repair, or rather reconstructed, & continued via the narrows of Lake Manitoba to a connection with the C.N. line in the Dauphin district. Another scheme is said to be to utilize only a portion of the old W. & H. B. road bed, probably as far as Ossowo, & to build from there westerly, going north to Portage la Prairie & south of Lake Manitoba, practically on the route of the C.P.R. Co.'s 1st line from Winnipeg west, continuing across the big plains north of Carberry to points in northwest Manitoba & on to Brandon. A short line from above Beaver Creek to Gladstone, the southern terminus of the C.N., would give that line access to Winnipeg.

Central Ontario.—This Co. recently called for tenders for the construction of an extension to Bancroft, about 21 miles. (May, pg. 132.)

Coast Ry. of N.S.—Work between East Pubnico & Barrington, about 20 miles, is reported as being pushed as rapidly as possible. (May, pg. 133.)

Granville & Victoria Beach.—It is said D. S. Noble, C.E., has begun a survey for this line from Victoria Beach, N.S., on the Bay of Fundy, to Middleton, N.S., where connection would be made with the Dominion Atlantic & Nova Scotia Central Rys. J. O'Brien, who is interested in the Midland Ry., now under construction, is said to have secured options from the local promoters.

Great Northern.—Ross, Barry & McRae, the contractors for the 88 miles to be built between Shawenegan & Hawkesbury, have sublet all the grading, etc., & contracts have been given for the bridge superstructures. The bridge over the Ottawa River at Hawkesbury will have 7 spans of 210 ft. each, & $\frac{1}{4}$ mile of trestle work. The Bayonne bridge at St. Elizabeth will have a span of 100 ft., & the Chicot River will be crossed by a steel trestle 300 ft. long. The Maskinonge River will be crossed by a bridge of 100 ft. span, & there will be a steel trestle in connection with this bridge 1,000 ft. in length & 170 ft. high. The River du Loup will require 800 ft. of steel trestle at a height of 150 ft., & the east & west branches of the Yamachiche River bridge will also have steel trestles, the east 500 ft. & the west 300 ft. long. A contract has been let for a branch of 4 miles from the main line to the Shawenegan Falls on the St. Maurice River. (May, pg. 133.)

Great North-West Central.—Engineer Dancer has completed surveys from McGregor, on the main line of the C.P.R., 22 miles west of Portage la Prairie, to Varcoe on the G.N.W.C., 10 miles from its starting point at Chater. The C.P.R. Right of Way Agent has secured 20 miles of the right of way, starting from McGregor, & H. Lumsden, C.E., has laid out the work for the graders. It is not known whether this line will be built under the G.N.W.C. charter or under the powers possessed by the C.P.R. The Minister of Railways recently stated that the C.P.R. Co. had power to construct the branch under its original charter.

The application of the G.N.W.C. Co. for an extension of time for going on with the construction of its line from its present western terminus at Hamiota caused a big fight in the Railway Committee and in the House of Commons. A clause was added to the bill in committee providing that not less than \$20,000 be spent on extension work westward from Hamiota this year & subsequently President Shaughnessy of the C.P.R. stated that 20 miles would be built this year. The G.N.W.C. has passed into the hands of T. G. Shaughnessy, R. B. Angus and G. M. Clarke in the interests of the C.P.R. (May, pg. 134.)

Intercolonial.—Of the \$45,000 in the Dominion estimates for increased accommoda-

tion at St. John, N.B., \$200,000 has already been spent, \$1,000,000 being for the purchase of the long wharf property. The estimated total cost of the wharf, siding & warehouse for the deep water terminus is \$698,156. A large force is clearing away the rock preparing the site for the elevator. Work is not progressing very rapidly on the elevator at Halifax, but it is said it will be completed this year. (May, pg. 134.)

Interprovincial Bridge.—Work has been nearly completed on the piers of the bridge which is being built by the Pontiac Pacific Jet. & the Ottawa & Gatineau Rys., between Ottawa & Hull.

Inverness & Richmond.—Mackenzie, Mann & Co., who control this Co., have contracted with the Nova Scotia Government to build the first 57 miles from the Strait of Canso to Broad Cove Mines, receiving therefor a Provincial subsidy of \$4,000 a mile. The Co. will also get \$3,200 a mile from the Dominion & \$1,000 a mile from municipalities. The contract for grading, track laying, & ballasting has been let to Ryan & Macdonald, Soulanges Canal contractors. It is stated that 30 miles will be constructed this year, & a good start made on the remainder of the work. Some 15 miles from the Straits of Canso north were partially graded some time ago, & the Co. has had a number of men at work since July last to comply with the Act. The line is ultimately to be extended to Cheticamp, about 100 miles from the Strait of Canso. (May, pg. 134.)

James Bay.—A. J. Sinclair, C.E., acting for Mackenzie, Mann & Co., has made a survey of the 4 miles of proposed line to connect the Q.A. & P.S. Ry. with Parry Sound, & which will ultimately be used as part of the James Bay Ry. (May, pg. 137.)

Kingston & Pembroke.—All the large openings are being shortened up, wooden structures being replaced by steel bridges on masonry. Those now being done are:—

	New Length.	Old Length.
Calabogis Lake.....	100 ft.	167 ft.
Mississippi River.....	30 "	100 "
Clyde River.....	30 "	70 "
".....	20 "	30 "
Opeongo Station.....	18 "	45 "
Sharbot Lake.....	20 "	25 "

In the near future the management expects to similarly deal with 3 more openings between Mississippi Station & Sharbot Lake.

Kootenay Ry. & Navigation Co.—We were officially informed recently that construction was being pushed all along the line from Bonner's Ferry, Idaho, to Kuskanook, B.C., at the head of Kootenay Lake. Between Bonner's Ferry & the International Boundary the line is being built under the charter of the Kootenai Valley Ry., & from the International Boundary to Kuskanook the charter of the Bedlington & Nelson Ry. is being used. The bridge across Kootenay River is completed, & it is hoped the road will be in operation about the middle of Aug. (May, pg. 134.)

Lake Erie & Detroit River.—Considerable improvements will be made this year, including a steel bridge over the Thames River at Chatham, the construction of ship docks at Sarnia & Rondeau Harbor, ballasting 30 miles of the Erie & Huron division, fencing 20 miles of the Erie & Huron division, erecting round-houses at Sarnia & Rondeau, stations at Wallaceburg, Eberts, Watson & Blenheim & 12 tool houses, painting & repairs on main line of the Erie & Huron division, renewals & repairs to culverts, alterations & repairs to engine house & shops at Walkerville.

The Michigan Central is vigorously opposing the proposed extension of the L.E. & D.R. Co.'s line from Ridgeway to St. Thomas & is trying to force the L.E. & D.R. to use the M.C.R. tracks instead. The M.C.R. is behind the attacks on the by-laws granting bonuses to the L.E. & D.R., & has had a deputation lobbying at Ottawa.

Manitoba & Southeastern.—Construction from La Broquerie, last year's terminus, towards the International Boundary was delayed in the spring by wet, but is now progressing satisfactorily. W. Mackenzie states that this line, and its connection, the Minnesota & Manitoba R.R., will be completed to Rainy River this season, & that he expects the connection between Rainy River & Thunder Bay, the Ontario & Rainy River Ry., will be finished in time to carry wheat of the 1901 crop. (May, pg. 134.)

Nanaimo-Alberni.—It is said that a start has been made on the construction of a line to connect these two places on Vancouver Island.

Northern Pacific.—Early in June it was announced that the Co. had decided not to rebuild the Manitoba Hotel in Winnipeg, but simply to re-erect the station & divisional offices, the reason given being that the Co. had failed to come to an agreement with the Provincial Government as to the extension of its lines in the province. It has since been stated that, as the result of further negotiations, an arrangement has been arrived at with the Government, but it is hardly likely that the hotel will be rebuilt in view of the decision of the C.P.R. to build a large hotel, most of the business of the Manitoba Hotel having been derived from C.P.R. passengers. No announcement has been made as to the terms of the arrangement with the Government, but it is believed that a branch will be built from Portage la Prairie northerly to Clandeboye Bay or some other point on the east side of Lake Manitoba, & another branch from Portage la Prairie westerly towards Hamiota, with a spur to Brandon, & that the Government will guarantee bonds to the extent of \$8,000 a mile. The Co. has applied for power to build a line from its main line at Morris, east or southeasterly to the International Boundary, & it is thought that this is with a view of getting an air line to Duluth. (May, pg. 135.)

Ontario & Rainy River.—The number of men employed on construction has been largely increased, & several additional contracts have been let. W. Mackenzie states

that it is expected to have the line completed by the fall of 1901. It is considered certain that the Dominion Parliament will increase the bonus to \$6,400 a mile irrespective of the cost of construction. In giving the Co. power to secure the Port Arthur, Duluth & Western Ry., Parliament has protected the town of Port Arthur, which gave \$25,000 bonus for the shops of the P. A. D. & W. being located there. (May, pg. 136.)

Ottawa & Gatineau Valley.—No definite information is obtainable as to whether the proposed extension from the present terminus at Gracefield, 60 miles from Ottawa, to Maniwaki, 28 miles, will be gone on with this year. Settlers beyond Maniwaki have petitioned for a further extension north to Eagle Bay on Great Victoria Lake. (May, pg. 136.)

Rutland & Noyan.—This Co. has been chartered by the Dominion Parliament to build some 3 or 4 miles of track to connect the Rutland with the Canada Atlantic. The connection will be made from Alburg, Vt., the portion of the line on the Canadian side to be built under the R. & N. charter.

Wabash.—It is said the Co. has bonded some farm property in the east end of St. Thomas, Ont., with a view to the erection of shops. At present much of the repairing work of the Canadian Division has to be sent to the works at Fort Wayne, Ind.

The Tilsonburg, Lake Erie & Pacific now runs from Port Burwell, Ont., to Tilsonburg, 20 miles, connecting at the latter place with the G.T.R., M.C.R., & the Wabash. The Co. wants to extend to Woodstock, & is endeavoring to secure a Government subsidy.

White Pass & Yukon.—On June 12 we were officially advised as follows: "Construction is now actively in progress between the summit of the White Pass & Lake Bennett; 12 miles of roadbed from Lake Bennett southerly towards the summit is completed up to the foot of Middle Lake, ready for the laying of rails, leaving about 5½ miles of rock work along Summit & Middle Lakes to complete; when track laying will be commenced, & continued to Lake Bennett, to which point it is hoped to have rails laid by July 10 at latest,

when train service will be immediately started the whole way from Skagway to Lake Bennett." (May, pg. 137.)

It is reported that as soon as the rails are laid from Skagway to Lake Bennett, construction will be commenced on the line from the latter place to White Horse Rapids, with the intention of ultimately going to Fort Selkirk, at the mouth of Lewis River. All the first surveys of this extension have been made & surveyors & construction engineers are said to be now in the field getting ready for the grading.

Capt. W. Langley is said to have completed arrangements to build a narrow-gauge line from Taku City to Atlin, N.W.T., in connection with the W.P. & Y. The road is to be about 3 miles long. This information somewhat conflicts with the information about the Atlin Short Line Ry. & Navigation Co. on pg. 175.

G.T.R. Clearing House.—A prominent Chicago railway man writes, with reference to the recent meeting of the Association of Railway Accountants in Montreal, that it was then stated that although the association was established in 1888, it was only this year that the New York Central created a clearing house for its through freight. He points out that as far back as 1882 the G.T.R. instituted this method of arriving at the proportion due to the several companies it did business with, as far as possible. It thus not only saved the junction staff for the G.T., but a duplicate thereof for each of the companies concerned, which must, in the past 18 years, have saved the companies hundreds of thousands of dollars. The companies embraced in this clearing house, which was established in the auditor's office of the G.T.R. by the then Auditor, T. B. Hawson, were the G.T.R., Chicago & G.T.R., Detroit, Grand Haven & Milwaukee, Canada Atlantic, Intercolonial, Central Vermont, & other railways. The traffic earnings amounted to many thousands a year, while the staff required to do the work consists of a few clerks. The system does away with the need for the employment of scores of men.—Witness.

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Recent Dominion Legislation.

Among the acts passed at the current session of the Dominion Parliament, & assented to by the Governor-General, are the following:

To amend the Act respecting certain works constructed in or over navigable waters.

To incorporate the Edmonton & Slave Lake Ry. Co.

To incorporate the St. Clair & Erie Ship Canal Co.

To confirm an agreement between the C.P. Ry. Co. & the Hull Electric Co.

Respecting the British Columbia Southern Ry. Co.

Respecting the Canada Southern Ry. Co.

Respecting the Pontiac Pacific Jct. Ry. Co.

Respecting the Brandon & South-Western Ry. Co.

Respecting the Ottawa & Gatineau Ry. Co.

Respecting the Columbia & Western Ry. Co.

Respecting the Atlantic & North-West Ry. Co.

Respecting the Central Counties Ry. Co.

Respecting the Cobourg, Northumberland, & Pacific Ry. Co.

Respecting the Lindsay, Bobcaygeon, & Pontypool Ry. Co.

Respecting the Lindsay, Haliburton, & Mat-tawa Ry. Co.

Respecting the Northern Pacific & Manitoba Ry. Co.

Respecting the Richelieu & Ontario Navigation Co.

Respecting the Quebec Steamboat Co.

Respecting the Nipissing & James Bay Ry. Co.

Respecting the Saskatchewan Ry. & Mining Co.

Respecting the C.P.R. Co.

Respecting the James Bay Ry. Co.

Respecting the Great North-West Central Ry. Co.

To incorporate La Compagnie du Chemin de Fer de Colonization du Nord

To incorporate the Russell, Dundas & Grenville Counties Ry. Co.

To incorporate the Arthabaska Ry. Co.

To authorize the incorporation of the Erie & Huron Ry. Co., & the Lake Erie & Detroit River Ry. Co.

Respecting the Ottawa Electric Ry. Co.

Respecting the Hudson's Bay & Yukon Ry. & Navigation Co., & to change its name to the Hudson's Bay & North-West Rys. Co.

To incorporate the Edmonton & Saskatchewan Ry. Co.

To incorporate the Klondike Mines Ry. Co.

To incorporate the Canadian Inland Transportation Co.

Respecting the Northern Commercial Telegraph Co.

Respecting the Bedlington & Nelson Ry. Co.

To incorporate the Sudbury & Wahnapi-ta Ry. Co.

Respecting the Quebec, Montmorency & Charlevoix Ry. Co., & to change its name to the Quebec Ry., Light & Power Co.

To incorporate the Rutland & Noyan Ry. Co.

Respecting the Canadian Northern Ry. Co.

Respecting the Red Deer Valley Ry. & Coal Co.

Respecting the jurisdiction of the Exchequer Court as to railway debts.

D. W. Newcombe, Superintendent C.P.R., Woodstock, N.B., writes: "THE RAILWAY & SHIPPING WORLD is a very interesting publication, & contains much useful information."

Atlantic & Lake Superior.—In response to a recent complaint in the House of Commons about the failure of the Atlantic & Lake Superior Railway Co. to operate the short line between Lachute & St. Andrews, Que.,

the Minister of Railways said there was little hope of the Government being able to compel its operation.

The Maritime Board of Trade, at a meeting to be held in St. John, N.B., Aug. 16, will, among other things, discuss the development of the iron & steel industries; the proposed increase in marine insurance rates in connection with Canadian ports on the Atlantic coast; tourist travel & the development of accommodations for summer visitors, & their attraction to points of interest; encouragement of trade relations between Canada & the West Indies.

The Hudson's Bay Co. has had a most successful year, the directors having recommended a dividend of 13s. a share, a bonus of 7s. a share, & the setting aside of £10,000 out of the profits of the year towards a provident fund for the employees of the Co., leaving to be carried forward £41,968, as against £26,372 last year. The dividend above mentioned is the highest paid since 1883-4 when it was 22s. a share, but the capital then consisted of shares of £14, while now they are of £13. The up-to-date business methods introduced into the management of the Co. by Commissioner Chipman are proving thoroughly successful.

Canada Atlantic.—In the appeal case of this Co. vs. Henderson, recently heard by the Supreme Court in Ottawa, the action was brought against the Co. to recover compensation for injuries sustained by Dr. Henderson in consequence of his horse being frightened by a train approaching the crossing at Elgin Street, in Stewar-ton. The jury found that no bell was rung, & the signalman did not give warning. Counsel for the Co. contended that the statute did not require the bell to be rung by engines shunting in a yard & less than 80 rods from a crossing, & also that the evidence did not warrant the findings, & that there should be a new trial. The court dismissed the appeal with costs.

Yukon Railways.—The Premier, Sir Wilfrid Laurier, recently announced that, pending the settlement of the Alaska boundary question, no more charters will be granted by the Dominion Parliament for railways into the Yukon which start from points on the coast now in possession of & claimed by the U.S. Most of the charters applied for at this session were for lines to run from Pyramid Harbor, along the Dalton trail to Dawson. Pyramid Harbor is in disputed territory. By allowing one of these lines to be built, a U.S. city would be built up at Pyramid Harbor, as has been done at Skagway by the building of the White Pass & Yukon Ry. The influence of such a city would be against Canada in the settlement of the dispute. Should it be determined by arbitration that Pyramid Harbor does belong to the U.S., the policy of the Dominion Government will be to get access to the Yukon not by the Lynn Canal, but by railways from the Yukon to where there is indisputable Canadian coast water, probably to Observatory Inlet.

Canadian Press Association. The members will start Aug. 1 on a trip to the Pacific coast, leaving in two sections, one from Montreal via C.P.R., the other from Toronto via G.T.R., combining at North Bay, from which point they will travel by special train, consisting of sleeping, dining, & baggage cars. The Toronto section will make a few hours' stop at some Muskoka point, from which the Muskoka Navigation Co. will take the members for a short lake trip. Stops of a day each will be made at Port Arthur, Rat Portage, 2 days at Winnipeg & various short stops at prairie points, & from 3 to 4 days in the mountains. The trip to Vancouver will be made by the main line, & the return by way of Kootenay district & the Crow's Nest Pass Ry. Toronto & Montreal will be reach-

ed on the return journey on Aug. 27 & 28. Free railway transportation will be provided, the members of the party merely paying for sleeping cars & meals. The Minister of Marine has placed the Government steamer Quadra at the disposal of the party for a few days' cruise on the Pacific coast.

G.T.R. Suit about Passes.—The Co. has filed its defence to the action brought by the Niagara Falls Suspension Bridge Co. & the Niagara Falls International Bridge Co. to compel the G.T.R. to secure passes for the directors & officials of the bridge companies from all the railways using the bridge. The G.T. states that the plaintiffs have not at any time demanded these tickets. The agreement of Feb. 27, 1875, between plaintiffs & the G.W.R. is referred to as providing for the release of the G.T. from every demand except that of the annual rent. Therefore, defendant says, it is not obliged to make plaintiffs any further or other compensation for the use of the bridge. The statement adds that the bridge companies are not under obligation to pay the rates or fares of their own directors & officials when travelling for pleasure or on their own business, & that the bridge companies can suffer no loss by reason of their directors not having such free tickets. The defendant then says that if it was bound at all to give free tickets it was only on requisition from the bridge companies from time to time, as required. Lastly, the G.T. says that these directors or officials gave no consideration for any such free transportation, & that it was not called upon to pay for the same.

A Great Railway's Progress.

With the establishment of a limited flyer across the continent the C.P.R. gives another proof of a determination to keep abreast of the demands of the traffic and to expand with the growth of the Dominion. This is a piece of most commendable enterprise & is in keeping with the policy that has been pursued by the road since its construction was first undertaken. The new flyer shortens the trip from ocean to ocean by 24 hours, which, considering the speed of the ordinary service, is a marked achievement in railway operation. The "Imperial Limited" leaves Montreal every morning at 9.30 and reaches Vancouver on the afternoon of the 4th day thereafter at 1.15, reducing the time to a little over 4 days. The east-bound flyer leaves Vancouver at 1.15 in the afternoon, reaching Montreal at 6 p.m. on the 4th day thereafter. In contemplating this achievement it is hard to realize that but 13 years have elapsed since the first through train left Montreal for the Pacific terminus. In 1886, when the first transcontinental train was started, the total length of all the Co.'s lines was 4,500 miles. During the interval the railway has expanded with the Dominion till to-day the Co. operates a system, including leased lines, of 9,600 miles. Equipment has kept pace with the extension of the system operated. The number of engines has increased from 336 to 644, & passenger & baggage cars from 289 to 622. In freight & cattle cars there has been an increase from 7,858 to 16,942, & in all essentials of operation & maintenance there has been the same rapid expansion.

Growth & development have been even more remarkable in the marine department of the service. The traffic of the Pacific Ocean has been served by splendid lines of steamships, the "three white Empresses" being regarded as the best passenger ships afloat. These lines reach out from the railway terminus at Vancouver to China, Japan & Vladivostok, they turn south to Hawaii, to Fiji & Australia, & cover the newly-established traffic to the golden Klondike. In addition to the three Empresses, the Tartar & the Athenian on the Pacific routes,

The company has the Alberta, Athabasca & Manitoba on the upper lakes, two great ferry steamers on the Detroit River, more than a score of freight & passenger steamers & many adjuncts to the service on the inland waters of southern British Columbia. Some interesting figures as to the growth of the road & its business since the initial through train was despatched in 1886 are given in the Montreal Star. At that time 3 tracks sufficed for the Co. at Montreal, but now there are 13 at the Place Viger & 7 at Windsor station. In that year the railway carried 1,804,319 passengers & 2,046,195 tons of freight, the number of passengers carried 1 mile being 150,466,149, & the number of tons of freight hauled 1 mile being 555,438,581. Last year the number of passengers carried reached 3,674,502, the number carried 1 mile being 430,493,130. The freight traffic increased to 5,588,038 tons handled, or 2,148,319,867 tons carried 1 mile. This expansion has been accompanied by a reduction of rates, the earnings per mile having decreased from 2.10 to 1.52 on each passenger, & from 1.10 to 0.75 cent on each ton of freight. The earnings increased from \$10,018,803 to \$26,138,977, & the operating expenses from \$6,378,317 to \$15,003,603.

In 1886 the Co. commenced the erection of its first hotel at Banff Springs, in the Rockies. That line of enterprise has kept pace with the general development, until now the hotel at Banff is but one in a complete chain extending along the Canadian highway. These hotels include the Chateau Frontenac at Quebec, the Kaministiquia at Fort William, the Mount Stephen House at Field, the Glacier House, the Revelstoke, the Fraser Canyon House & the Hotel Vancouver. In the spirit of enterprise that never fags the Co. is now planning the erection of a palatial hotel at Winnipeg that will equal or surpass any of its present magnificent hostelries. In addition to these enterprises the Co. has developed a telegraph service across the continent, with wide ramifications. It owns and operates its own express system, & has also an extensive grain elevator business. It builds its own cars & locomotives, has its own sleeping car service, & employs a force of men estimated at close on 30,000. All this has been the development of 13 years from a line between Quebec & Port Moody at the head of Burrard Inlet, built as a necessity to the new political organization of the Dominion. The first trans-continental train over the new road required 136 hours to make the trip, which time has been reduced by the Imperial Limited to 99 hours 45 minutes. This brings London within 10 days of Vancouver & within 21 days of Japan, drawing the Dominion still closer to the mother land, & increasing our importance as a link in world-circling traffic. —Globe.

New Brunswick Legislation.

At the last session of the Legislature the following Acts were passed among others:

To amend 54 Vic. Chap. 2, so far as it relates to the Gulf Shore Ry.

To confirm an agreement between St. John City & the C.P.R. Co., & to enable the city to make tax exemptions in favor of the Co.

To aid in the construction of a graving dock at St. John.

To revive the Act incorporating the Fredericton, Gibson, and Marysville Electric Ry. Co.

To incorporate the Imperial Dry Dock Co. of St. John.

To continue the Act incorporating the St. Louis, Richibucto & Buctouche Ry. Co.

To confirm a conveyance from St. John City to the C.P.R. Co. & for other purposes.

To incorporate the Shediac Coast Ry. Co.

Questions About Locomotives.

At the recent annual meeting of the American Ry. Master Mechanics' Association at old Point Comfort, in the discussion on the question, "Can the ordinary marine salinometer be used to advantage in districts where alkali water has to be used, in order to avoid excessive concentration & damage to firebox?" R. Atkinson, Mechanical Superintendent C.P.R., said: "The possibility of a salinometer was brought to my attention by having a piece of firebox plate sent in which was cracked & apparently burned, with no indication of scale having formed, & as we know that when the steam is distilled from the water in the boiler the salts remain behind, they must concentrate. Suppose a locomotive boiler holds 1,000 gals. of water. In the course of one division, running 120 miles, it is refilled about 6 times, & therefore the contents of 7,000 gals. are concentrated into 1,000 gals., & doubled on the returning trip; so that if the water contains 20 grains per gallon of impurities we have 13 times that amount at the end of the return trip. If this is soluble impurity, the water necessarily is much more dense than it was previously, & its boiling point raised, & possibly the firebox sheets may be injured by the increased heat necessary to evaporate water from that solution."

In the discussion on the best method of applying stay bolts to locomotive boilers, including making the bolts & preparing the stay-bolt holes, Mr. Atkinson said: "I put myself on record as not being in favor of drilling or punching stay bolts. It appears to me wrong in principle—that the point where the stay-bolts fail most is near the outside sheet. It is misleading to have anyone think they could rely on getting a certain result from them, when they would fill up with scale & leave us in the dark as to the condition of the box."

Historical Sketch of the G.T.R.

The following was written by J. J. Lanning, formerly Asst. General Manager of the G. T. R., shortly before his death in the summer of 1897, & was supplied by Gen. Manager Hays for publication in Canada, an Encyclopædia of the Country, edited by J. Castell Hopkins, & published by the Linscott Pub. Co., Toronto, from which it is now reproduced by permission, being copyrighted.

When it is remembered that the reports issued by the large railway corporations of this continent each year, detailing the receipts & expenditure of vast sums of money, & recording the particulars of all important events & transactions occurring in connection with their respective companies during the twelve months, usually contain from 25 to 50 pages of closely printed matter, the reader will understand the difficulty experienced in recounting in anything like an intelligible form, in a paper of this kind, the history of the G.T.R. Co. from its inception in 1852 up to the present time. If reference be made to lines in existence prior to the building of the G.T., but now incorporated in that Co.'s system, we must go back to 1832, when the Champlain & St. Lawrence Ry. Co. received its charter, bearing the royal assent of William IV.

The problem of transportation of passenger & freight traffic by means of wheeled vehicles propelled by steam over 2 lines of rail had been only recently successfully demonstrated by Stephenson, & the news of its success had the effect of inducing the prominent men of Montreal to establish a line of railway running from a point as near to that city as prac-

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licable in the direction of New York, & the result was the construction of the railway under the name, Champlain & St. Lawrence, from Laprairie to St. Johns, Que. The line was opened for traffic in 1836, being laid with wooden rails & worked by horse-power during the first year of its existence. But one winter's experience satisfied the promoters that these two features of the undertaking would have to be improved upon by the substitution of something more substantial, & in the following year the wooden flanges, as the rails were termed in the act of incorporation, were replaced by iron, & the horse supplanted by the more enduring steam-motor.

The line was shortly afterwards extended from St. John's to Rouse's Point, N.Y., & in connection with this it may not be out of place to mention that in an early edition of the Biographical Directory of Railway Officials—a semi-official publication—appears a sketch of the late Jay Gould's career in which it is stated that his first experience in railway work was as a surveyor in the location of this line. The political disturbances during 1837 & 1838, together with business depression, put a damper, however, on further Canadian railway construction, & there is no record of any railway charter being granted or applied for until 1845. In that year the Atlantic & the St. Lawrence Ry. Co. obtained incorporation for the purpose of building a line from Portland, Me., running west through that state, New Hampshire & Vermont, to a connection at the international boundary with the St. Lawrence & Atlantic Ry., also organized the same year.

The Great Western Ry. Co. was also incorporated in that year under the name of the Hamilton & Sandwich Ry., for the purpose of securing connection between Hamilton & Detroit. In the following year, 1846, the Montreal & Lachine Ry. Co. was organized & incorporated, & the next year saw its line between the two points mentioned an accomplished fact. It also established a ferry service between Lachine & Caughnawaga in Quebec, & at the latter place connected with a short railway chartered as the Lake St. Louis & Province Line Ry., running from Caughnawaga, opposite Lachine, south-easterly to the International Boundary Line. Another important line known as the Toronto, Simcoe & Lake Huron secured incorporation as a company in 1849 & commenced the construction of a railway from Toronto northward to Collingwood. Its name was subsequently changed to Ontario, Simcoe and Huron, & again to that of the Northern Ry., being like all the other companies just mentioned, finally merged in the G.T. System.

On Aug. 10, 1850, the Quebec & Richmond Ry. Co. was incorporated with power to construct a line from Richmond to Point Levis via Chaudiere Junction, & twelve months after the Toronto & Guelph Ry. Co. was granted authority to build between these points. On Oct. 11 following the St. Lawrence & Atlantic Co.'s line was opened from Longueuil to Richmond, & the Champlain & St. Lawrence Co. carried its road from LaPrairie to St. Lambert in the early months of 1852. Charters were also obtained in 1852 for the construction of a railway from Chaudiere Junction to Trois Pistoles by the G.T.R. Co. of Canada East; one from Montreal to Toronto, & this was really the parent stem, by the G.T.R.; & a third from Toronto to Hamilton by the Toronto & Hamilton Ry. Co. In the meantime the principal lines under construction, viz., The Great Western, The Northern & the St. Lawrence & Atlantic were struggling under financial difficulties owing to the want of capital. Canada was then very young & but thinly populated. Owing to improvement in the inland navigation the cost of transportation had been materially lessened, but the closing of navigation during the winter months made it necessary on the part of the Government of the day to find a remedy, & it was deemed an

important measure of public policy to secure access to the sea-board at all periods of the year.

It was believed that there would be sufficient Canadian traffic to maintain a line of railway connecting the principal cities & towns of the old Province of Canada, now Ontario & Quebec. Their policy being quite in accord with public opinion, the Government determined on aiding the railway companies, & an Act (12 Victoria, cap. 29, 1849) was passed affording Government assistance in the shape of loans to railways of not less than 75 miles in length. The conditions of this Act were found to be in some respects unworkable, & too onerous, & further legislation of a more liberal character was passed in 1851 (14 Victoria, cap. 73). This Act was entitled "An Act to make provision for the construction of a main trunk line of railway throughout the whole length of this Province." In the first section of the Act it is declared that "Whereas it is of the highest importance to the progress & welfare of this Province that a main trunk line of railway should be made throughout the length thereof, & from the eastern frontier thereof, through the provinces of New Brunswick & Nova Scotia to the city & fort of Halifax: It is, therefore, expedient that every effort should be made to secure the construction of such railway," etc. Briefly, the Act provided for three eventualities. 1st, The construction of an intercolonial road from Halifax to Quebec, in conjunction with the provinces of New Brunswick and Nova Scotia, on a loan under Imperial guarantee, or from funds advanced by the British Government. 2nd, That if the Imperial guarantee was obtained, the road should be continued as part of the main trunk line to Hamilton or some other point on the Great Western; but failing the Imperial guarantee the road was to be constructed jointly by the Province of Canada (now Ontario & Quebec) & the Municipal Corporations, which should subscribe for half the cost—the whole to be completed & managed as a provincial public work. 3rd, If neither of these projects proved practicable, the work might be undertaken by chartered companies, which would be entitled to the provincial aid in a guarantee extended from the interest to the principal on loans amounting to one-half of the cost of the railway.

(To be continued in next issue.)

SHIPPING MATTERS.

The Teslin Lake Route.

The report of the Chief Engineer of the Public Works Department, L. Coste, was recently submitted to Parliament. The first report was dated July 10, 1898, & in it he says he has learned that the Stikine is navigable for powerful boats from its mouth to Glenora, about 140 miles. The river is tolerably free from snags, but at sharp bends there are heavy currents. Lake Teslin is navigable for vessels of light draught, not more than 3½ ft. Teslin River can be navigated by small river steamers. Lewes River is navigable to its confluence with the Yukon, but great difficulty is experienced in running the Five Finger rapids. The Yukon, while shallow, is navigable for small river boats. On Apl. 25, he reports, after having examined the mouth of the Stikine, "I believe the Stikine route will be the cheapest & best inlet into the Yukon territory for all provisions & mining supplies required in that country during the summer season." He suggests building a wharf at Wrangel, although it is in U. S. territory.

On December 7, he reports very fully on the Skagway route, saying: "The Skagway route is bound to remain for years yet the favorite route into the Yukon country, & inasmuch as it is almost entirely in Canadian territory, I feel justified in recommending

these improvements to the earnest attention of the Minister." Following are the improvements recommended:

At Cariboo crossing, dam required to increase depth of water by 1 ft. at least, estimated cost.....	\$6,000
Removal of rocks in Six Mile River between Lake Tagish & Lake Marsh, say.....	2,000
Removal of rocks in the Thirty Mile River from Lake Laberge to the confluence of the Lewes & Teslin Rivers, say.....	10,000
Removal of rocks at the Five Finger Rapids, say.....	5,000
Removal of rocks at Rink Rapids.....	1,000
Total.....	\$24,000
Add for contingencies & superintendence.....	6,000
	\$30,000

On December 9, he reports on the inlets on the Pacific coast, & the Stikine River. Of this he says: "After a most careful examination of the Stikine River I concluded that it was not necessary to make a thorough survey of that river, owing to the ever-changing course of the navigable channel & the fact that I realized that a survey would cost at least \$25,000. On the whole, while the Stikine River is navigable for three months in the year by powerful steamers of light draught, it is evident that if the proposed railway between Glenora & Teslin Lake had been built, the Stikine River would only have served temporarily as the first link in this route, & that it would have been necessary to extend the railway in a southerly direction to a point on the Pacific in Canadian territory."

List of Lights & Fog Signals.

The Department of Marine has issued a list of lights & fog signals on the coasts, rivers & lakes of the Dominion, corrected to Apr. 1, 1899. The lights in the Bay of Fundy & on the southern & eastern coasts of Nova Scotia, those required for the winter passage of either steamers or ice boats to Prince Edward Island, & all the lights in British Columbia, are exhibited all the year round. All other lights under the control of the department are maintained in operation whenever the navigation in the vicinity is open. Lights used solely as harbor lights are not exhibited when the harbor is closed, although the general navigation may remain open. Fishing lights are maintained only during the fishing season. In any case where there is reasonable doubt whether the light is required it is kept in operation. All the lightships in the River St. Lawrence below Quebec leave Quebec each spring for their stations as early as ice will permit. The Red Island & White Island lightships leave their stations for winter quarters on Nov. 15 annually. All the gas buoys in the River St. Lawrence are set out as soon as possible after May 11 each spring, & taken up as soon as convenient after Nov. 10 each autumn, when they are replaced by wooden can buoys. All buoys in the River St. Lawrence below Quebec are removed after Nov. 14, excepting those replacing the gas buoys at each end of the Beaujeu Bank & at the Channel Patch, one at the west end of Middle Bank, & one at St. Roch, East Point, in the Traverse, which are left when possible until the last ocean vessel has passed out.

The following points are emphasized: The intrinsic power of a light should always be considered when expecting to make it in thick weather. A weak light is easily obscured by haze, & no dependence can be placed on its being seen. Coloured lights are also inferior in power to bright or white lights, & are more quickly lost under unfavorable circumstances.

In some conditions of the atmosphere, white lights may have a reddish hue. The mariner should not trust solely to color where there are doubts, but verify the position by taking a bearing of the light. On either side of the line of demarcation, between white & red, & also between white & green, there is always a small arc of uncertain color.

Having to view the varying distances at which a fog signal can be heard at sea, & the frequent occurrence of fog near to, but not observable from, a fog signal station, mariners are cautioned that, whilst they are entitled to assume that every endeavor will be made to start fog-signals as soon as possible after signs of fog have been observed, they should not, when approaching the land in a fog, rely implicitly upon these fog-signals, but should always use the lead, which, in nearly all cases, will give sufficient warning. Mariners are strongly cautioned that they must not judge their distance from a fog-signal by the power of the sound. Under certain conditions of the atmosphere the sound may be lost at a very short distance from the station, & these conditions may vary at the same station within very short intervals of time. The expression "foggy weather" means that the state of the atmosphere is such as to make objects indistinct.

R. G. Reid states that 2 of the steamships constructed for the Newfoundland service will be completed this year, the remaining 5 to follow next year.

At the opening of navigation it was considered probable that the Soulages canal would be ready for traffic early this summer, & that then the 14-ft. waterway of the Upper St. Lawrence would show the country what could be done in the transportation of some of this season's grain from the Western prairies & the Western States. This hope, however, would seem to be doomed to disappointment, as much work remains to be done before the Soulages canal is finished, & boats of 9-ft. draught will probably have to do the whole of the trade for 1899.

Hamilton is asking government aid to the extent of \$500,000 for improvements to Hamilton harbor. The improvements requested are the deepening of the harbor, the dredg-

ing of the approach thereto, the extension of the piers & the erection of a red range light. Hamilton is becoming an important center in the iron smelting industry, & as the supply of ore is brought by lake vessels, the harbor must be deepened to give these vessels, drawing fourteen to sixteen feet of water, admittance. The coal & other supplies for the Hamilton manufactories are also brought in by water to a great extent, & hence another necessity for the deepening of the harbor.

Yukon & Northern Navigation Matters.

We are indebted to the Klondike Miner for a lot of information about Yukon navigation matters.

The str. Scotia, 80 ft. long, 20 ft. beam & 4 ft. hold, was built this spring by Capt. E.W. Spencer, of Portland, Ore., on Atlin lake. She will run to all points on Atlin lake.

Vancouver has at last secured a direct weekly steamship service to northern ports by an arrangement between the Union Steamship Co. & the Bennett Lake Steamship Co., under which the s.s. Cutch of the former line, & the s.s. Amur of the latter, will perform the service.

The telegraph construction party sent by the Dominion Government to build the telegraph line between Lake Bennett & Dawson, is also looking after the improvement of navigation. A wing dam 335 ft. long, 10 ft. wide & 6 ft. high has been built at Cariboo to throw the water all into the main channel. It is built of logs on brush mattresses & filled with stone, & is faced with plank to make it water-tight. It had to be built in water 3½ ft. deep. Three beacon piers have also been built on that river 12 ft. square & filled with stone for the guidance of vessels. Two lifting barges have been constructed, & are used in removing all rocks from Six Mile River.

On the Upper Yukon River, i.e., above Dawson towards White Horse, the British America Corporation will run 2 or 3 steamers, probably the Tyrrell & Lightning. There will also be the str. Willie Irving & the strs. Clara, Gold Star & Florence, which wintered at

White Horse. The Canadian Development Co. will put all its boats on the up river trade—the Canadian, Victorian, Columbian & Anglian. It also has the Australian operating from White Horse to Bennett City, & has 2 fast steel launches in the same service. The Bennett Lake & Klondike Navigation Co. will run the strs. Ora, Nora & Flora same as last season, the Ora & Flora to White Horse Rapids, & the Nora from White Horse to Bennett City.

Lake Bennett has been a busy boat-building point during the past winter & spring. Six river steamers & over 100 scows & barges have been built there, & 2 river steamers have been overhauled & repaired. The Canadian Development Co. has built a steel steamer, the Australian, at a cost of \$75,000. She is 115 ft. long, 24-ft. beam, & 3 ft. draught. She has accommodation for 175 passengers & 100 tons of freight, & has a speed of 15 miles an hour. The same Co. will operate 2 twin-screw steel launches, designed to run 16 miles an hour, & 2 steel barges, 100 ft. long by 20 ft. beam. The Co. will also operate 6 steamers on the river below White Horse rapids. The Bennett & Atlin Lake Transportation Co. has built a lake & river steamer, the s.s. Bailey, costing \$60,000. She is 110 ft. keel, or 126 ft. over all in length, 22 ft. beam, with hold depth of 4½ ft. She has a draught of 16 inches. The Northern Lakes & Rivers Navigation Co., of Victoria, has built the steamer Ruth. She is 60 ft. long, 16 ft. beam. Capt. J. Irving, of Victoria, has built The Gleaner, 115 ft long, 24 ft. beam & 5 ft. hold. She will accommodate 100 passengers. She will run between Bennett & White Horse, & also to Taku City, connecting there with the tramway & Capt. E. W. Spencer's Atlin Lake str. Scotia.

Following are particulars of the steamers which will ply this season on what may be called the Lower Yukon River, below Dawson, i. e., towards the sea & St. Michaels. The Seattle-Yukon Transportation Co. will run its 3 steamers Seattle nos. 1, 2 & 3. The Standard Oil Co. has one boat on the river, the Oil City, carrying its own freight. The Alaska Commercial Co. will run its 9 steamers,

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the Louise, Hanna, Sarah, Susie, Alice, Leah, Belle, Marguerette & Victoria, together with the 8 barges wintered at Androfski. Some of the boats were expected in Dawson about June 15, while the others would wait for outside traffic. The North American Transportation & Trading Co. has 7 steamers & 3 barges. Its powerful tug Klondike will operate from St. Michaels to Ft. Hamilton. The Alaska Exploration Co. will operate 6 steamers & 6 barges on the lower river. The Mary F. Graff wintered at the Dahl River, the Linda & F. K. Gustin at St. Michaels, & the Herman just below Rampart City. This Co. also owns the Clara Belle & the Arnold. The Empire Line will operate 9 steamers on the lower river, the Tacoma & Victoria were recently reported on the way up the river, the Seattle is taking a load of government supplies, & the St. Michaels is loaded for the Standard Oil Co. The Dawson, Munook, Tanana, Yukon & Empire were to leave Seattle June 10 & steam to St. Michaels under their own steam. The Co. will operate ocean liners to accommodate its business. It is building warehouses at Dawson.

It is to be war to the death between the companies catering for the Klondike business via St. Michael & the lower Yukon river, & those which aim to control this trade by way of the White Pass & Yukon Ry. & the river steamers, the latter combination being favorite in the betting. Numerous conferences preliminary to a determination of through freight & passenger rates have been held by the four companies controlling the rail & river system, & as a result it is announced that the rates by the all-water route will be met in every particular while the four-sided combination has the advantage in being able to land passengers or consignments in Dawson in 10 days or less from Victoria, the round-about sea & river journey requiring the better part of two months, with a chance that shallows may prevent freight sent in that way from ever reaching its destination. The companies named in the combination are the Canadian Pacific Navigation Co., the Alaska Steamship Co., the Canadian Development Co. (in connection with which Capt. Irving's lake & river steamers will be operated), & the White Pass & Yukon Ry. Co., covering the land link from Skagway to Bennett. The adopted rate scale provides for a 1st class fare from any Puget Sound or B. C. port to Dawson, of \$135, or \$127.50 2nd class. Half rate tickets will be sold for children of from 5 to 12 years. On the full ticket 150 lbs. of baggage will be carried free, & on the ½ ticket 75 lbs. From Dawson to B. C. or Puget Sound ports the rate of the upper river combination is \$185 1st class or \$177.50 2nd class, these rates paralleling closely the rates announced by the round-about all-water route. The latter involves a journey of almost as many weeks as the former requires days. Besides, the connections have been so perfected with the completion of the railway link that one does not require to walk a foot of the way. The adopted freight tariff for Atlin, on all commodities, regardless of class, is \$100 a ton from Vancouver, Victoria or Puget Sound points, on less than 10-ton lots; for 10 tons or more, a cut of \$10 on the ton is made. A classification scale is made for the Klondike freights, 3rd class merchandise including provisions such as beans, bacon, flour, sugar, etc., for which the through rate is \$136 a ton. Second-class freight embraces dry-goods, general supplies, etc., with a rate thereon of \$155 a ton; & 1st class freight, consisting of perishable and breakable goods, commands a transportation charge of \$160. Live stock for Dawson will be accepted in carload lots of 14 or more at \$82 each. These rates stand out in marked contrast with the figures prevailing a year ago. The freight rate then was 60c. a pound, or \$1,200 a ton from Skagway to Bennett, & 20 to 30c. more for the haul to Dawson, a total

of at least \$1,600 a ton through to the Klondike capital, a month or 6 weeks being at that time required for the carriage of merchandise even as far as Bennett.—Victoria Colonist.

The Plant Steamship Line.

The passenger traffic between the Maritime Provinces & the New England States has assumed such proportions that the Plant Co. has placed on the route its magnificent 5,000-ton steamship La Grande Duchesse. She made her first trip on the route in the middle of June, running from Boston light to Meagher's Beach light, near Halifax, in 21 hrs. 45 minutes, the previous best record being the s.s. Olivette's, 23 hrs. 40 mins. For the balance of the season she will run direct between Boston & Halifax, calling also at Hawkesbury, N.S., & Charlottetown, P.E.I.

La Grande Duchesse, which was built at Newport News in 1896, is fitted with every modern appliance known to the art of shipbuilding, including electric lights, searchlight, & telephone connection between staterooms & the purser's office. Her furnishings, from staterooms en suite, with bath, to the berths in the cabin, are in perfect taste. Her dining & main saloons are equally attractive, & her immense size is a guarantee of plenty of deck room even for her full quota of passengers. She is built entirely of steel, & is of the following dimensions: 404 ft. long over all, 380 ft. between perpendiculars, 47 ft. 9 ins. beam, 37 ft. 4 ins. deep from top of deck to base line, & is fitted with 2 steel masts fore-and-aft rigged. She has a water bottom extending from her stuffing box bulkhead to her collision bulkhead, also numerous steel decks; all the houses are of steel. The stern & rudder frames are made of cast steel, & the rudder stock of fluid compressed steel, the steering gear consists of a steel apparatus operated by a telemotor; also heavy Napier steering gear. The vessel is fitted with a steam windlass & capstan & hoisting engines for handling cargo, & has steam elevators in two of the hatches.

On the main deck forward is the dining saloon, with seating capacity for 125. This is handsomely fitted up & decorated in white & gold. Forward of the dining room is a reception room, forward of which are sleeping accommodations for passengers. In the after end of the dining saloon is a grand stairway leading to the social hall above. On the main deck aft of the dining saloon is the pantry, & aft of this is the large gallery. On this deck are located cold storage for provisions, officers' mess room, baker & porter shop, telephone exchange room, stewardess' room & a number of staterooms abreast of the boilers & engine hatches for oilers, water tenders, etc. Aft of the machinery is the main saloon with 2 tiers of staterooms on each side; in the forward end of this saloon is the grand stairway leading to the social hall above. Immediately aft of the main saloon are toilets, bathrooms etc., for ladies and gentlemen. In the forward end of the upper or promenade deck is a social hall for 2nd class passengers, with a stairway leading to the dining room. This social hall has quite a number of staterooms for 1st class passengers. On the pilot-house deck forward is the pilot-house, aft of which is the captain's room & 2 tiers of state rooms continuing to the smoke stack. Over the social hall aft is a large steel house fitted up as a ladies' observatory. The 2nd class social hall & reception room are finished in quartered oak.

The vessel is equipped with 12 life boats, 6 life rafts & the necessary life preservers, etc. There is a complete ventilating system connected to every compartment & stateroom in the vessel; she is also fitted with a complete fire alarm system, & is lighted by electricity, which is furnished by 2 generators direct

driven, also search light, etc. The machinery consists of 2 inverted, direct acting service condensing, quadruple expansion engines, driving twin screws; wheels made of manganese bronze. The total horse-power of the engines is 7,000. Steam is supplied by 8 boilers built for a working pressure of 250 lbs. of steam, fitted with 1 smoke stack. In addition there are numerous pumps for ballast, bilge, sanitary fire & feed purposes. Unusual precaution has been used in every part in the construction for the safety & comfort of passengers, having accommodations for 500 1st class & 200 2nd class. The vessel has also been designed in compliance with U.S. government requirements for auxiliary cruisers.

Since the Mascotte was built in 1885, the Plant line has steadily extended its service. From the system about the Florida coast, & between Port Tampa, Cuba & Jamaica, catering in hotels & steam communication to winter tourists & travellers, the line a few years ago extended its service eastward & absorbed the Canada Atlantic Steamship Co., with its ocean str. Halifax, plying between Boston & Halifax, & also the Old Colonial line between Boston, Halifax, the Strait of Canso & Charlottetown, with its str. Carroll & Worcester, which were retired or broken up, the service being improved in summer by the Olivette or Florida, the latter also another large addition to the line. This eastern business has developed very extensively, with demands by summer tourists often exceeding accommodations.

Using Oil in Stormy Weather.

A circular on this subject recently issued by Lieut. W. J. Wilson, nautical expert in charge of the Branch Hydrographic office at Chicago, is attracting a good deal of attention. It reads: "Masters of vessels cannot be reminded too often of the use of oil in stormy weather. Its importance is well illustrated by the fact that it is now recognized in standard books on seamanship. The international marine conference at Washington recommended that the several governments require all their seagoing vessels to carry a sufficient quantity of animal or vegetable oil for the purpose of calming the sea in rough weather, together with suitable means of applying it. Thick & heavy oils are the best. Mineral oils are not so effective as animal or vegetable oils. Raw petroleum has given favorable results, but not so good when it is refined. Certain oils, like coconut oil & some kinds of fish oil, congeal in cold weather, & are therefore useless, but may be mixed with mineral oils to advantage.

"As a general rule, probably the best way to use oil is by filling the wash bowls forward with oakum & oil, letting the oil drip out slowly through the waste pipes. Another simple & easy way to distribute oil is by means of canvas bags about 1 ft. long, filled with oakum & oil, pierced with holes by means of a coarse sail needle & held by a lanyard. Running before a gale, use oil from bags at the cathead or from forward waste pipes; if yawning badly & threatening to broach to, use oil forward & abaft the beam on both sides. Lying to, distribute oil from the weather bow. With a high beam sea, use oil bags at regular intervals along the weather side. In a heavy cross sea, have bags along both sides. Steaming into a heavy sea, use oil through forward waste pipes. There are many other cases where oil may be used to advantage, such as lowering & hoisting boats, riding to a sea anchor, crossing rollers or surf on a bar & from lifeboats & stranded vessels."

Lieut. Wilson further says: "If captains could be made to understand the many advantages offered by the proper use of oil in rough weather & in case of accidents, there would not be a boat leave port without a supply

of oil & the necessary equipment. The application of the fluid to quiet the waves is a simple experiment. It is a positive success. Within a few years all captains will, I think, use oil as a safeguard. The cost is comparatively small, & there is no reason why it should not come into general use on the lakes. I could recall a dozen cases where the timely use of oil saved boats & their crews. The effect of oil dripped from a boat is a rough seas not generally understood by landmen. Some people seem to think that huge mountains of water should be instantly calmed by the application of oil. Of course, that is not expected. The oil quiets the waves to a certain extent & prevents them from breaking over the craft. When oil is used the waves, instead of crashing over the deck, & in extreme cases tearing away the cabin, demolishing the hatches & flooding the boiler-room, come in long swells & are thus rendered less harmful."

Shipbuilding in Nova Scotia.

P. T. McGrath, in writing from St. John's, Nfld., about the proposed operations of the Dominion Steel & Iron Co., says:—"The plans of the syndicate comprehend nothing less vast & ambitious than the creation of a second Clyde bank or Belfast at the Sydney inlet, in Cape Breton, for the construction of iron steamers for commercial & maybe for warlike purposes. The erection of an immense shipbuilding plant in that region might be regarded at first sight as a visionary scheme, but the practical, business-like character of the men identified with the movement warrants the belief that they will make it a financial success. Though the U.S. possesses some dockyards along the Atlantic coast, need of a commercial shipbuilding plant has been greatly deplored, & the conditions under which the Whitney syndicate can produce the materials for such an industry encourage them in the hope that they can defy competition from any quarter whatever."

"The essentials to the attainment of this end are an unlimited supply of iron ore sufficiently rich in quality, an abundance of cheap labor, coal & limestone in close proximity, & transshipping facilities & watercarriage to comprehend the varied phases of a large shipyard. The iron deposits of Newfoundland & the low rate of wages prevailing here enabled the first 2 conditions to be met here; the coal & limestone abound in Cape Breton, & North Sydney forms one of the finest harbors in the world, with foreshore conditions most advantageous for the purpose had in view by these enterprising capitalists."

North Sydney has offered a free site for the erection of the plant & exemption from city taxes, etc.; in fact, there is spirited bidding among all the Cape Breton towns for the establishment of such a prosperity-promoter among them. It is estimated that the various undertakings in connection with such an enterprise—steamer crews, longshoremen, labor-

ers, smelters, coal miners & shipbuilders eventually—will call for the employment of quite an army of men, some thousands at least, & it is not difficult to imagine the benefit which will react upon the Dominion & on the various other industries associated with it, directly or otherwise.—Globe.

Canadian Shipping Statistics.

The report on shipping just issued by the Dominion Department of Marine shows that the number of vessels remaining on the registry books of the Dominion on Dec. 31, 1898, including old & new vessels, sailing vessels, steamers & barges, was 6,643, measuring 693,782 tons register tonnage, a decrease of 41 vessels & of 37,972 tons register from 1897. The number of steamers on the registry books on the same date was 1,909, with a gross tonnage of 267,237 tons. Assuming the average value to be \$30 a ton, the value of the registered tonnage of Canada, on Dec. 31 last, was \$20,813,460.

Following are the figures by Provinces:—

	Sailing Ships and Steamers.	Steamers.	Gross Tonnage of Steamers.	Net Tonnage of Sailing Ships and Steamers.
New Brunswick	993	117	9,858	89,257
Nova Scotia	2,167	146	19,747	262,176
Quebec	1,378	322	75,349	144,447
Ontario	1,452	924	99,419	134,180
P. E. Island	178	21	4,043	15,979
British Columbia	444	299	52,129	40,304
Manitoba	121	80	6,692	7,439
Total	6,643	1,909	267,237	693,782

Following is a statement of vessels built & registered in 1897 & 1898:—

	1897.		1898.	
	Vessels.	Tons.	Vessels.	Tons.
New Brunswick	33	1,738	31	790
Nova Scotia	54	4,259	67	4,962
Quebec	49	4,227	51	4,139
Ontario	50	3,850	46	1,872
P. E. Island	2	226	5	372
British Columbia	26	2,429	72	12,228
Manitoba	16	365	6	159
Total	231	17,094	278	24,522

Estimating the value of the new tonnage at \$45 a ton, it gives a total value of \$1,103,490 for new vessels.

A statement giving the net tonnage of each of the maritime States of the world, shows that Canada holds 7th place, as follows:—

British, including Canada and the Colonies	9,760,043
American	1,837,729
German	1,572,665
Norwegian	1,545,822
French	801,164
Italian	730,953
Canadian	693,782

Richelieu & Ontario Navigation Co.

The Co. is operating 26 steamers.

The Dominion Parliament has given the Co. power to increase its capital from \$2,000,000 to \$5,000,000 & to build & operate hotels.

It is intended to make daylight trips between Quebec & Montreal, starting about the middle of July. The str. Caspian & Columbian will do the service. The orchestras will be transferred from the night to the day boats.

It is said plans have been prepared for additional steamers for the Co., one to run through between Toronto & Montreal & the other for service on the St. Lawrence alone, but no decision has been come to about building them.

The new str. Toronto, already described in these columns, went into service June 1 & is making tri-weekly trips between Toronto & Prescott via Charlotte, N.Y. The officers are Capt. H. Esford, formerly of the Corsican; 1st officer, W. Booth, Jr.; Chief Engineer, W. Black; Purser, J. B. Tinning. The str. Bohemian meets her at Prescott & takes the passengers down the Rapids.

Early in May an agreement was entered into between the R. & O. N. Co. & the American line by which competition between the two companies between Clayton & Alexandria Bay & Montreal was withdrawn. The Richelieu Co. in return withdraws its boats from the islands. By the new arrangement the Richelieu Co. secures a monopoly of the through traffic, & the announcement of the arrangement had an appreciable effect on the Co.'s stock.

The Co. has purchased for \$80,000 the Virginia, a steamer owned by the Baltimore Packet Co., of Baltimore. The Virginia will

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Uniform Buttons

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and all necessities for uniformed employees of Railways, Steamboats, &c., &c.,

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They relieve Distress from Dyspepsia, Indigestion and Too Hearty Eating: are a perfect remedy for Dizziness, Nausea, Drowsiness, Bad Taste in the Mouth, Coated Tongue, Pain in the Side, TORPID LIVER.

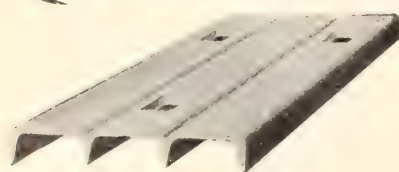
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A Single One Gives Relief.

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A case of bad health that R·I·P·A·N·S will not benefit. R·I·P·A·N·S, 10 for 1 cent, or 12 packets for 48 cents, may be had of all druggists who are willing to sell a low-priced medicine at a moderate profit. The banish pain and prolong life. One gives relief. Accept no substitute.

Note the word R·I·P·A·N·S on the packet.
Send 5 cents to Ripans Chemical Co., No. 10 Spruce St., New York, for 10 samples and 1,000 testimonials.

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MAINTENANCE

STANDARD ON MAJORITY
U.S. RAILROADS.***

SEE ROADMASTER'S CONVENTION TIE PLATE REPORT

F. E. CAME,

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Hill,

Montreal

replace the Carolina on the Saguenay route. She is a side-wheeler with capacity for about 350 passengers.

British Columbia Shipping.

The str. Victoria has succeeded the str. City of Kingston on the Victoria-Seattle run.

G. D. Bowles, R.N.R., is commanding the C.P.R. Co.'s R.M.S. Empress of Japan during the absence of Capt. Lee on a holiday. Mr. Bowles was formerly chief officer of the Empress of India.

The Dominion Steamboat Line Co. has been incorporated with \$45,000 capital, & head office at Bennett City, Cassiar District, to acquire the str. Clifford Sifton & to take over the business of the Dominion Steamboat Line.

An English Co. is said to have made an offer for Armstrong & Morrison's foundry, etc., in Vancouver, with a view of establishing a marine railway with larger ways & more up-to-date accommodation than the present one in Vancouver.

The liquidator of J. Huddart's Canadian-Australian Steamship Co. offers for sale by tender in one lot as a going concern the steamships Miowera, Warrimoo & Aorangi, & all the business goodwill & property of the Co. This is a mere formal stage in the reconstruction of the Co., & is not likely to affect the continuance of the service.

Capt. John Irving, having retired from the management of the Canadian Pacific Navigation Co., as recently mentioned in this paper, has gone into steamboat business for himself between Bennett & Atlin & Bennett & Dawson City. F. W. Vincent is at present Assistant Manager of the C.P.N. Co. We were recently informed that there was nothing new to report in regard to a new steamer for the Victoria-Vancouver route.

A recent traveller by one of the C. P. R.'s Empress steamers, writes from Yokohama: "The resident in the East has one advantage of his brother at home, & that is, he can at times travel on an Empress of the C. P. R. line. He who has not done so has surely missed one of the pleasures of life. For it is a pleasure to travel at anything from 15 to 17 knots on a huge yacht, whose means of propulsion, in the entire absence of vibration, can only be guessed at; where faultless meals are served up, with the attendance of clean, silent & picturesque Chinamen; & where a walk through the carpeted & steam-heated alleyways below, gives the impression of a first-class hotel on shore."

Maritime Province Shipping.

The str. Grand Lake has been purchased by the Newfoundland Ry. to ply in connection with it.

The Victoria S.S. Co. has been incorporated with a capital of \$12,000, & headquarters at Baddeck, N.S.

It is said the str. Harlaw will not continue on the Cape Breton-Newfoundland route this season, owing to a large reduction in her subsidy.

The s.s. Mayflower has been put on the route between Pictou, N.S., & Magdalen Islands & Cape Breton, in place of the s.s. St. Olaf.

The str. Nyanza, recently built at Hantsport, N.S., has been placed on the Petitcodiac River, & is running between Moncton, N.B., & river & bay points.

The Star Line S.S. Co., Ltd., has been incorporated under the New Brunswick Companies Act to acquire the vessels, business, &c., of the Star Line S.S. Co. on the St. John River & its tributaries.

The Washington County R.R. announces that next season it will put on steamers between Eastport, Me., & Digby, N.S., with a view to diverting the Nova Scotia traffic over its line & on to the Maine Central.

The str. Lunenburg has been purchased for the mail service between Pictou, N.S., & Magdalen Islands. The Maritime Transportation Co. has chartered the str. Acadia to take her place on the Halifax-Lunenburg trip.

The incorporation of separate joint stock companies for a single vessel goes on apace, the latest being the s.s. Tanagra Co., & the Ship Charles Co., in New Brunswick, the Ship Canada Co., & the Ship Harvest Queen Co., at Wolfville, N.S.

The Dominion Atlantic Ry. has received the latest addition to its fleet, the s.s. Prince Arthur, which was built at Hull, Eng. She is as nearly as possible identical with the Co.'s s.s. Prince George, & on her trial trip

The promoter, G. Robertson, will probably go to England at once to interview the Admiralty in regard to an Imperial subvention, having last year obtained Mr. Goschen's promise that such would be forthcoming. The Minister of Finance also proposes to take power to grant \$10,000 a year for 20 years to assist in lengthening existing dry docks. This would apply to Halifax & Quebec.

Ontario & The Great Lakes.

The lighthouse supplies for the Great Lakes are this year being delivered by the str. Saturn.

The Signal Towing & Rafting Co., of Wiar-ton, has been incorporated under the Ontario Companies Act, capital \$3,000.

The Dominion Government has granted permission for the change of the name of the str. Eurydice, of Toronto, to the Donnelly.

The Rainy River & Pioneer Steamboat lines on Lake of the Woods, have been amalgamated as the Rainy River Navigation Co., with a capital of \$100,000.

At the annual meeting of the St. Lawrence River Steamboat Co. in Kingston, recently, the old directors & officers were re-elected & 6% dividend declared.

The str. Lincoln, of the Lakeside Navigation Co., formerly known as the Greyhound, which was rebuilt & enlarged last winter, is running between Toronto & St. Catharines.

A. Mackenzie has purchased the str. Sir W. C. Van Horne & fleet of barges from Boucher, Langstaff & Holmes, & is doing a passenger & freight business between Rat Portage & Fort Francis.

The Oakville Navigation Co. has been incorporated under the Ontario Companies Act, capital \$40,000. It is empowered to establish a summer hotel & resort, as well as to do navigation business.

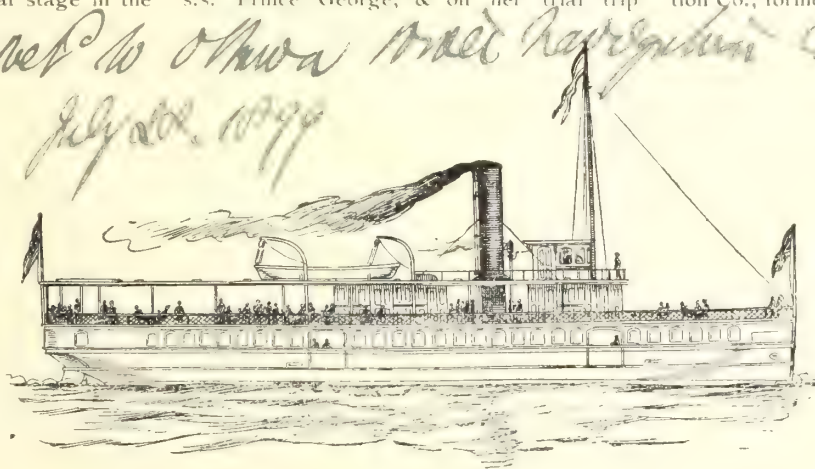
At the recent annual meeting of the Westcott Wrecking Co. in Sarnia these officers were elected: President & Manager, J. W. Westcott, Detroit; other directors: F. F. Pardee, Sarnia; I. Watt, Windsor.

The Ottawa Forwarding Co. has built, at Ottawa, a freight steamer 112 ft. long, 24 ft. beam, & 9 ft. deep. She will have a speed of 12 miles an hour, & will run between Oswego & Montreal. The Co. now has a fleet of 6 freighters, 2 on the St. Lawrence route & 4 on the Ottawa & Rideau Rivers.

A. T. Wood, W. E. Sanford, W. Southam, C. E. Doolittle, C. W. Wilcox, W. D. Long, & A. B. Mackay, have applied for incorporation as the Quebec, Hamilton & Fort William Navigation Co., capital \$1,000,000, head office Hamilton. It is proposed to build 2 steamers at Hamilton this year & others later on.

There is no passenger war on the St. Lawrence this year, the R. & O. N. Co. handling the through business exclusively, & the Folger boats attending to the local Thousand Island business. The Folger fleet consist of the strs. New York, Empire State, America, St. Lawrence, New Island Wanderer, Islander, & Jessie Bain.

The Northern Navigation Co. of Ontario, with headquarters at Collingwood, has had its capital increased from \$350,000 to \$1,000,000. The officers recently elected are: J. Scott, President; J. J. Long, Vice-President; C. E. Stephens, Treasurer; T. Long, Secre-



OTTAWA RIVER NAVIGATION CO.'S STEAMBOAT VICTORIA.

slightly exceeded the latter's speed, attaining a mean speed of 22 knots. Both these steamers are heated by electricity.

The first step has been taken in what looks like the beginning of a war between the Dominion Atlantic Ry. & the International Steamship Co., for the St. John, N.B., & Boston passenger & freight business. The International has had the business for 30 years, & has provided a service which was slow, as stops were made at Eastport. Recently the D.A.R. announced 2 trips a week direct by the s.s. Prince Edward. The International Co. followed by announcing that steamer St. Croix will not call at Eastport in future, but will make 2 direct trips each week. The next step in the fight will probably be the placing of another boat on the route by the D.A.R.

The scheme for a dry dock 800 ft. long at St. John, N.B., is taking shape. The New Brunswick Legislature has incorporated the Imperial Dry Dock Co. with a capital of \$1,000,000, & has given a subsidy of \$5,000 a year for 40 years, on consideration that the Dominion & Imperial Governments also grant substantial aid. The Dominion Minister of Finance has given notice of a resolution to grant an annual subsidy of \$20,000 for 20 years. Under the present statute the Dominion Government can only give aid to the extent of 2 per cent. per annum on \$500,000.

ary; J. J. Long, C. E. Stephens, C. Cameron & M. Hinton, Managing Board; A. Miscampbell, Manager.

The Lake Ontario Navigation Co.'s str. *Albatross*, built at Picton last winter, & in which the old *Empress of India's* engines, etc., have been used, is running tri-weekly between Toronto, Charlotte, Sudus Point, Oswego, Kingston, Rockport & Alexandria Bay. The citizens of Picton presented a set of flags for her, accompanied by a congratulatory address to Capt. Hepburn.

The tug *Walker*, which foundered last fall near Nicholson's Island, Lake Ontario, has been raised. She was hoisted & bound firmly with chains to the bottom of the schr. *Graham*. When fastened together this way the boats drew 35 ft. of water. They were then towed to Kingston. While searching for the *Walker* the wreckers found the wreck of the propeller *Zealand*, which was lost in 1880 with a valuable cargo & entire crew.

The Polson Iron Works, Toronto, at which the str. *Majestic*, described under the head of Quebec, is being built, has negotiations for the construction of other steamers pending, & it is expected to have another large vessel under way at the works in a short time. It is the intention of the Co. to enlarge its docks by filling in the marine railway adjacent to the main workshops & making an extension out into the bay as far as the new windmill line, giving a space of about 7 acres.

The Canada Atlantic Ry. has leased some 15 barges for 3 years from the Kingston & Montreal Forwarding Co. to run between Coteau & Montreal with grain. It is announced that the Canada Atlantic will add 2 freighters of from 4,500 to 5,000 tons to its fleet next season, one for the Chicago & the other for the Duluth trade. The Co. also expects to run a boat to Fort William next season. The 5 steamers of the Menominee fleet, running between Chicago & Parry Harbor, the charter of which, to the Canada Atlantic, expires at the close of this season, have not been sold to that Co., as reported.

The Northern Navigation Co. of Ontario, has bought from the Montreal & Cornwall Navigation Co., the str. *Rocket*, a side-wheel steel boat built for the Gulf trade. She is 150 ft. 8 in. long, 25½ ft. wide & 9 ft. 2 ins. deep. Gross tonnage 428, registered tonnage 228. In part payment the N. N. Co. gave its screw str. *City of London*, 120 ft. long, 27 ft. wide & 7 ft. 8 in. deep, gross tonnage 516, registered tonnage 294. The M. & C. N. Co. will put on the Montreal-Cornwall run the side-wheel steamer *Filgate*, recently purchased. She is 158 ft. long, 25 ft. 4 ins. wide, & 7 ft. 8 ins. deep, gross tonnage 263, registered tonnage 153.

The Dominion Parliament has passed the bill to incorporate the Canadian Inland Transportation Co., the principal incorporators of which are Senator Forget, Montreal; A. Lumsden & J. McRae, Ottawa; & W. Christie, Toronto. The Co. proposes to place on

the upper lakes a fleet of steel steamships which will be able successfully to compete with the U.S. carriers. Ten solid steel vessels, measuring 276 ft. in length by 43 ft. beam, will be constructed. Their capacity will be 78,000 bus. of wheat with a 14 ft. depth in the canals, which could be increased to 108,000 bus. with an 18 ft. canal system. The Co. will build its own elevators & terminals, & it is believed that a large business can be done in return freights of coal & other commodities from Montreal & intermediate points. The Co. intends also to go into the business of carrying ore from the head of Lake Superior to the blast furnace at Hamilton.

Quebec Navigation Matters.

The Lake Labelle Navigation Co. has been incorporated; capital \$10,000. Headquarters Labelle.

A. Lumsden, M. L. A., Ottawa, has bought the boats & interests of the Lake Temiscamingue Navigation Co.

It is said a company is being formed in Quebec to run a line of steamers between Roberval, Peribonca and the parish of Honfleur, for the purpose of trading in those districts.

The Quebec Steamship Co. has been empowered by the Dominion Parliament to do a mercantile business. This exceptional privilege was given because the Co. does a large trade with the Windward Islands & proposes tendering for the contract for carrying the Imperial mails, which requires the company holding it to purchase all fruit offered at certain ports.

The Ottawa River Navigation Co.'s steamer *Victoria*, recently built in Toronto, the machinery being made at the Polson Engine Works, is 100 ft. long, with 20 ft. beam, with a speed of 14 to 15 knots. She is specially intended for excursion traffic, having accommodation for 300 passengers, & has been put on the run between Ottawa & Thurso. She cost about \$20,000. A view of her is given on page 183.

A recent Quebec press despatch said: "As soon as the new steamship for the winter ferry across the Straits of Northumberland arrives from Europe the s.s. *Stanley* will be taken to Quebec & placed at the disposal of the I.C.R. authorities. It will be used in winter in keeping open a communication between Quebec & Levis. The present winter ferry boats at Quebec do not cross to Levis after 5 p.m., though the down I.C.R. train only leaves Levis at midnight." The Deputy Minister of Marine recently advised us that he was not aware of any such arrangement as above mentioned.

The Richelieu River Navigation Co. has been incorporated under the Dominion Companies Act, with a capital of \$30,000 & headquarters at St. John's Que., to carry on a navigation business, with power to acquire

land for picnic purposes. The Co. will run a steamboat, the *Majestic*, on the Richelieu River between St. John's & the Noyan wharf at the Lacolle-Clarenceville bridge. The *Majestic*, which is now nearly completed, is being built by the Polson Iron Works, Toronto. Her dimensions are: length over all, 112 ft.; beam, extreme, 22½ ft.; draught, aft, 6 ft. She has fore & aft compound engines, jet condensing cylinders 14 x 28, with a 16 in. stroke; Fitzgibbon boiler, with a working pressure of 160 lbs. of steam, & has a speed of 16 miles an hour. She has a carrying capacity of from 600 to 700 people, & will cost about \$25,000. Ten staterooms have been built on the upper deck for the use of her captain & officers.

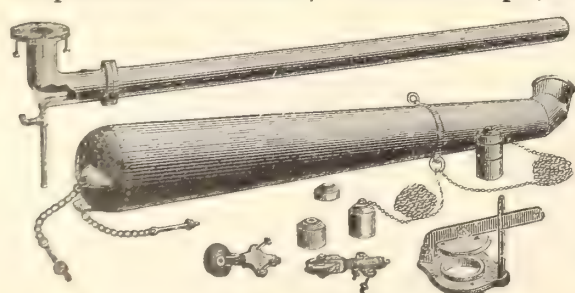
New Winter Steamer for P.E.I.

A very full description of this vessel & copious extracts from the specifications were published in our issue of July, 1898, pg. 131. The illustration on page 185 shows the outboard profile of the steamer. We are indebted to Major Gourdeau, Deputy Minister of Marine, for a tracing of the plan from which the illustration has been made. The recently issued report of the Department of Marine has the following references to the winter service:

The *Stanley* has been engaged in the winter service every season since 1887, & has proved a most excellent ice steamer. The severe strain which she has undergone in battling with heavy ice in the Straits of Northumberland has had its effect. She needs extensive repairs, which can only be made in Great Britain, in order to make her thoroughly efficient for winter service. An examination of the hull & machinery has shown it would not be prudent to force her through heavy ice as formerly where lives & property are at stake. It being considered in the public interests to construct a larger & improved steamer, Capt. McElhinney, Nautical Adviser, was instructed to proceed to Great Britain to examine ice vessels under construction there, & to obtain tenders from shipbuilders, for building a steel steamer according to specifications & plans, to class 100 A1 at Lloyds. The tender of Gourlay Bros. & Co., Dundee, being the most advantageous, Capt. McElhinney recommended its acceptance, & a contract was entered into with them to build the steamer & have her completed by the end of Aug., 1899.

The accommodation of the *Stanley* for freight & passengers was insufficient at times. The new steamer will afford greater & better accommodation for passengers, & will have more space for freight. The dimensions of the new steamer will be 225 ft. in length between perpendiculars; breadth moulded, 32½ ft.; depth moulded, 20½ ft. She will be heavily stiffened about the water line with heavy plating & intermediate angle iron framing. Similar plating will be placed on the bows & bottom, extending 70 ft. towards

Improved Halladay Outlet Pipe, Spout and Fixtures



Outlet Valves,
Tanks, Windmills,
Steel Towers,
Pumps and General
Water Supply
Material.

The ONTARIO WIND ENGINE
and PUMP CO., (Limited)
TORONTO, ONT

Spokane Falls & Northern System. Nelson & Ft. Sheppard R'y Co. Red Mountain R'y Co.

THE DIRECT AND ONLY ALL RAIL ROUTE
BETWEEN THE

KOOTENAI DISTRICT

And all British Columbia Points, Pacific Coast Points, Puget Sound Points, Eastern Canada and the United States.

Connects at Spokane with Great Northern Railway, Northern Pacific Railway, O.R.R. & N.W. Co. Maps furnished. Tickets sold and information given by local and connecting line ticket agents.

C. G. DIXON, G.P. & T.A., Spokane, Wash

midships. The engines will be exceptionally strong, of the triple expansion type, having cylinders 26 ins., 41 ins. & 65 ins. diameter, to develop not less than 2,900 indicated h.p. under forced draught. This will exceed the Stanley's power by about 600 h.p. The stern has been specially designed for backing astern in the ice, & will have an ice cutter to protect the rudder stock; the rudder will be solid cast steel. The vessel will be provided with water ballast tanks in the bottom & trimming tanks forward and aft. Experience has been gained by the service of the Stanley, & in designing the new steamer improvements were kept in view. Instead of berths, as in the Stanley, 8 state-rooms will be provided, with 2 berths & a lounge in each. One specially large state-room will be fitted up with beds & other conveniences. The dining saloon will be sufficiently spacious & will be neatly furnished, upholstered & well lighted with incandescent electric lamps. Part of the saloon will be furnished specially for the comfort of ladies, & will have the latest improvements in heating apparatus. The main objects, however, have been to secure strength of hull & powerful engines. The steamer will cost about £38,000, without furnishings.

The schooner Prince Edward, built in 1887, being now unserviceable for delivering light-house supplies, a steamer is being built & will

No. 35, June 12. British Columbia. Shoals southeastward of White Rock, Trincomalee Channel.

No. 36, June 13. Nova Scotia. 1, Automatic buoy off Liscomb. 2, Signal buoy off Beaver Harbor.

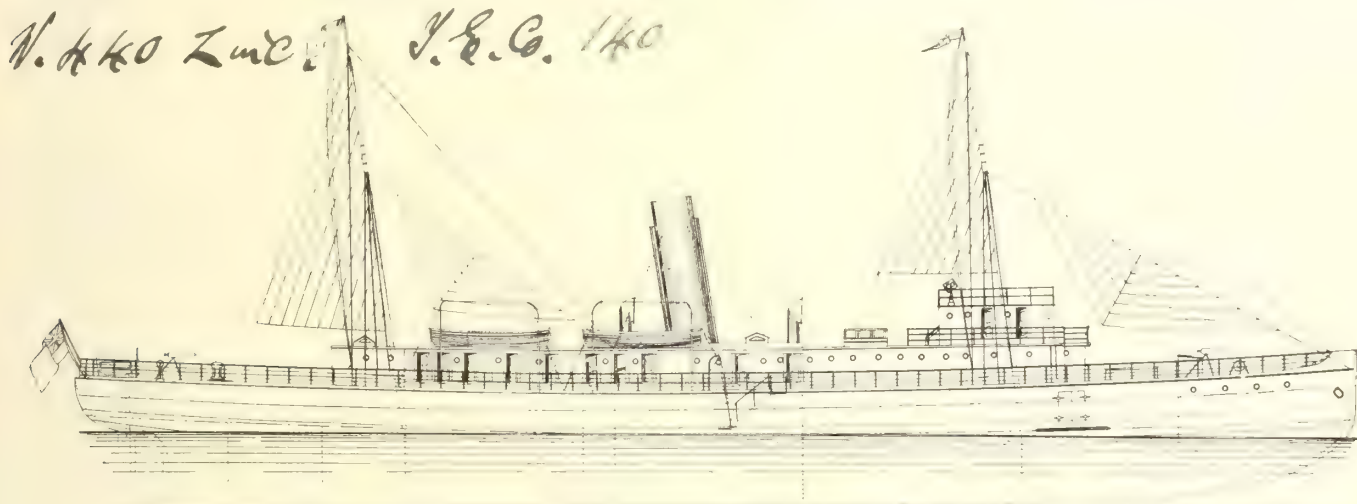
No. 37, June 15. Prince Edward Island. Whistling buoy off West Point replaced.

Great Lakes Insurance Policies.

On the 2nd class vessels insurance formerly expired at noon of Nov. 30, & Judge Swan, District Court of Detroit, Mich., some time ago based a decision on the fact, & called that hour the close of navigation on the Great Lakes. Since that time it has held as a precedent in law suits. But since that decision the insurance syndicate have made a concession to the 2nd class boats by calling Dec. 1, or the midnight of Nov. 30, the hour of ending their policies. If these vessels happen to be out at that time they are given an insurance extension, but the rate is much greater than charged the A1 boats. With the 1st class vessels the insurance expires, if they are in port, on the midnight of Dec. 11. If the vessel happens to be on the lake with a cargo contract, departure having been made prior to the expiration of the insurance, her insurance policy is extended

sels are the same. Their keels are 500 ft. long, their length over all or from knight-heads to taffrail being about 520 ft., their beam 60 ft. & their depth 36 ft., with a registered tonnage of 10,000 tons. The engines are of the triple expansion type, 2 sets in each ship driving twin screws. They will be powerful enough to send the mammoth vessels through the water under favorable conditions at a speed of 16 knots. The calculation is that leaving Liverpool on Thursday, say at 4 p.m., they will arrive at Quebec on the following Thursday evening; allowing for delay in landing steerage passengers at Quebec & a loss of 8 hours during darkness in the river, they will reach Montreal on Friday afternoon, or 8 days from Liverpool. For passengers to Canada this will be really as fast a service as a 20 knot ship to New York, not considering the large additional outlay experienced by those who take that route. Indeed, it may be safely said that when the Bavarian, Tunisian, Parisian & Californian are running, not only will Canadians use their own ships, but they will attract a good share of the Western & Southwestern United States passenger business to the more favored Canadian route.

It is intended, too, that these vessels will be models of excellence of the shipbuilder's craft. The hotel portion of a modern steamer



OUTBOARD DRAWING OF STEAMER BUILDING FOR PRINCE EDWARD ISLAND WINTER SERVICE.

be ready early in June. The length will be 95 ft., breadth 19 ft. & depth of hold 8 ft.; speed 9 knots. The cost will be \$15,100 for hull & engines. Both are being constructed in P.E.I.

Dominion Notices to Mariners.

The Department of Marine has issued the following notices:—

No. 29, May 20, Ontario.—Platform buoy south of Duck Islands, Lake Huron.

No. 30, May 20, New Brunswick.—1. Improvements in Jemseg light, St. John River. 2. Improvements in Indian Point range lights, Shiffagan Gulley.

No. 31, May 26, Quebec.—1. Gas buoy on St. Thomas Bank. 2. Uncharted shoal off Ste. Felicite, Nova Scotia. 3. Erratum.

No. 32, June 1, British Columbia.—1. Uncharted dangers off Kinghorn Island, Strait of Georgia. 2. Rocky ledge off Three Islets, east point of Cortes Island. 3. Shark Spit & Channel Rock beacons, Mary Island. 4. Nanaimo Harbor, additional spar buoy. 5. Beacons in Baynes Sound re-erected.

No. 33, June 8, Ontario. Removal of wreck of schooner Ganges, Lake Erie.

No. 34, June 10, Manitoba. 1, Gull Harbor lighthouse. 2, Black Bear Island lighthouse.

at pro rata rate, which is the smallest the insurance syndicates have been willing to grant & which is so small that the owners have never protested against paying it. The extension continues until her arrival at destination, even if it takes 10 days after the nominal time of ending. If she is held up at a way port by ice & compelled to stay there all winter, insurance ceases on her arrival at that point.—Marine Record.

Additions to the Allan Line.

The following circular has been issued by the Allan Line:—

The S.S. Bavarian, 10,000 tons, twin screw, was successfully launched from the yards of Denny & Co., Dumbarton, on the Clyde, on May 11. The Bavarian is the largest of 606 vessels built by this firm, and is the 12th built by them for the Allan Line. She is in all respects a duplicate of the S.S. Tunisian, now under construction by another Clyde ship-building firm, Alexander Stephens & Son, of Linthouse, near Glasgow. The Bavarian & Tunisian were ordered in Oct., 1897, & their keels were laid down shortly after. Neither time, skill nor money has been spared to produce in these two vessels the finest types of their kind. The specifications for both ves-

has reached a stage of perfection undreamt of "by those who went down to the sea in ships" a quarter of a century ago. The brightest light then was a paraffine candle or an oil lamp. Now thousands of incandescent lights illuminate every part of the ship, even the stoke hole. Then a smoking-room or a bath-room was only found on the best steamers. In these steamers even the steerage passengers are to be provided with smoking-rooms, & the 1st cabin bath-rooms, some of them with needle-bath attachments, & toilet-rooms, with the sumptuously-arranged smoking-rooms, seem as if they were arranged for a nobleman's castle rather than a sea-going vessel, sometimes in legal parlance denominated a "common carrier."

The whole 1st class accommodation of these steamers is arranged on a two-storied steel structure, extending about 180 ft. fore & aft, or say 90 ft. forward & 90 ft. aft, of the exact centre, & the whole width of the vessel, 60 ft. It will thus be seen that the 1st cabin passengers have at once the steadiest and widest part of the ship, & owing to this structure being above the ordinary decks, the cabins will be lighted by large port holes or with oblong windows, giving the possessors of these staterooms a homelike feeling, as well as securing the most ample ventilation. The maximum number of 1st cabin passengers to be carried will be 162,

As the rule will be a seat for each at one sitting at the dining-table, this maintaining the rule at present observed in the Allan fleet. The library & music room on the bridge deck will be found a source of beauty & convenience. Here are many quiet nooks, with lights finding their way through ornate windows, & ports shaded with soft Japanese curtains. The floors covered with rugs of oriental looms, softening the footfalls & giving that quiet elegance & repose that will enable many a wayfarer to really enjoy "his home on the ocean deep." The smoking-room, situated on the upper part of the central tower, & therefore as remote as possible from the library, but on the same deck, is an apartment sufficiently spacious for half a dozen whist parties as well as for many other passengers who love the weed. The space outside the house on the bridge deck is devoted to a covered promenade, & the shade deck or upper promenade, unencumbered in any way, is entirely reserved for 1st class passengers. To adapt them specially for the North Atlantic trade in winter they will be heated throughout with steam, arranged with cut-off valves so that passengers may have their cabins warmed in accordance with their own wishes without reference to others.

But the projectors of these ships have not given their whole attention to the 1st cabin arrangements. The plans show many wonderful improvements in this department of the vessel. Indeed, there is nothing for the comfort of the passengers in the 1st cabin that will not be found in a modified form in the 2nd cabin. There is a ladies' conversation room with piano; smoking room for men; bathrooms of most modern types, with white marbleized toilet rooms, running water in staterooms, dining room on spar deck, electric lights & bells in staterooms—all these, with a good table, will be provided for 2nd cabin passengers. The rates will be so low that a trip to the Old Country will be feasible to many whose purses do not afford the higher rates of the 1st cabin, & yet whose tastes lead them to require superior arrangements to those found in the steerage, or 3rd class. The demand for this middle class accommodation has been steadily on the increase during recent years. It can be truly said that on no Trans-Atlantic steamer has this demand been met in a more complete manner than on the new Allan liners.

"The poor we have always with us," i.e., that class who perforce must take the cheapest & travel not for the love of it. Well, they have not been forgotten, as may be seen from an examination of the plans. It is not usual to find an apartment denominated "Third class smoke-room," nor "Women's sitting-room," on ocean steamers, but here it is; besides there are small rooms for men & their wives, & for families, & no room to accommodate more than 6 persons. Space is also reserved for dining accommodation, & the Allan line rule again observed of a seat at the table for each passenger carried.

The passenger accommodation provides for 300 1st & 2nd class, and say 500 steerage, there is room for 8,000 tons of cargo, water ballast sufficient to make the vessels seaworthy without cargo; & refrigerator chambers for a large quantity of perishable provisions to supply the growing demands of this comparatively new & growing industry. The vessels will be provided with the latest & most improved devices for the handling of cargo,

as well as for the navigation & management of the ships. The twin screws, it is expected, will be of great assistance in the rapid manipulation of the ships in the tortuous river channels, as well as offering an additional security against delay from accidents to the machinery at sea.

These steamers, like the others of the Allan line, are built with bilge keels; these with their great width of 60 ft. will, it is thought, insure great steadiness even in a heavy sea. In addition the vessels are built throughout their entire length with a double bottom, which with the numerous bulkheads, will offer the highest guarantee for safety in case of accident.

The Bavarian is intended to sail from Liverpool July 27, & from Montreal Aug. 10, & every 4 weeks thereafter throughout the season. The Tunisian is expected to be ready the last part of September, the exact date will be announced later, & until that time her place in the fleet will be filled by the R. M. S. S. Tainui, now under charter. The Tainui is a vessel of the highest class, about same size & speed as Parisian. Having been built for the Australian trade her cabins are of more than the ordinary size on Trans-Atlantic vessels & special care has been taken to secure ample ventilation.

The S. S. Parisian, after an almost unprecedented career of successful voyages across the Atlantic, was placed in the hands of the Belfast builders & engineers, Workman, Clark & Co., in Jan. last, to receive new engines & boilers, & to bring her entire passenger accommodation up to date. The contract calls for her delivery early in July, when she will resume her place in the service practically a new steamer. Her speed will be increased by 1 knot an hour, so as to ensure regularity in running with the new steamers. Her 1st & 2nd cabin passengers' accommodation have been greatly improved, especially the latter. A new dining saloon has been added extending the width of the ship. New ladies' room on the spar deck, & also a new smoking room on the promenade deck for the 1st cabin, & one on the spar deck for the 2nd cabin passengers. The 3rd class, known formerly as steerage, has been reorganized. Small rooms for families have been created—a sitting room for the women, play rooms for the children, & a smoke room for the men are amongst the new features. The toilet & sanitary arrangements in all classes have been rearranged after the most recent & best types, all of which will retain for the Parisian the hold she for so long enjoyed on the affections of her patrons.

The S. S. Californian, built in 1891 by A. Stephens & Sons, builders of the Tunisian, has a registered tonnage of 4,500 tons. She is 400 ft. long, 46 ft. beam & 32 ft. 8 ins. deep. She is divided into 8 water-tight compartments, the bulkheads in all coming up to the spar deck, affording the best obtainable protection in case of accident. The engines are on the triple expansion principle, & the speed of the vessel is a little better than 14 knots an hour. She has made the passage from Quebec to Liverpool in 8 days. Her accommodation for all classes of passengers is such as to give the highest satisfaction. During the winter of 1898-99 entirely new 2nd cabin accommodation has been arranged so that the entire appointments of this vessel are equal to the Parisian, but not on quite so large a scale.

ELECTRIC RAILWAYS.

British Columbia Electric Ry. Co.

The 2nd annual report for the year ended Mar. 31 last, has been issued, the main points being summarized as follows:—In Nov., 1898, an issue was successfully made at £11 per share of 12,000 non-cumulative 5% preference shares of £10 each, preferential as to capital as well as dividend, & ranking for additional dividend rateably with the ordinary shares, after such ordinary shares have received 7% per annum. The £60,000 non-cumulative 6% income bonds have been paid off at par out of the proceeds of this issue. The balance of the proceeds is being devoted to the purposes set forth in the prospectus. Most of the extensions & improvements set out in the recommendations of the General Manager & Chief Engineer have been taken in hand, & it is anticipated that they will almost all be completed by Sept. 1 next, from which time the increase in annual profits which is expected from them should commence to accrue. Some of the less important items, such as the 125-light arc dynamo, the new power metallic circuit, the lighting extensions, the re-arrangement of the circuits, the installation of additional & new feeders in Vancouver, & most of the lighting extensions in Victoria were completed about the beginning of 1899. The installation of the plant for utilizing the water-power from the falls of Goldstream at Victoria, has been completed. Much difficulty was experienced in getting it into satisfactory working order, before it could be taken over from the contractors. It was not until the beginning of Sep., '98, that the machinery was first started, & troubles were experienced until the end of Mar., '99. The difficulties have now been got over, & the plant has been running satisfactorily since the beginning of April, but, owing to the delays, no benefit was realized in the year under review. The directors anticipate the benefit will be felt this year.

With a view of enabling the Co., not only to handle the present load, but also to have a considerable margin of power for increase in business, without exceeding the consumption of 4,000,000 gals. of water per day, which, under the lease, is the maximum allowable at the minimum rental, the directors propose the erection of a storage battery to be worked in connection with the water-power plant, & are now taking the best expert advice obtainable as to which of many now in the market is the most efficient & economical form of accumulator for the purpose.

The gross profit for the year amounts to £30,188 14s. 1d. From this the directors have paid the debenture interest & the 6% dividend due on the income bonds up to the date of redemption. Including £207 19s. 9d. brought forward from last year, the accounts show a net balance of revenue of £16,575 10s. 6d., & after deducting from this the sum required to meet that part of the dividend on the preference shares which had accrued due to Mar. 31, viz., £1,018 17s. 5d., there remains £15,556 13s. 1d. available for distribution. From this sum the directors have decided to write off a further 20% of preliminary expenses, £1,218 8s. 6d. To recommend the payment of a dividend of 4% per annum (free of income tax) on the ordinary shares of the

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Co., absorbing £8,000. To transfer to reserve account, £6,148 19s. 10d., & to carry forward to the next account £189 4s. 9d. In addition to £6,148 19s. 10d., above mentioned, the directors have transferred to reserve account the surplus of premium received over the expenses of the preference share issue, £1,349 5s. 2d., bringing the reserve fund up to £12,000.

The disastrous fire at New Westminster in Sept., '98, only affected the Co. by the burning down of about ½ a mile of track equipment. The Co. donated \$2,100 to the relief fund. Owing to the large number of sight-seers carried at the time, & the large amount of building materials & general freight carried since, the receipts of the Westminster branch have suffered comparatively little, notwithstanding that the return fare between Vancouver & Westminster has been reduced from 75c. to 60c.

Although the percentage of operating expenses has been considerably reduced, compared with last year, it is not yet satisfactory, but the water power installation at Victoria is looked to to reduce the expenses, & the directors anticipate that on the completion of the works now being erected in Vancouver, the percentage will compare favorably with that of other undertakings of a similar nature. Following is a comparison with the statistics of other leading companies on the London market carrying on the same business:

COMPANY.	Receipts.	Expenses.	Profit.	Percentage of working expenses to gross receipts.	
				1898.	1897.
Montreal St. Ry.....	\$1,471,939	\$ 794,884	\$ 797,055	53.96	53.96
Ottawa Electric Ry.....	231,892	150,138	72,043	68.66	67.67
Toronto Railway.....	1,210,018	578,857	631,709	47.81	48.81
London St. Ry.....	113,811	65,005	48,146	7.66	57.06
Twin City Rapid Transit.	2,179,716	1,019,392	1,151,323	46.96	43.18
B. C. Electric Ry. Co.....	412,368	249,768	162,600	60.57	68.01

Detailed reference is made to the lighting & power branches of the Co.'s business.

The rolling stock has been maintained in good condition, all necessary repairs have been made, & 4 new fully equipped cars with motors have been added. The road bed & track on the Vancouver & Westminster branches have been maintained in excellent condition, & on the Westminster branch works have been commenced with a view to replacing the 4 small bridges by culverts & a permanent railway embankment. This will reduce the cost of maintenance in future. The directors have decided to entirely relay the road bed of the Victoria branch, as it is not in good condition & the rails are light, & they have decided that it will be more economical & wiser to put the track in first-rate permanent condition at once than to follow the system of improvement which was commenced last year, by which the road bed & track were to be renewed over a period of several years. The Co.'s land grants & town lots have again increased in value during the year, owing to the extension of trade which has been experienced. Building operations have been on a large scale throughout the cities in order to satisfy the continued demands for business premises & residences. The population is still increasing along the line between Vancouver & Westminster, & business, consequently, continues to develop in that direction. A complete reorganization & consolidation of the plant & machinery of the Vancouver & Westminster branches has been taken in hand, & will, it is expected, be finished about Sept. 1st. When this is accomplished, with the new installation just completed at Victoria, the Co. will have throughout thoroughly efficient machinery of the latest type, with all the most recent economical improvements, whilst the old plants at Victoria & Westminster will, as heretofore, be carefully maintained for the purposes of reserve. Beyond the regular lighting extensions, the installation of a storage battery, & the reconstructions of the road bed at Victoria al-

ready referred to, there are no new improvements or extensions at present proposed or needed.

EARNINGS & EXPENSES YEAR ENDED MAR. 31, 1899.

Railway, Vancouver	\$75,166
" Westminster	84,214
" Victoria	85,672
-Lighting, Vancouver.....	106,392
" Victoria	60,176

Total earnings	\$412,368
Expenses.....	249,768

Net earnings..... \$162,600

The chief officers of the Co. in Canada are: General Manager, J. Buntzen, Vancouver; Chief Engineer & General Superintendent, J. M. Campbell, Vancouver; Assistant Engineer & Superintendent, R. H. Sperling, Victoria; Assistant Comptroller, E. H. Wilcox, Vancouver; Local Manager, A. T. Goward, Victoria; Superintendents of Traffic, H. Gibson, Victoria, D. A. Shiles, Vancouver.

In Vancouver the Denman St. extension & the double tracking between Davie & Georgia Sts. have been completed.

A movement is on foot to secure the building of a line from Government St., Victoria, by Humboldt St., to Ross Bay Cemetery, & another line to the Gorge, by way of Gar-

chanically we find the joints all that could be desired, the resistance being no greater than that of the solid rail; so that by using it it is possible to dispense with the usual copper bond. We have at present one furnace at work, with which we make 75 joints per night on an average. On construction work, where there is no interference from traffic, the number of joints from one furnace per day should be at least 100.

The Montreal Star thus describes the work: "Formerly plates were used at the ends of the rails to make the connection. It is claimed, however, that there is a loss of power or voltage by this arrangement. Hence the Co., to save the power thus lost, is making a solid joint or weld by placing a mould around the ends of the rails, & pouring in molten metal. This can only be done where the streets are paved. A huge portable furnace is brought near the place where the joints are to be made. A wire is thrown over the ordinary street car wire, & power is thus obtained to operate a fan which soon reduces the cast iron thrown into the furnace together with coal to a liquid state. This is run out of the spout into large metal buckets which are carried, everyone by 4 men, to where the joint is to be made. It takes just about a bucket of metal to fill the mould around each joint. The intense heat of the molten iron affects the ends of the rails, & the whole makes a perfect weld. An asbestos covering is used over the mould, & through a hole in this covering the metal is poured into the mould. A few minutes after the iron is poured in the mould is pried off & the red hot mass allowed to cool."

The Sao Paulo R., L. & P. Co.

J. Gunn, Superintendent; J. M. Smith, Comptroller; H. E. H. Vernon, Transfer Clerk; R. S. Gossett, Stenographer, all of the Toronto Ry. Co.; A. J. Sinclair, C.E., of Mackenzie & Mann's staff; A. W. Mackenzie, son of the President of the Toronto Ry. Co., & E. W. McNeill, of Blake, Lash & Cassells' law office, Toronto, have been incorporated under the Ontario Companies Act as the Sao Paulo Railway Light & Power Co., Ltd., with a capital of \$6,000,000, & head office at Toronto, the incorporators to be the first directors. The Co. has sweeping powers to operate in Canada or elsewhere, among them being power to construct & operate works for the production of steam, gas & electricity, & steam, gas, electrical, pneumatic, mechanical, hydraulic & other power elsewhere than in Canada, to obtain governmental, municipal or other authority, to construct & operate railways & branches for cars & other vehicles; also telegraph & telephone lines & works in connection therewith; & to carry telegrams, messages, passengers, mails, express & other freight by power of animals, or by animal, steam, pneumatic, electric or mechanical power; & also there to acquire & operate lines of railway, telegraph & telephone, gas-works & lines, electric light works & lines, steam, gas, electrical, pneumatic, mechanical, hydraulic & other power, works & lines, & the assets, powers, etc., connected therewith, & shares in the capital stock & bonds, debentures etc., of any company owning or operating any of the same, & to acquire real & personal property & estates & interests therein, including water-powers, lakes, ponds, streams & water-courses; to acquire rights, franchises, etc., to enable the Co. properly to exercise & carry on all or any of its rights, & powers; to enter into contracts with governmental, municipal or other authorities, bodies & private individuals, respecting the exercise by the Co. of any of its rights, etc., & respecting the acquisition by the Co. of rights, etc., to obtain from governmental, municipal & other authorities, etc., confirmation, registration & recognition of the Co. & of its rights,

bally Road. The movers want to induce the heavily interested property owners to build the lines on condition that they will be continuously operated summer and winter, with a 5c. fare.

Earnings and expenses for April:

GROSS EARNINGS.		1898.	1899.	Increase or Decrease.
Railway	Vancouver branch	\$3,626	\$6,271	\$ 2,645
	Victoria "	6,426	6,230	196 -
	Westminster "	6,399	6,037	362 -
Lighting	Vancouver "	9,540	9,751	211 +
	Victoria "	3,524	3,819	295 +
Total gross earnings		\$28,681	\$29,708	\$1,027 +
Working expenses		\$19,327	\$19,112	\$215 -
Net profits.....		\$9,354	\$10,596	\$1,242 +
Aggregate gross earnings ..		\$28,681	\$29,708	\$1,027 +
Aggregate net profit.		\$9,354	\$10,596	\$1,242 +
+ Increase. - Decrease.				

Cast-Welded Joints.

F. L. Wanklyn, Manager & Chief Engineer Montreal St. Ry. Co., has, in response to an enquiry, given us the following information respecting these joints:—"Last autumn 1,000 joints of this kind were made by us in different parts of our tracks, some in paved areas & some where the roadbed is simply macadam, the percentage of failures, due to expansion & contraction, being very small—less than ½ of 1%, & these occurred entirely in that portion of the track running in macadamized streets. We consider the experiment so satisfactory that we are now putting 5,000 joints in. The effect of these joints on tracks which have been in service for some years is most gratifying, as it entirely overcomes the low-joint trouble, which gives so much bother in street-railway systems, & I have no doubt that the introduction of cast-welded joints, if properly made, will materially increase the life of the rails. Electrically as well as me-

effects, etc., within any place outside of Canada, & such additional rights, etc., as may be considered expedient; & to do whatever may be necessary to comply with laws, etc., in any such place; to sell to any persons or corporations any of the works, properties, rights, etc., of the Company.

The Lines in Western Canada.

Nelson.—At a recent meeting the City Council considered the application of the British Electric Traction Co. of London, Eng., for a charter for a tramway system in Nelson. During the term of the previous Council this matter was broached by Capt. Duncan & C. S. Drummond, & the Council passed a resolution setting out that no obstacles would be placed in the way of the Co. securing a charter. Since then the matter has been taken up by the British Electric Traction Co., & W. A. Macdonald, solicitor, asked the Council to again pass in favor of the franchise. He explained it was the desire of the promoters to cable to the directors meeting in London that the Council was favorably inclined to the granting of the franchise, and that it would submit a by-law to the ratepayers authorizing the granting of the charter. If such a resolution was passed he said that the Co. would feel warranted in undertaking a great deal of the preliminary work at once, & so soon as the ratepayers consented to the granting of the franchise work would be proceeded with vigorously, & cars would be running as soon as possible. The Co. desired a charter for 35 years & exemption from taxation upon its property. Mr. Macdonald explained that the British Electric Traction Co. would be the parent company of the company to be incorporated in B.C., & as an evidence of its strength he said that it already controlled about 40 different tramway lines in Great Brit-

ain & other countries. The Council decided to comply with the request to submit a by-law to the ratepayers for their approval, upon the understanding that the Co. should give satisfactory evidence of its ability to carry out the work, & that within 2 months after the granting of the charter the Co. should commence work & continue the same without delay until at least 2 miles of tramway was completed. This was satisfactory to the promoter's solicitor & at a future meeting details of the agreement to be made between the Co. & the city will be gone into when a purchase clause will be inserted, & other conditions deemed necessary will be imposed.—Nelson Miner.

The Winnipeg Electric St. Ry. Co. is equipping its cars with fenders.

Winnipeg to St. Norbert.—C. H. Allen, solicitor, Winnipeg, gives notice of application to the Manitoba Legislature for the incorporation of a company to construct & operate a steam or electric railway from St. Boniface to St. Norbert, on the east side of Red River, with a branch to St. Anne, & to cross any bridges between St. Boniface & Winnipeg, also to build from St. Norbert on the west side of Red River to Winnipeg. It is understood the intention is to build electric lines & to operate pleasure parks.

Ontario Electric Railways.

Ayr to Paris.—A meeting was held recently to consider the question of connecting these points by an electric railway, & possibly extending it to Brantford. Considerable divergence of opinion manifested itself, but a majority favored the proposal.

Brantford St. Ry.—In reply to complaints from the City Council the management states that the track & poles are being attended to & that everything within reason is being done to improve the facilities of the line.

Mohawk Park, owned by this Co. is a delightful resort. It has the only water-chute in Canada, & which cost \$1,200. The base ball grounds & bicycle track are drawing cards. Last year 68 picnics were held there, it being a favorite resort for Sunday schools. The refreshment privileges & those for merry-go-round, water toboggan, boats, etc., are rented. No theatricals are presented, but such attractions as tight-rope walking, tumbling & slack-wire performances drew fairly well last year.

Cornwall Electric St. Ry.—On Queen's birthday some 12,000 passengers were carried. Manager Talbot thinks the prospects very good.

Hamilton.—It is said the Cataract Power Co., represented by J. Patterson, has now secured a majority of the stock of the Hamilton St. Ry. & the Hamilton Radial Electric Ry. & that it is likely to also get control of the Hamilton & Dundas Electric Ry. The stock of the Hamilton St. Ry. is \$205,000, & the bonded indebtedness some \$500,000. It is in contemplation for the amalgamated systems to be added to by the building of lines from Hamilton to Guelph & Waterloo, & by the extension of the Radial to Oakville. Other lines are also talked of, including an extension from Guelph to Owen Sound, the Hamilton, Ancaster & Chedoke project, a line from Hamilton via Brantford to Paris & Ayr, & a line from Brantford to Port Dover.

London St. Ry.'s gross earnings for May, \$5,352.10, a decrease of \$2,542.20 from May, 1898. The strike took place May 23, 1899, & is still in progress. The cause of the difficulty is the refusal of the Co. to formally recognize the union. The Co. offered to submit to arbitration the question as to whether it had or had not lived up to the agreement which settled the strike of 6 months ago, but the men replied that the agreement was unworkable & demanded a new one, which had for its first

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clause a provision that none but union men be employed. This the Co. refused to consider.

The Ottawa Electric Ry. has got its desired legislation through the House of Commons despite vigorous attempts to change it. The Co. is given power to extend its line from some point on its present line in the municipalities of Hintonburg or Nepean to Bell's Corners, the extension to be begun within 18 months & completed within 3 years. The most important clause in the Act reads:—"Notwithstanding anything contained in the statutes of 1892, chap. 53, sec. 6, it is hereby declared & enacted that the following words in the Ontario statutes of 1898, chap. 45, sec. 2: 'no car of any description shall be run between midnight of Saturday & midnight of Sunday,' are not & shall not be applicable to the Ottawa Electric Ry. Co."

Owen Sound.—The matter of a summer resort at Balmy Beach, on the Georgian Bay, is being earnestly discussed. It is said that New Orleans & Cincinnati capitalists are looking into the matter, & the people are very hopeful that by next year the plans at present outlined will be put into effect. Property owners at the point named are active in their endeavors to interest outsiders, & offer all the ground & help possible to further the enterprise. One great feature of the culmination of this resort plan will be the construction of an electric railway to the proposed spot. The connection of Owen Sound & Balmy Beach has for a long time been talked of, & if the resort plans go through there will be no question of the road being built at once.—Street Railway Review.

The foregoing refers to the Owen Sound & Georgian Bay St. Ry. Co., particulars of which were given in our April issue, pg. 120.

The St. Thomas St. Ry. Co. has planned to give its patrons one of the most delightful pleasure resorts in the entire Dominion. Yarwood Farm has long been noted for its beautiful lakes & its natural & picturesque scenery. It lies 6 miles from St. Thomas & is reached by the railway. The Co. has recently purchased the farm & has had expert landscape gardeners at work laying out the grounds, & by the combination of art & nature has made a series of parks & amusement grounds rivalling anything in Canada. At the entrance to the resort is Yarwood Park. This is what constituted the handsome grounds around the old family residence. This needed no embellishing at the hands of the gardener; it had already been laid out as attractively as possible. The old farm house is a part of the purchase & from it such supplies as hot water & other aids to the comfort of the picnicker can be obtained. From this point, too, there is a splendid view of Lake Pinafore, a large body of clear, pure water which affords the most ample facilities for boating & bathing. The lake is large enough to make the use of steam launches & sailing yachts entirely convenient. The car line, after winding around & half encircling Yarwood Park, leads up to the pretty station the Co. has built at the entrance to Central Park. Here is where the artist has shown his skill. This park is one of the most delightful spots imaginable. Just enough trees have been left standing to afford shade, while the smooth walks are bordered on either side with the gayest & the choicest flowers. One end of this park reaches to the bank of Lake Pinafore & here has been built a large & airy pavilion which can be used as a luncheon room for those who prefer it to eating out of doors. Over to the right from Central Park is the bicycle track & athletic grounds & close by are the golf links, the tennis court & the baseball grounds. The whole section is indeed but a series of parks & play grounds, the whole constituting one beautiful resort, the equal of which it would be hard to find. The Co. owns & controls it all & takes its passengers there, a pleasant ride in comfortable cars for a 5c. fare.—Street Railway Review.

Toronto Railway.—The gross earnings are:

	1899.	1898.	Increase.
Jan.	\$95,690.12	\$86,502.30	\$9,187.70
Feb.	91,860.30	82,402.19	9,458.11
Mar.	103,234.88	92,318.42	10,916.46
April.	95,212.37	86,898.83	8,313.54
May.	104,866.62	92,670.35	12,196.27
	\$490,864.29	\$440,792.15	\$50,072.14

The City Treasurer's report shows that the city received as percentage from the Co. last year \$162,631, an increase of \$16,958 over the previous year. The estimated percentage revenue for this year is \$164,000.

On Queen's Birthday 158,700 passengers who paid fares were carried, exclusive of transfers. On the King street route there were over 10,000 more people carried than on the same day in 1898.

A proposal to run cars between College & Bloor sts., by way of the University ravine, has been blocked by the University authorities.

Woodstock.—The Council has refused the application of a United States promoter for a 99-year street railway franchise.

Quebec Electric Railways.

The Hull Electric Ry. Co. has met its third defeat since 1896 in its attempt to secure power to bridge the Ottawa River & extend its railway from Hull to Ottawa. On May 16 the Railway Committee of Parliament rejected the Co.'s bill empowering it to build a bridge from Hull to Kent Street, Ottawa. The bill was supported by the Ottawa City Corporation & opposed by the Ottawa Electric Ry. Co. & the Beemer interests.

Montreal Island Belt Line Ry.—After a protracted fight between this Co. & the Montreal St. Ry. Co., the Railway Committee of the Privy Council has granted the M. I. B. L. Co.'s application to cross the Montreal St. Ry. Co.'s tracks on St. Catherine & Notre Dame Sts. in order to build a line to the Dominion Cotton Mills. The M. S. R. Co. wanted the M. I. B. L. Co. restricted to the carrying of freight on this line, but permission to carry passengers was also given. The road, which will be known as the Davidson St. line, is already under construction.

Montreal Park & Island Ry.—M. Connelley, contractor, has taken action against H. S. Holt, Hon. A. A. Thibaudeau, W. Strachan, D. Morrice, A. Brunet & L. S. Beaubien directors of this Co. He says that in 1894 he bought 22 of the Co.'s 1st mortgage bonds of \$1,000 each. The interest warrants upon the bonds were regularly paid until Jan., 1898, when default was made, & has continued since. He alleges the directors informed him that neither the principal nor the interest of the bonds would be paid, as the issue of which they formed part was defective & did not carry any mortgage upon the property of the Co., & that the Co. was insolvent & unable to meet these unsecured liabilities. The declaration sets forth that the defendants, to further their own private interests, have fraudulently hypothecated the property of the Co. with new encumbrances for the express purpose of creating a charge that should have priority over plaintiff's claim & make his recourse against the Co. valueless. The Co. having been authorized to further increase its bonded obligation, the defendants, in 1887, issued certain bonds purporting a 1st charge, & declaring them free & clear of previous encumbrance. To carry out the completion of the road a Co. has been organized called the Montreal Construction Co., which entered into a contract for the construction of the railway & covenanted to receive in part payment bonds of the railway company for \$25,000 a mile. The directors of the Montreal Construction Co. were directors of the M. P. & I. Ry. Co., the President of the M. P. & I. Ry. Co. was President of the Montreal Construction Co., the Secretary was also Secretary of the other company, & the defendants were the chief

proprietors & shareholders of the Construction Co. The issue of bonds at the rate of \$25,000 a mile is alleged to have been excessive, & calculated to render the railway company unable to meet any other liability, & in fact, rendered it virtually insolvent.

Montreal St. Ry.—The gross earnings are:

	1899.	1898.	Increase.
Oct.	\$133,419.69	\$116,093.09	\$17,326.60
Nov.	125,120.10	110,098.98	15,021.12
Dec.	127,678.00	113,029.33	14,648.67
Jan.	125,270.04	110,155.90	15,114.14
Feb.	113,838.02	102,425.99	11,412.03
Mar.	123,754.11	114,476.98	9,277.13
April.	130,405.96	110,619.27	19,786.69
May.	145,466.38	123,308.08	22,158.30
	\$1,024,964.30	\$900,807.68	\$124,156.62

The Co. has voluntarily increased the pay of motormen & conductors, who have been in its service for two years & over, to 15c. an hour. Those who have been 5 years & over will get free uniforms. The Co. has also decided to insure all its operating department & workshop employes in an accident insurance company for \$1,000 each, in case of death from accidents either on or off duty; \$500 for total disablement, & \$5 weekly indemnity for disablement through injuries or specified diseases. Hitherto employes have had to pay their own insurance.

The Co. has decided to double-track the Verdun extension out to Queen's Park, to vestibule all cars front & rear, & to build 3 car sheds with a combined capacity of 224 cars.

Superintendent McDonald, who recently returned from visiting a number of U.S. cities, said he had been investigating the fender question particularly, & would prepare a report on it. His opinion is that a combination fender, which will unite the best points of several of those now in use, will eventually be adopted. In a recent conference with the City Surveyor of Montreal, Manager Wanklyn said the Co. would subject to a thorough trial all the fenders submitted to it, & would adopt for all its cars the one proved by the tests to be the best for the public protection. The present fender was adopted after thorough trial & mature consideration, because the management considered it the best available. Mr. Wanklyn considers it has done its work well, for it has saved many lives. Most of the accidents which have occurred could not have been prevented by any possible kind of fender.

The action of the Railway Committee of the Privy Council in giving the Montreal Island Belt Line Ry. Co. access into the city for passengers, as well as freight, has dispelled the idea that the Montreal St. Ry. Co. has a monopoly, & has somewhat depressed the stock lately. The \$100 shares were up to \$335 early in May, but went down to \$312, since which they have been climbing up again. It is said the Co. is trying to absorb the Montreal Park & Island Ry. Co., which has exclusive franchises from a number of suburbs. It reaches Montreal by 4 different points, & enters by a friendly arrangement over the M. S. Ry. Co.'s rails. But it is in a bad condition financially, & it is obvious that a change in the management might rupture this friendly arrangement. It is understood that it has been offered \$800,000 for all its property & franchises, but it is said to be holding out for a round million. Such a purchase would dispose of a good slice of the new stock of the M. S. R. Co., which at the last session of the Legislature was given permission to increase its capital from \$5,000,000 to \$10,000,000 for the purposes of extensions but has not yet found an opening for the extra capital.

Quebec, Montmorency & Charlevoix Ry.

—We are officially informed that the Co. has abandoned, for the present, its intention to construct the upper road or line on the top of the cliff to Montmorency Falls. (Apl. pg. 121.)

The name of this Co. is to be changed to the Quebec Light & Power Co.

ASSESSMENT SYSTEM.



THE BEST FRATERNAL BENEFIT SOCIETY IN THE WORLD

THE SPLENDID RECORD OF THE I. O. F.

Cost to Join the I.O.F.

(For \$1,000 Mortuary Benefit.)

Initiation fee (minimum).....	\$1 00
Certificate fee.....	1 00
Registration fee.....	1 00
Medical Examination fee.....	1 50

Total minimum cost.....\$4 50

(For more than \$1,000 Mort. Benefit.)

Cost to take \$2,000 Mort. Benefit..	\$6 00
" " \$3,000 " " "	7 00
" " \$4,000 " " "	9 00
" " \$5,000 " " "	10 00

Sick benefits, when required, cost extra.

Benefits given by the I.O.F.

- 1.—**Social and Fraternal Privileges** of the Court Room.
- 2.—**Free Medical Attendance** by Court Physician where not dispensed with by Court by-law; also trained nurses in certain cases.
- 3.—**A Sick Benefit** of \$4 to \$5 per week, subject to provisions of the Constitution and Laws of the Order; optional, and when taken costs extra.
- 4.—**A Total and Permanent Disability Benefit** of one-half of face value of policy, with exemption from further payment of premiums or Court Dues.
- 5.—**An Old Age Benefit** consisting of exemption from payment of premiums and Court dues after age 70.
- 6.—**An Old Age Disability Benefit** of one-tenth of face value of policy payable yearly for ten years, on being declared totally and permanently disabled by infirmities of age after the seventieth birthday.
- 7.—**An Old Age Pension** payable during disability, which may be taken as a substitute for the Old Age Disability Benefit.
- 8.—**A Burial Benefit** of \$100 at death of a Pensioner.
- 9.—**A Funeral Benefit** of \$50 at death of a member enrolled in Sick and Funeral Benefit Department.
- 10.—**The Mortuary Benefit** of \$500, \$1,000, \$2,000, \$3,000, \$4,000 or \$5,000.

The Members, the Benefits, and Their Assurance

At 31st December Each Year.

Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300 00	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	12,058 86	2,967 93	2 61	11.00
1883	2,210	9,193 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	59,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	21,604	181,816 79	283,967 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.40
1892	43,024	344,748 82	580,597 85	13 49	6.25
1893	51,484	392,185 93	838,557 89	15 76	5.47
1894	70,055	511,162 30	1,187,255 11	16 94	5.47
1895	86,521	685,000 18	1,560,733 46	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.50
1897	121,683	992,225 60	2,558,152 78	20 52	5.56
1898	144,000	1,170,125 14	3,186,370 36	22 12	5.67

For Further Information Respecting this Great Fraternal Benefit Society, Apply to

Oronhyatekha, M.D., S.C.R., Toronto, Ont.

James Marshall, 24 Charing Cross, London, Eng.

John A. McGillivray, Q.C., S.S., Toronto, Ont.

A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.

Or Any Officer or Member of the Order.

Three Rivers to Grand Mere.—The Three Rivers Board of Trade is endeavoring to secure the construction of an electric railway from that town to Grand Mere.

Jamaica Electric Ry.—Lieut.-Col. Henshaw, of Montreal, who has been in Jamaica recently, states that the electric railway, in which J. Ross, Montreal, W. Mackenzie, Toronto, & others are interested, has started operation & is proving decidedly satisfactory.

The Canadian Electrical Association will hold its convention at Hamilton, Ont., June 28 & 29. Among the features will be trips over the Hamilton Radial & the Hamilton, Grimsby & Beamsville Electric Railway & a visit to the Cataract Power Co.'s works.

Tramways in Shanghai.—A cablegram from Shanghai says: "Sir Chas. Ross, representing an American syndicate, has offered to purchase the municipal electric light plants, on condition that the purchaser is given the right to establish tramways." The Sir Chas. Ross mentioned is probably the one who is interested in electric power works & mines in British Columbia, & if so the syndicate is more likely to be a Canadian than a U.S. one.

International Electric Railways.—G. Johnson, Dominion statistician, says the 1st international electric railway operating between Canada & the U. S. was the Calais & St. Stephen, the 1st car of which crossed the bridge over the St. Croix river from Calais, Maine, to Milltown, N.B., in July, 1894; & the 1st car over the bridge between Calais & St. Stephen, N. B., crossed in June, 1895. On July 1, 1898, the Niagara Falls Park & River Ry. sent its first car over the bridge spanning the Niagara river from Niagara Falls, Ont., to Niagara Falls, N.Y.

Street Railway Advertising.—In the recent case of Macdonald vs. Stuffman, in Montreal, the plaintiff had contracted with defendant to have advertisements placed for him in 117 cars of the Montreal St. Ry. for \$350, payable in quarterly instalments. Some cars having been destroyed by fire, the advertisements did not appear in the number of cars mentioned during the 1st quarter, & defendant only tendered a portion of the amount. After the 2nd quarter, however, although the advertisements had appeared in more than 117 cars, he refused payment, alleging he had cancelled the contract. The Court held that he could not thus cancel a contract on his own account, & rendered judgment in favor of plaintiff for \$87.75, full amount due for the 2nd quarter.

St. John, N.B., Ry. Co.—The Supreme Court of N.B. has granted a new trial in the case of Prof. Hesse vs. the Co. In the Lower Court Hesse was given a verdict for \$25,000 on account of an accident by jumping from a car of which the conductor had lost control. Hesse had to have his foot amputated. The Co. appealed. The reason for the judgment is the misdirection of the trial judge as to the inference the jury might draw from defendant's objection to a witness stating the result of his inquiries at Providence, respecting Prof. Hesse's position, & from defendant's not using evidence taken under commission at Providence. The majority of the court held that Judge VanWort's comments in reference to the features of the case were improper, & calculated to affect the jury judicially from defendant's standpoint. Chief Justice Tuck held that the damages were out of proportion to the injuries sustained.

The Gorge Line. The Niagara Falls & Lewiston Ry. has seen a lot of changes recently. J. R. Mcgrue resigned the receivership, being succeeded by G. Morgan, of Syracuse, N.Y. Then the line was sold at sheriff's sale at Lockport, N.Y., to H. P. Bissell, of Buffalo, for \$6,184, subject to a mortgage of \$1,000,000 held by the Knickerbocker Trust

Co., Bissell being said to represent 95% of the creditors & 75% of the stockholders of the old company. This was followed by an announcement that the Co. had been re-organized with Gen. F. V. Greene, of New York, as President & G. Morgan, General Manager, & that an agreement had been made with the International Traction Co., owners of the Niagara Falls Park & River Ry. for the cars of the Gorge line to cross the new bridge from Lewiston, N.Y., to Queenston, Ont., run over the N.F.P.R. Ry. to Niagara Falls, Ont., cross to Niagara Falls, N.Y., & on to the Gorge line again, making a belt line.

Cuban Street Railway.—The Havana, Cuba, street railway system, now owned & controlled by three syndicates, the International Bank of Paris, the Harvey Syndicate of New York, & one in Canada, is to be fully equipped with electricity. Capt. Burrowe, who won considerable reputation as a Rough Rider in the recent war, is General Manager of the system, having been placed in charge shortly after the purchase by the syndicates. He has been introducing American methods as far as possible, but it has been decided to wait until fall, after the rainy season, before beginning the work of equipping the road for electricity. The roads, even under the old methods, have been paying good dividends, & Capt. Burrowe believes that, with the adoption of electricity, the Havana street railways will be among the best paying investments in Cuba.—Street Railway Review.

A recent report that W. Mackenzie & other Torontonians had secured the street railway franchise in Havana, & that the New York syndicate, in which Montreal capitalists are interested, had lost it on the production of proof of bribery, is denied by Hanson Bros., representatives of the syndicate which holds the franchise, who says the report is absolutely untrue. They operate the street railway at the present time, & they give an emphatic denial to the statement of bribery. No such action as that described could be taken before such a charge was investigated by the courts, & at present there are no courts sitting.

TELEGRAPHS & CABLES.

The Yukon Telegraph Line.

On May 22 Sir Adolphe Caron, J. H. Turner, ex-premier of British Columbia, directors; W. V. Laugh, M.P., & Alderman Barker, trustees of the debenture stock of the Canadian, British Columbian & Dawson City Telegraph Co. had a long interview in London, Eng., with Lord Strathcona & Mount Royal, High Commissioner for Canada, in respect to the breach of the charter by the Dominion Government. It is understood that Lord Strathcona was strongly impressed by the representations made by the deputation, especially in regard to the importance of the government keeping faith with investing capitalists under chartered rights. He promised the deputation to forward a full statement of the Co.'s claim to Ottawa.

A petition addressed to the Governor-General-in-Council states that an act was passed by the Dominion Parliament in 1898 incorporating the Co., & sets forth as follows: "On Dec. 9, 1898, an English joint stock company, entitled the Canadian, British Columbian & Dawson City Telegraph Co., Ltd., was organized at great expense to carry out the objects of the above mentioned charter & subscriptions for debentures were opened to the English public. On Dec. 16, 1898, the Co. proceeded to allotment, having arranged with the contractor to construct the line of telegraph as detailed in the prospectus, and as provided in the construction contract. All the foregoing arrangements & contracts have been seriously prejudiced, & it is apprehended

will be rendered null & void by the announcement that the Canadian government has decided to construct a telegraph line to connect the Yukon territory with British Columbia, & that the franchise for a telegraph line to Dawson is too valuable a one, & too important from the standpoint of national safety to be allowed to go into any but government hands. The route selected by the government is said to be practically the same as that provided by the aforesaid act. Your petitioners therefore pray that government work on the telegraph line be stopped forthwith & abandoned, & any authority permitting construction withdrawn. In the alternative, it is submitted that adequate & proper compensation to both companies, viz.: The Canadian, British Columbian & Dawson City Telegraph Co. & The Dawson City & Victoria Telegraph Co. should be awarded."

This is just what we predicted would happen when the Government decided to build the line.

About the middle of May, J. B. Charleson, who is in charge of construction of the Dominion Government telegraph line from Bennett Lake to Dawson City, sent a message from Skagway to Vancouver by steamer to be wired to the Minister of Public Works at Ottawa, stating that the line had been built from Bennett City to Tagish, 52 miles, making with the White Pass & Yukon Ry. Co.'s line from Skagway to Bennett, a total distance of 97 miles from the coast. Mr. Charleson stated he expected the line would be completed to Dawson City by the end of Nov.

C.P.R. Company's Telegraph.

NEW OFFICES:—Noyan Jct. & Rockland, Que.; Port Dalhousie, Queenston, Dinorwic, & C.A.Ry., Station, Ottawa, Ont.; Cowan & Makinok, Man.; Estevan & McLeod, N.W.T.; Moyelle, B.C.

OFFICES CLOSED:—St. Joseph de Levis, Que.; Byron, Colgan & Rockliffe, Ont.; Myrtle, Oakville & Rosebank, Man.

Manager Hosmer has presented the C.P.R. Telegraphers' Institute at Winnipeg with the Encyclopedia Britannica.

Superintendent Wilson, of the Pacific Division, who had a serious illness in the Kootenay district recently, has been granted leave of absence to recuperate & has gone to California.

P. A. Perron, civil engineer of the Dominion Public Works Department, & his assistant, who were engaged last winter in surveying the coast of Labrador for the extension of the telegraph line from Esquimaux Point to the Strait of Belle Isle, have returned to Ottawa, having completed the work. They had a very hard winter in Labrador. It is said the laying of the line is to be proceeded with shortly.

The Dominion Railway Committee has passed the bill to incorporate D. C. Corbin, Spokane, Wash.; Duncan Ross, Greenwood, B.C.; John Dean, of Rossland B.C., & others as the Northern Telegraph Co. The capital stock is placed at \$50,000. The head office is to be at Greenwood, B.C. The Co. may construct and operate lines between such points in Yale, West Kootenay & East Kootenay as it may desire. There was considerable objection to giving a blanket charter, & the bill was greatly amended. Authority was given to connect with or sell out to the Spokane Northern Telegraph Co.

Construction has been started on the Dominion Government telegraph line from Alberni to Cape Beale, B.C., 38 miles. It is to follow the coast line as closely as possible, a trail being cut the entire distance, & the no. 6 standard Government gauge wire being stretched on poles all the distance, except where it skirts Nikasmus Bay, where it will

on iron brackets fixed in the solid rock. The new line will make, with the existing Government wire to Alberni, an alternate loop line, to relieve the pressure on the Carmanah wire, & ensure a connection from the danger points on the West Coast when they are most in demand. It is expected to have the work completed by midsummer.

TELEPHONE MATTERS.

The Bell Telephone Company.

This Co.'s new exchange building in Quebec, which fronts on 3 streets, is 3 stories high, including basement. The whole of the exterior is of granite. The foundation wall up to the base course is of a dark grey, pick-faced granite; the ground floor is a dark grey rock-faced rustic granite; the rest of the building above the string course at the 1st floor level being of rose-tinted, pick-faced coursed granite. The whole of the interior is carried out on a slow burning principle; the joists being carried by steel columns & girders.

The main entrance, which is on St. John St., gives the public access to the Stores Department, the Long Distance & Toll Line Department, the General Office & the Manager's office. At the rear of the building on this floor is placed the room which contains the main distributing frame & power plant. The whole of the 1st or top floor is taken up by the operating room, the operator's retiring & cloak rooms, etc. In the basement are, room for stores department, furnace room & coal cellars, lineman's & inspectors' rooms & their store room. The building is heated by hot water; the plumbing is of a high quality & a special system of interior ventilation is applied which keeps the whole building supplied with fresh air. It is lighted with combination gas & electric light fixtures.

The telephone wires enter the building underground by means of lead-covered cables; each cable containing 150 pairs of wires. These cables are equipped with rubber covered wire ends, which are connected to the main distributing rack. On each rack are

placed the strong current protectors, consisting of carbon air gap arrester & a heat coil for sneak currents. In the same room are the storage batteries used in connection with the switchboard, & the dynamos for charging them. The charging machines are belted to several small induction motors. The wires from the main distributing frame & the lower plant are carried up through the ceiling into the operating room at a point situated under the switchboard, thence they are distributed to the proper points on the switchboard, which is of a type known as the branch terminal self-restoring drop switchboard, the same as in use in Montreal, Toronto & very many large cities in the United States & elsewhere. The switchboard has an ultimate capacity for 3,000 subscribers' lines with the necessary trunk & long distance lines, & the present capacity of 1,800 subscribers' lines & 20 long distance lines.

The Co. is erecting a heavy copper long distance metallic line between Ottawa & Brockville, Ont.

The Columbia Telephone Co. has poles distributed for its line from Cascade to Camp McKinney, B.C., & is setting them up & stringing wires.

The Victoria Telephone Co. has been incorporated with head office at Woodville, Ont., to operate in Lindsay & through Victoria County. J. G. Eyre & C. E. Weeks, Woodville; A. Campbell, Lindsay; J. J. Cave, Beaverton; & W. H. Johnston, Pefferlaw, are the provisional directors. The capital stock is \$20,000.

Application is to be made under the Manitoba Joint Stock Companies Act for the incorporation of the Carman Telephone Exchange Co. to apply a telephone system for the village of Carman, with outside connections. The capital is \$2,000, & the 1st directors are J. E. Campbell, F. D. Stewart, M. E. DeMill, W. H. Hemenway, W. H. Smith, S. McClain & J. H. Haverson, of Carman.

In our last issue, pg. 160, we mentioned some instruments invented by A. T. Smith,

District Superintendent of the Bell Telephone Co. at Kingston, Ont., for communicating between attendants on the surface & divers at the bottom of the river. Mr. Smith, to whom we wrote for detailed particulars, replies: "I am sorry to say that Capt. Lesslie informs me the diving bells are not a success, owing to the heavy pressure of current at that point on the river. While this does not in any way affect the working of the telephones as arranged by me, still I do not care to enter into details under the circumstances."

Among the Express Companies.

The Dominion re-opened its Niagara River Line route May 15.

The Dominion will open offices at Emo & Fort Francis, Rainy River district, Ont.

The Dominion has taken over the business on the St. Catharines & Niagara Central Ry., heretofore handled by the American.

J. C. Stewart has been appointed agent at Sault Ste. Marie, Mich., of both the Western & Dominion, vice T. E. Foard, promoted.

The American has started an express service on all trains on the St. Clair branch of the M.C.R., from St. Thomas, Ont., to Court-right, Ont.

The Canadian has issued General Circular no. 1, recapitulating general circulars nos. A to 24, & containing all the live information in them.

The Alaska Pacific has issued a new tariff between Seattle, Wash., & Skagway, White Pass, Alaska, Atlin Jct., Log Cabin & Bennett, Alaska; Tagish, B.C., White Horse Rapids, N.W.T., Atlin City, B.C., & Dawson City, Yukon, & intermediate points.

The Newfoundland Ry. Express is operating over R. G. Reid's Newfoundland Ry. The rate on all matter from North Sydney, N.S., to all points in Newfoundland, along the lines of the Ry., is \$2 per 100 lbs. The Newfoundland Ry. Express will not handle money.

THE HUNTER, ROSE CO.,
All kinds of... Limited.
PRINTING, BOOKBINDING,
OFFICE STATIONERY
AND ACCOUNT BOOKS
Temple Building, * * Toronto.

STEEL
LaBelle Steel Co.
Pittsburgh, Pa.

MANUFACTURERS OF

FINE TOOL STEEL

For Railway Purposes

Track Tools,
Punches, Dies,
Drills, Magnets, etc.

And all purposes where requirements are exacting.
Steel Forgings. Case Hardening Steel.

W. G. BLYTH,

Agent for Canada,

29 Melinda St., - Toronto

ADVERTISING

ON THE

CANADIAN PACIFIC RAILWAY.

The exclusive privilege of advertising in the Stations, Ticket Agencies and Hotels of the CANADIAN PACIFIC RAILWAY, and on that Company's buildings, premises, telegraph poles and fences, is controlled by THE ACTON BURROWS COMPANY.

The franchise embraces the whole of the C. P. R. System, including all branches and leased lines, comprising 7,178 miles of railway, 690 stations, and a number of ticket agencies and hotels.

Advertising on the C. P. R. is like every department of that Company's service, modern, up-to-date and reliable.

FOR RATES AND FURTHER PARTICULARS APPLY TO

The Acton Burrows Company,
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BRANCH OFFICE:

197 Lombard Street, Winnipeg—S. A. Erskine, Resident Agent.

The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Steamship, Express, Telegraph & Telephone supplies, &c.

Accident Insurance

Canadian Ry. Accident Ins. Co., Ont.
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Aerated Waters

E. L. Drewry Winnipeg.

Air Brakes & Fittings

Westinghouse Mfg. Co. Hamilton, Ont.

Ales

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The Hon. Thomas Greenway.

The Premier of Manitoba is also Railway Commissioner of the province, & in that capacity has had much to do with the development of its railway system. In a recent speech he dealt with this question, saying: One of the most important planks in the platform of the leader of this government dealt with the construction of an efficient railway system in this province. The introduction of other eastern trunk lines into the country, as well as the construction of branch lines, was one of the questions which received the most serious consideration at the hands of this government. It was felt that if this province was to come to the front as it should, & reach that position in our Dominion which its natural advantages entitle it to occupy, the introduction of a more extended railway system was of paramount importance. No other project could do so much to promote the development & the settlement of the province. Success on the part of the people engaged in agricultural pursuits meant the success of the province. As the chief interest is that of agriculture, then the farmers must be given every encouragement, & proper railway facilities securing a market for the produce was the most important matter. In fact, it is necessary to have a railway within a reasonable distance of every harvest field. With that object in view this government secured the introduction of the Northern Pacific Ry. into the province, thereby providing another outlet to the south & Duluth. This system has been extended until now the N.P.R. Co. has 309 miles of railway in operation in the province. The construction of C.P.R. branches to the extent of 235 miles was secured, affording facilities through new districts that previously lacked railway accommodation, & consisting of the extension of the C.P.R. lines from Hartney to Estevan, from Glenboro to Nesbitt, Deloraine to Napinka, Nesbitt to Souris, & Monteith to Reston. Then through that fine section of territory in the northwestern part of the province, we have secured the construction of 180 miles of railway by the Canadian Northern Ry. with 160 miles more to be constructed this season, which will give us 340 miles in that section. In the southeastern part of the province we have built 50 miles last season, with 90 miles to be completed this season, making 140 miles of what is known as the Southeastern Ry., a road which will shortly give us another outlet to Fort William. The result so far of our railway policy is this, that as soon as the lines under construction are completed (which

will be by the end of this season) we will have as a monument of our enterprise in this direction 1,024 miles of railway.

Why, the province of Manitoba has built more miles of railway in the last 10 years than any other province in the Dominion of Canada. Leaving out Quebec, we have built more lines of railway than all the other provinces put together in the last 10 years. It is not my intention to dwell on the benefits & advantages which the people of this province have & will derive from the lines of railway constructed. Our main idea is to render the settlement & development of the country practicable by se-



THE HON. THOMAS GREENWAY, M.P.P.,
Premier and Commissioner of Railways of Manitoba

curing our people facilities for handling & marketing their grain, but many additional advantages have accrued. The rates on freight have declined as a result of competition. The cost of lumber has been greatly reduced in many parts of the country, as well as fuel being cheaper. The value of the lands along the lines has been increased 100 to 150%. Farmers have been enabled to greatly increase their areas under cultivation. Towns & villages have sprung up along the lines, all contributing to the general prosperity of the country. Certainly many millions of dollars would not compensate the province for the

loss of these lines. The actual cost to the province in cash for the 1,024 miles of railroads is only \$934,002.50. It is true that in the case of the Canadian Northern & the Southeastern Ry. we have given a guarantee of interest on bonds, taking the railway as security. If these lines should fail to earn their operating expenses & interest on \$8,000 a mile, then we would be obliged to advance the interest until the earnings were sufficient to repay us. Part of the lines have been in operation nearly two years, & have been so successful that they have not cost the province one cent, & I feel convinced that they never will. Whilst Manitoba has built more lines of railway than any other province in the Dominion, the cash bonuses given by Manitoba are much less than the smallest bonus given by any province to any road within its own boundary.

Manitoba's Railway Policy.

At a Provincial Conservative Convention held in Winnipeg recently, the platform adopted contained these two planks relating to railway matters:

The adoption of the principle of Government ownership of railways, in so far as the circumstances of the Province will admit, & the adoption of the principle that no bonus should be granted to any railway company which does not give the Government of the Province the control of rates over lines used, together with the option of purchase.

That a line of railway be constructed to Hudson's Bay.

Several railway delegations have waited upon Premier Greenway recently, asking for the extension of roads to their respective districts. In the discussion which ensued, the railway policy of the Government was developed to a certain extent. In substance, Mr. Greenway intimated that the policy of the Government heretofore had been to assist in the construction of railways in two cases, 1st, where the lines were competing & concessions in rates were secured as a consideration of the aid, & 2nd, where they were constructed for colonization purposes, or for the purpose of securing an outlet to the markets of the world from districts remote from lines already in operation. Government ownership & operation of railways, from the standpoint of the Province at any rate, was not expedient at the present time. In any event, that question belonged rather to the jurisdiction of the Federal Government, but the question of Government control was another thing, & some solution of that should be reached, so that the rates could not be arbitrarily fixed by the existing railway companies in the Pro-

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A. Mills, Toronto; GUARD, H. Bowler, Toronto; AUDI-
TORS, D. L. Foley, Toronto; E. J. O'Dell, Owen Sound.

vince. He considered the fact that these
companies have refused to interchange traffic
except upon onerous terms, & in some cases
have refused to interchange traffic at all, is a
strong argument in favor of Government con-
trol & for the establishment of a railway com-
mission. The policy of the Government
would be to aid in railway construction when
substantial concessions could be secured
thereby. Next to securing facilities for the
marketing of grain, the question of rates to
the lake was the most important of those
affecting the farmer.

Historical Sketch of the G.T.R.

(Continued from last issue.)

It will be seen from this that the scheme was
for a trunk line running from Sarnia to Halifax
on British territory. New Brunswick, how-
ever, insisted on a branch being built to Port-
land, Maine, but the Imperial authorities were
not disposed to view this with favor & abso-
lutely refused to give any guarantee if a
foreign connection was in any way included
in the proposals, or if the main line through
New Brunswick was constructed on any other
survey than that made by Major Robinson in
1848. At that period the Intercolonial Rail-
way as a grand highway to a winter seaport
in British waters was a constant theme of
discussion among the people of the three
provinces of Canada, New Brunswick &
Nova Scotia, &, of course, gave much scope
for serious consideration to their respective
governments. A line from Montreal to Port-
land was already under construction. Hence,
it was with much disappointment, if not cha-
grin, that the great majority of the people saw
their hopes blighted for a time at least. There
were innumerable conferences between Pro-
vincial premiers, several missions to London
& negotiations of a most intricate character,
which it would be impossible to refer to here,
even if desirable.

Suffice it to say that whilst in London, on
one of these missions early in 1852, the late
Sir Francis Hincks, at that time holding the
position of Inspector-General—an office anal-
ogous to that of Finance Minister—learned
that satisfactory financial arrangements for
the building of that part of the line between
Montreal & Toronto could be made with the
firm of Betts & Brassey, railway contractors.
They had just completed extensive works in
France, and having a large quantity of un-
employed plant, were ready to engage in con-
structing all the railways required in Canada.
English capital to any amount that might
be needed would be supplied, provided the
works were entrusted to contractors who
were known to and in the confidence of Eng-
lish capitalists. On the return of Sir Francis
to Canada, he consulted his colleagues in the
cabinet, & the proposals of the contractors,
after being somewhat enlarged, were accept-
ed by the Ministry. The lines to be construct-
ed were those from Montreal to Hamilton, it
having always been contemplated by the Gov-
ernment that the Great Western Ry., whose
terminus was then at Hamilton, should be a
portion of the Grand Trunk line, to which
the public aid was limited. When these pro-
posals were embodied in a bill incorporating
the G.T.R. Co., & introduced in Parliament
during the session held in the autumn of 1852,
they met with considerable opposition from
the supporters of the Montreal & Kingston Ry.
Co., but finally carried on a division vote after
being amended in some important respects.

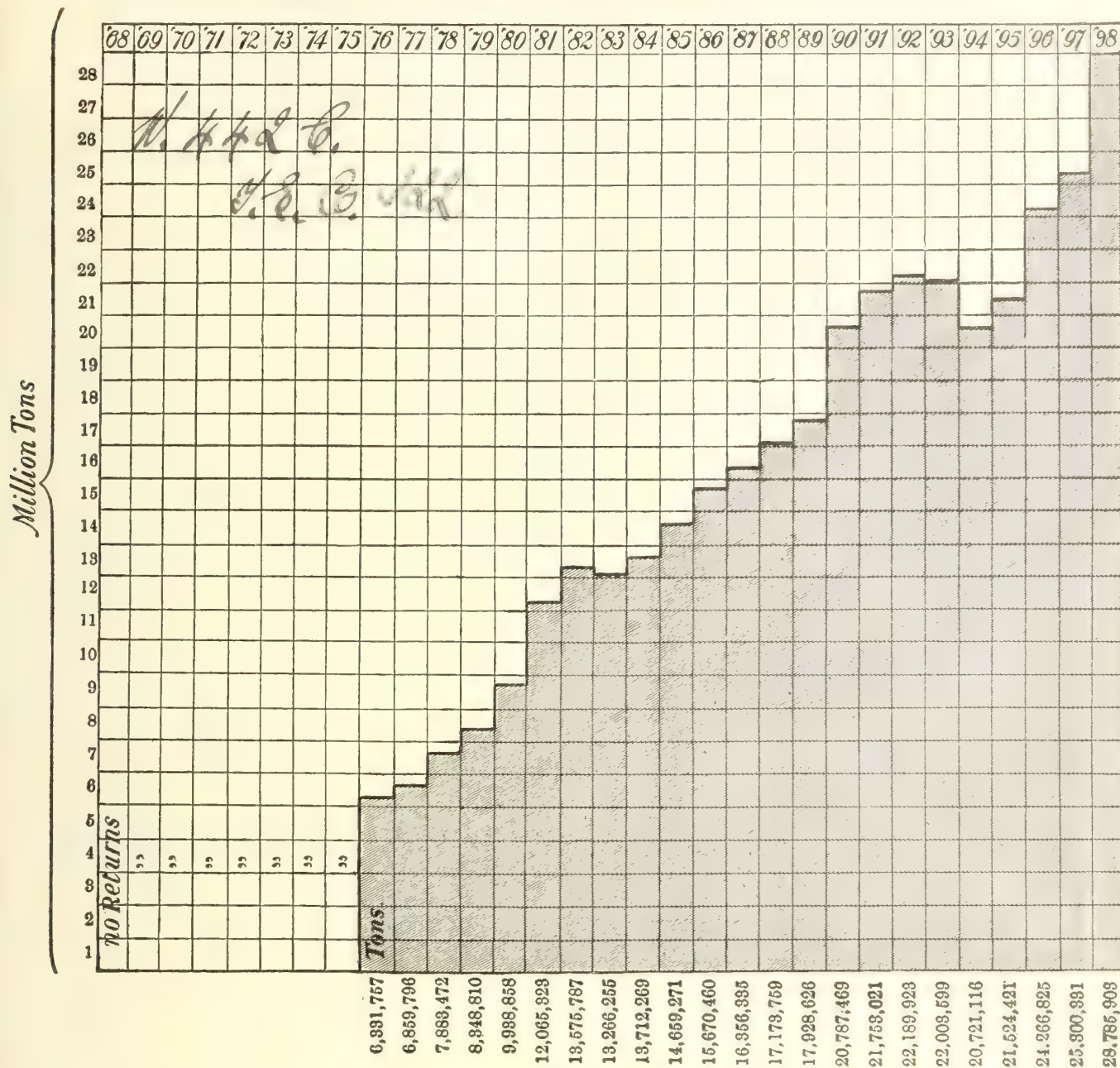
The Provincial Government guarantee, in-
stead of being for one-half the cost of the
road, was limited to £3,000 sterling per mile,
& the contractors, instead of requiring a Can-
adian subscription of one-tenth of the capital,
undertook to obtain the whole in England.
Later in the session a bill was passed authoriz-

ing the amalgamation of the G.T.R. Co. with
the St. Lawrence & Atlantic, the Toronto &
Guelph, the G.T.R. Co. of Canada East, &
the Quebec & Richmond Ry. Co. On Nov. 10,
1852, it received the Royal assent. It may
be mentioned that the Toronto & Guelph Co.
had power to continue its line to Sarnia. By
a supplementary agreement between the vari-
ous companies, dated April 12, 1853, the de-
tails of the amalgamation were completed, a
contract with Peto, Brassey, & Betts for build-
ing the Victoria Bridge was made, & the At-
lantic & St. Lawrence Ry. from Portland,
Me., to the Canadian boundary line was leased
for 999 years. The amalgamated lines form-
ed 964 miles of railway. The capital was
placed at £9,500,000, & the shares were for
£25 each. Eighteen directors were appoint-
ed, 9 of whom were nominated by the Govern-
ment in consideration of the provincial guaran-
tee, & with a view of protecting the public in-
terests, 4 of these Government directors were
cabinet ministers, 4 were independent gentle-
men of considerable influence, & the 9th was
the Hon. John Ross, Solicitor-General, who
was appointed President in Canada. Six of
the 18 directors were resident in London,
England, & T. Baring, M.P., acted for sev-
eral years as Chairman of the London board.
The 12 directors resident on this side of the
Atlantic composed the Canadian board, &
thus equipped & constituted the G.T.R. start-
ed upon its career.

With the promises & the probabilities in
the matter of dividends, set forth in the pro-
spectus issued by the Co. in 1853, it would be
manifestly unfair at this late date to deal in a
critical spirit, & whatever truth there may have
been in the remark made in 1864 by the late
T. Sturrow Brown, so well remembered as a
stubborn opponent of the Co., to the effect
that "he who would play the part of prophet
before the fact stands in slippery places, for
coincidences & contingencies in the world's
affairs, of which the most far-seeing could
never dream, often laugh to naught the wisest
estimates of studious calculations," there
appears but little reason or sense in the
statements sometimes made upon this sub-
ject. The men of 1852 were engaged in
the task of constructing the longest rail-
way in the world through a sparsely set-
tled country, with wages & material much
higher than they are to-day. They were,
to a great extent, working in the dark,
& none but the most captious or critical
at this date, the experiences of 40 years hav-
ing taught us all many valuable lessons, will
wonder that the period of construction of the
G.T. line, say from 1853 to 1860, was one of
great anxiety & financial difficulty to all con-
cerned.

On July 22, 1853, no. 1 pier of the Victoria
Bridge was commenced, & in the same month
the road from Longueuil, opposite Montreal,
to Portland, Me., was opened. Early in Jan.,
1854, the main line of the Great Western Ry.
from Hamilton to Sandwich, commenced
working as a separate concern, & remained
independent until Aug. 12, 1882. On Nov.
27, 1854, traffic was started over the line
from Richmond to Point Levis, opposite Que-
bec. Early in 1855 the Northern Ry. Co.
commenced operating its line between To-
ronto & Collingwood. On Nov. 19 following
the G.T. began traffic operations between
Montreal & Brockville, & two weeks after
that date business began on the piece of line
from Chaudiere Junction, practically Quebec
City, to St. Thomas, Que. The next import-
ant addition to the mileage took place on Oct.
27, 1856, when the first passenger train ran
through from Montreal to Toronto, & in 3
weeks from that date the road was opened
through to Stratford. In 1857 it was deemed
expedient to dispense with Government direc-
tors, & that step was authorized by Act of Par-
liament. The Board was then re-organized,
& the number of directors fixed at 15, instead

Tons of Freight Carried by Canadian Railways for the Fiscal Years Ended June 30.



of 18, ten of whom were to be resident in Canada & 5 in England. S. P. Bidder had been appointed General Manager of the Company in 1853, & remained in that position until Sep., 1857, when he was succeeded by T. E. Blackwell as Managing Director, Walter Shanly occupying the position of Chief Engineer & General Manager.

On June 28, 1858, the line from Goderich to Fort Erie was opened, & that from Stratford to St. Mary's on Sep. 27, while the Great Western line from Hamilton to Toronto, with that Co.'s Sarnia branch, were ready for traffic in Dec. of the same year. In Nov., 1859, a very important connecting link between the Canadian line & the U. S. roads centering in Detroit was completed from Port Huron to that city, & the Riviere-du-Loup line was almost finished. On Dec. 12, the Victoria bridge was opened for traffic, & on Dec. 17, the first passenger train passed through. So much has been recently written & said about this great undertaking that it would seem superfluous to refer to it here, more especially as it is, at the moment of writing, being reconstructed as an open lattice bridge, the tubular feature of the work being removed. Suffice

it to say that the workmen engaged in removing the stone walls at each of the entrances to the tube are assured beyond a doubt that the builders of the bridge did their work in the most solid & lasting manner.

At the end of the decade in 1859 the Co. had completed a large system of railways, extending literally throughout the whole Province of Canada, from the waters of Lake Huron to Riviere-du-Loup on the St. Lawrence, 125 miles below Quebec, & also to the Atlantic seaboard at Portland, Me., a total of 951 miles. Its authorized capital had increased to £11,462,846. Its receipts for 1859 were a little over £500,000, & expenses £453,000. About this time the Province of Canada postponed its claim to priority of interest on its advance of £3,111,500, thus lifting, for a time, the financial cloud which hung over the operations of the Co. It ought to be mentioned that the entire line was of the 5½ ft. gauge & land was, in all cases, provided for a double track, & in several of the large structures the foundations & the masonry of the abutments were put in for a double line. On May 25, 1860, the Prince of Wales officially opened the Victoria Bridge, & on July 2, the line from

Chaudiere Junction to Riviere-du-Loup was opened for business. The government agreed to waive the condition compelling the Co. to extend the Line from Riviere-du-Loup to Trois Pistoles.

The long-continued commercial depression extending over the U. S. & Canada put a stop to the further construction of railways from 1860 to 1870, & told heavily on the existing lines. When, therefore, Mr. Blackwell retired from the management & C. J. Brydges took charge of the G.T., in 1862, the directors found it necessary to re-arrange the Co.'s finances & staff organization. The legal domicile & seat of management was fixed in London & the number of directors reduced from 15 to 12, seven to reside in England, the 5 in Canada to constitute a committee of the board for local, financial & other purposes. A betterment of the postal service arrangements with the government was secured. An improvement in train service & the renewal & repair of the road were effected & were productive of marked & admitted results.

The Civil War in the U. S. had, at that time, presented features of magnitude forbidding all chance of early peace, a serious obstacle

the development of trade & traffic, & involving complications, commercial & political, which hampered the operations of the Co. until 1865. At the beginning of 1864 they purchased the Montreal & Champlain lines, running from Montreal in the direction of the New York State line. On June 29 in that year the Co. had its first sad experience in the matter of accidents. An immigrant train passing over the bridge at Belœil, Que., went through an open draw & down into the Richelieu River, causing great loss of life amongst the Polish & German immigrants on board. On Aug. 1, 1864, the line known as the Buffalo & Lake Huron Ry. became part of the C.T. system. This brought it to Fort Erie, opposite Buffalo, N.Y., & the work of building the international bridge between the two places was soon after put in hand. The Co. suffered severely during these years from the loss on U.S. currency, not less than \$2,000,000 being charged off on that account during the 7 years ending Dec. 31, 1868. In 1869 alone, the amount lost in this way was \$380,000, or nearly enough to pay the full year's interest on the 2nd & 3rd preference stocks.

No sooner had the war ended than the Co.'s operations were disturbed at frontier points by Fenian raids, & the abrogation of the Reciprocity Treaty between Canada & the U.S., which totally demoralized the international traffic of the road. The Hon. John Ross resigned the Presidency of the Co. in 1862, & was succeeded by Mr., afterwards Sir, Edward Watkin, who for many years ranked amongst the prominent railway men of England. Sir Edward did good work for the Co. during his term of office, & effected many important improvements. He resigned in 1868, & was succeeded by R. Potter, who had been on the Board for some time. In 1870 the construction of the Intercolonial line to a con-

nection with the G.T. at Riviere-du-Loup was being pushed forward with vigor, & Mr. Brydges was one of the three Commissioners appointed by the Government to control that work. In that year also the sleeping car arrangements were placed in charge of the Pullman Palace Car Co., & have so remained to the present time. The question of a change of gauge from the then existing 5½ ft. width to that of the standard, 4 ft. 8 ins., of the U. S. was raised, & the Board decided to fall into line with the other roads without delay. The G.T. cannot be said to have been exceptional in the matter of gauge, for at that time the Erie Ry. was of a 6 ft. gauge.

On November 18, 1872, the tracks of the G.T. Co. between Sarnia & Fort Erie were narrowed, & on Oct. 4, 1873, the 2nd section between Stratford & Montreal was changed. Some misunderstanding having arisen between the Board & the Managing Director, Mr. Brydges, regarding the estimates for this work, he retired in April, 1874, & was succeeded by the late Sir Jos. Hickson, then Secretary-Treasurer of the Co. in Canada. His first act was to complete the change of gauge, & the 3rd and last section—that between Montreal, Portland & Riviere-du-Loup—was successfully narrowed between Sept. 26 & 28, 1874. The line from Port Huron to Detroit was originally constructed on the standard, or 4 ft. 8½ in. gauge, & the operation just recorded brought the G. T. road into uninterrupted connection with the U.S. lines east & west of the system. Additional cars & locomotives were purchased, & the International bridge at Fort Erie was opened in the summer of 1874.

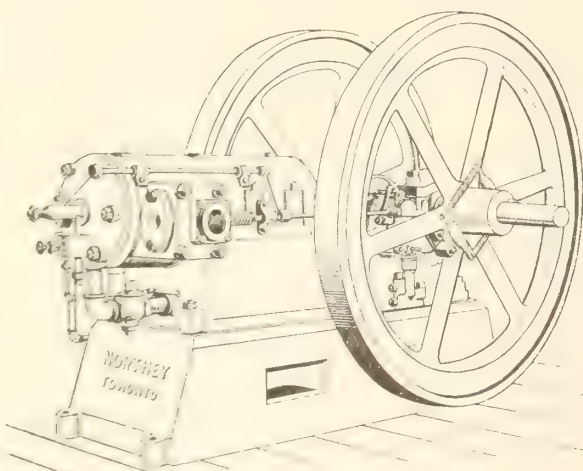
All these advantages secured placed the Co. in a strong position to compete for through all-rail business, & the Michigan Central, then an independent Co., handled all the G. T. traffic between Detroit & Chicago. This,

however, aroused the jealousy of rival U.S. interests, & in 1878, the M.C. was secured by W. H. Vanderbilt. It was at once determined to secure a route to Chicago owned by the G.T., & the first step in that direction was the sale of the branch from Chaudiere Jct. to Riviere-du-Loup, to the Dominion Government, with the proceeds of which several pieces of railway already constructed between Port Huron & Chicago were purchased. After great delay, caused by harassing litigation, as well as by physical obstructions, the line now known as the Chicago & G.T. was opened from Port Huron to Chicago on April 8, 1880, when the first through passenger train in regular service passed over it. The task of securing an entrance into large cities for new lines is one of the difficult problems which railway managers occasionally have to solve, but the solution is not made easier by the additional fact of having to construct or secure over 300 miles of road preparatory to the entrance. The legislative & municipal enactments, decrees, charters, deeds, etc., in this connection fill several volumes in the Co.'s records.

In Jan., 1881, the G.T. commenced the operation of the line running from Lenox to Pontiac, & ultimately extended to Jackson, Mich., with a view of doing business with Toledo, Ohio. During the year it also strengthened its position in the district between Montreal & the New York State Line. In April, 1882, the Midland Co.'s system in central Ontario became incorporated in that of the G.T., & the Great Western Ry. Co. amalgamated with the latter on Aug. 12 following. Both of these amalgamations were considered desirable in view of the fact that the C.P.R. Co., not then long in existence, had determined to depart from its original intention of confining its operations to a line between Eastern Canada & Vancouver, & to en-

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ter the field for a share of the business originating in the western peninsula of Ontario. In taking over the Great Western Line, the G. T. had also to take the Detroit, Grand Haven & Milwaukee Ry., which was one of its affiliations.

The work of crossing trains over the St. Clair river between Point Edward & Fort Gratiot by means of large ferry boats adapted for carrying cars was at times obstructed by the large number of lake boats passing up & down that rapid stream, & in winter the operation of these car-ferry boats was attended with considerable risk, owing to the running ice. The feasibility of a tunnel under the river a short distance below the town of Sarnia was considered & finally decided upon. Evil prophets there were then, just as there are to-day in connection with the reconstruction of the Victoria Bridge, who cried "disaster" & "failure"; but the same skill & good judgment that stilled the voice of jealousy & mistrust in the successful completion of the great submarine tunnel in Sep., 1891, will undoubtedly re-assert itself in the completion of the work over the St. Lawrence River. The Interstate Commerce Act, passed by the U.S. Congress, took effect on April 5, 1887, & to a certain extent hampered the operations of the leading companies in the U.S. The G. T. running, as it does, through seven States of the Union—Maine, New Hampshire, Vermont in the east, New York State at several points, & Michigan, Indiana & Illinois in the west—had to comply with the requirements of the Act.

In Feb., 1888, the Northern & North Western lines were fused in the G.T. system, & in a few months after the Toledo, Saginaw & Muskegon, & the United States & Canada lines were taken over. The last subsidiary road incorporated in the Co.'s system, under Sir Jos. Hickson's management, was that running from Durand to Saginaw, Mich. This took place in Oct., 1890. On Dec. 29 following, that gentleman laid down the cares of office after having piloted the Co. safely through the rocks & shoals of 17 years, & the Board, in accepting his resignation, expressed its sense & appreciation of the eminent services he had rendered, & of his devotion to the interests of the concern during his term of service. He took a warm interest in the Co.'s welfare up to the time of his death in Jan., 1897. He was succeeded in the management in Jan., 1891, by L. J. Seargeant, formerly Traffic Manager of the Co. In April, 1893, the consolidation of 14 different lines with the parent company was effected, thus dispensing with that number of Boards of Directors, annual meetings, etc.

Early in 1895 a large number of the shareholders, desiring a change in the policy of the Board, tested the question by a vote in the month of May. The result was the resignation of Sir H. W. Tyler, as President, & the election of a new Board with Sir Chas. Rivers-Wilson as President. In Dec. following, Mr. Seargeant was called to London to take a seat at the Board there, & was succeeded by the present General Manager, C. M. Hays, on Jan. 1, 1896. The policy of the Board of Directors since May, 1895, has been one of friendly intercourse with rival as well as connecting lines, in proof of which it may be stated that joint arrangements for running powers over various portions of the line have been made with the New York Central, Adirondack, the Canadian Pacific & the Wabash Ry. companies. The Grand Trunk is well equipped with all the accessories such as express, telegraph & telephone services, cartage delivery, elevators, grain warehouses, cattle yards & ice-houses. Traffic can be carried without transshipment from Chicago, or points west, to the wharves at Montreal or Portland, alongside ocean steamers, & the advantage secured in the construction of long stretches of double track, enabling fast time to be made by both

express & freight trains, is apparent. That the line is popular in the Eastern & Western States is evidenced by the fact that when legislation was sought at Washington with the object of cancelling the bonding & sealing privileges of the Canadian companies, the most strenuous protests have been made against any interference with the G.T. by the mercantile communities of Chicago & Boston through their Boards of Trade. It is the desire & aim of the present Board & management to make the road equally popular in Canada, whilst making it remunerative to those financially interested in it, & this object it is hoped will be secured by a continuance of that co-operation so freely given by the Co.'s employees to the Canadian Executive in the past.

That the Co. is not unmindful of the welfare of those who enter its service, is apparent in the existence of insurance & superannuation funds for the benefit of such employees as may become disabled, or the families of those who die, as also for affording a means of support to such as have grown old in its service. A supplemental advantage was secured in the Co.'s Act of Parliament, 1896, by the authority given to the management to grant pensions in cases not covered by the two funds already mentioned. Comfortable reading-rooms are located at the principal stations on the system, for the convenience of its officers & employees.

Canadian Freight Association.

The Freight Committee met in Montreal, July 6, when special rates & arrangements nos. 1626 to 1638 were agreed to.

The regular summer meeting of the Association was held at the same place July 7, when J. E. Dalrymple, District Freight Agent, G.T.R., Hamilton; W. R. MacInnes, General Freight Agent, C.P.R., Winnipeg; M. H. Brown, District Freight Agent, C.P.R., Detroit; & M. Overend, Foreign Freight Agent, Canada Atlantic, Montreal, were elected active members. J. Pullen stated he now represents the Central Vermont instead of the G.T.R. It being announced that E. A. Chittenden had severed his connection with the Central Vermont & was out of active railway work, tributes were paid to the very important work he had performed for the Association.

Correspondence was submitted from the Department of Railways stating reasons why the new classification no. 11 had not been approved by the Governor-in-Council & the Chairman was instructed to urge upon the Department the necessity of early approval in the interest of the shippers.

Authority was given for the appointment of 2 freight inspectors at Winnipeg in connection with the C.P.R. & N.P.R. there.

In submitting statistical reports the Car Service Committee reported as follows: It is evident that the number of loaded cars handled is steadily increasing, & that the number of cars detained 7 days & over is also steadily increasing. The principal reasons given by local agents for serious delays in making deliveries are: "Insufficient siding accommodation, both public & private," "insufficient engine power to make the number of shunts required for the volume of business handled," "later arrivals placed first." Attention has been called several times to all these difficulties, & to the necessity of having them remedied as much as possible; but, as the conditions appear to be growing worse instead of better, the Committee again urgently recommend that the attention of superintendents, or other general officers concerned, be specially directed to the consideration of the question as to whether it would not be greatly to the interest of their respective companies to provide sufficient power to perform the yard work & shunting required at important trade centres in order to make reasonably prompt

deliveries more practicable. Consignees doing a comparatively extensive business frequently say: "Give us the cars & we will unload them." Agents reply to the effect that they are unable to place the cars promptly for the reasons given above, & very serious delays consequently occur for which consignees cannot be made to pay. Your Committee are of opinion that promptness in handling cars is of the first consideration, & that all practicable means should be adopted to carry this out.

The Manager reported that he attended the Convention of the National Association of Car Service Managers, Niagara Falls, in June. The discussions at this convention were interesting & profitable, showing in part the practice of the various Associations in connection with subjects discussed, which were:

1. "The private car," owned by individuals or car companies, & used by railroads by hire or for mileage, for general traffic. The consensus of opinion was that such cars should be subject to car service charges same as railway companies' cars.

2. "One man's car delayed on the private tracks of his customer." On this subject opinions were divided—some holding that as the railway companies were responsible for the car until it was returned to the owner it should not be held free. Others held that railway companies were justified in holding such cars free if the owner so directed.

3. "What should be considered warehouse freight?" Upon this question there was also considerable difference of opinion. Quite a number of managers were of opinion that it was the duty of consignees to remove their freight within a reasonable time after arrival, ex cars, or ex warehouse, at the option of the railway companies. That it was not the duty of a railway company to provide large & costly warehouses to store freight, & that large expenditures had often been made by railway companies to build warehouses which would not be necessary if the public were given to understand that when the railway companies carried freight to its consigned destination, their duty had been performed, & it was for the owners of the freight to receive it, or have it sent to public store. This had reference to all freight in carloads not handled through an elevator or through-consigned for export. In other words, that the handling of freight through a warehouse should only be in small miscellaneous lots & for the convenience of the railway companies.

4. "Refunding car service charges caused by errors of other roads." It was considered right that the railway company making the error should assume the charge.

5. "Delays through bills of lading in banks." It was not thought right to make any allowance for this.

6. "Prompt release at terminals more than offset by stop-off privileges." The discussion on this subject was very interesting, showing that very serious delays occurred to cars in transit through stop-over privileges; that in many cases the privileges allowed & authorized would detain a car from 20 to 40 days between Chicago & ultimate delivery at eastern points, in addition to the ordinary running time of the car. This was a matter which it was considered well worthy the attention of general superintendents & railway managers.

The question of restricting the payment of customs duties by railway companies was discussed, & a special committee was appointed to consider the matter & report at next meeting.

It was reported that agreed rates were not being observed by boat lines, members of this Association. The Secretary-Treasurer was instructed to call a special meeting of the Freight Committee to investigate the matter as soon as possible.

The following changes on committees were ordered: Classification Committee, J. H.

Hanna, vice J. Pallen. Freight Inspection Committee: J. E. Dabrymple, vice J. H. Hanna.

At a meeting of the Tariff Committee at Toronto, July 18, special rates & arrangements, 1930-1942, were agreed to.

The Chairman said that the principal object for which the meeting had been called was to consider statements which had been made at the last general meeting of the Association in 1898, that some of the boat lines, members of the Association, were not observing rates & arrangements as agreed upon at the meeting held at Montreal, Mar. 3, 1899. He had specially notified the agents of the steamboat lines concerned to be present. Mr. Jaques, of the Merchants Line, Montreal, & Mr. Geddes, of Toronto, had indicated their inability to be present & were not represented. After considerable conversation it was agreed that the representatives of the boat lines, having received ample notice of the meeting called to consider charges made against them of having cut agreed rates, & thereby broken faith with the railway companies, & having failed (with the exception of the R. & O.N. Co.) to attend the meeting, & the charges having been made & not denied (except by the R. & O.N. Co.) or explanations given, the Committee recommend to the traffic managers of the railway companies concerned, that the agreement as to differentials allowed the boat lines be cancelled on due notice, as provided in minutes of meeting of Mar. 3, 1899.

It was recommended that in consequence of shippers at Merriton & St. Catharines being able to ship to Buffalo, & reship thence to North Pacific Coast points, at lower rates than as per tariff from the Canadian points named, the arbitraries to be added to the Pacific Coast Tariff be reduced to the basis of 10c. per 100 lbs., 1st class for all rail traffic, & that lake & rail traffic be at the Buffalo all rail tariff rates.

Freight Traffic Matters.

C.P.R. freight cars are now being run over the electric railway between Vancouver & Westminster, B.C.

A consignment of 100,000 lbs. of Montana wool is being sent from Duluth to New York, via the Canada Atlantic, as an experimental shipment.

It is said Manitoba's wheat crop this year will be 40,000,000 bush. against 32,000,000 last year, which means a lot of additional business for the C.P.R. & N.P.R.

When in Nelson, B.C., recently, W. Whyte, Manager C.P.R. Western lines, said an arrangement for the exchange of traffic between the C.P.R. & the Nelson & Fort Sheppard Ry. had been practically completed. This arrangement will be of great convenience to shippers & especially to the coal mines of the Crow's Nest Pass, as coal & coke lose largely in handling.

The Allan & Dominion steamship lines will divide the Liverpool business of the G.T.R. from Portland next winter. The arrangement made between the G.T.R. & the Dominion line is not an exclusive one. It simply provides for the replacing of the Leyland line from Portland by the Dominion line. None of the other connections of the G.T.R. are affected. The Allan line will run from Portland to Halifax next winter.

The Interstate Commerce Commission will hold a meeting at Chicago Aug. 7, to confer on the export problem in freight traffic tariffs. Recent press reports announce a great improvement in the export tariff, effective on Aug. 1, but the tariff schedules have not yet been filed with the Commission. The presidents of the trunk lines comprising the Western territory will hold a session on Aug. 8 to consider the general situation.

Arthur White, Division Freight Agent G.T.R., Toronto, reports wonderful activity in the northern lumber districts, all the mills employing large staffs & working to their full capacity. This change from the unsatisfactory conditions prevailing last year is, he states, generally conceded to be attributable to the new Provincial regulations, providing for the manufacture in Ontario of logs cut on Crown timber lands by Michigan limit-holders.

Having been shut out of New York by being denied a continuation of its arrangements with the Central Vermont, since that road came under the control of the G.T.R., the Ogdensburg Transit Co. has made new connections. It has established a lake & rail line, consisting of the Murray line from New York City to Troy & the Delaware & Hudson to Ogdensburg, where its own steamers take the freight & carry it to Toledo. This makes an additional competitor in lake & rail traffic, & it will claim the usual differential over the all-rail lines.

The wholesale grocers of Victoria met A. Cameron, Assistant General Freight Agent of the C.P.R., recently, urging upon him the desirability of giving merchants in the coast cities

lower transportation rates to enable them to compete on more equal terms with Winnipeg merchants. They contend that the East Kootenay trade is controlled in a large measure by Winnipeg, because of more advantageous rates given by the C.P.R. Mr. Cameron said a new tariff would come into effect on July 1, but this did not satisfy those present, who wish better rates than those in that tariff. The Kamloops Board of Trade has also been interviewing Mr. Cameron, & wants better rates than the coast cities have.

The trunk line presidents have reached an agreement that eastbound rates shall be advanced on Aug. 1 to the basis, Chicago to New York, of 17c. on wheat, oats & flour, & 15c. on corn—an increase of from 4½ to 5½c. For export shipments from Chicago via New York the advance on corn will be from 10½ to 11c., & on oats from 10½ to 13c. For wheat shipped to the European markets the rate will be 17c. per 100 lbs., the same as now. On provisions, both export & domestic, the rates will be 25c., an increase of 5c. on the export rate. Between now & Aug. 1, when the new rates will go into effect, the local agents of the eastbound roads have been instructed to clean up all cut-rate contracts.—Railway Age.

While the discussion over the traffic arrangement between the G.T.R. & Intercolonial was at its height recently, it was announced that the Grand Trunk had cancelled its agreement of last year with the Leyland line, & once more entered into arrangements with the Dominion line to handle its trans-Atlantic freight business out of Portland. This gave rise to the report that the Dominion line might desert St. John, N.B., altogether, & that the C.P.R. might also virtually abandon its short line to St. John, at least as a through route, & would divert its winter carrying trade to Boston. This has been denied by President Shaughnessy, who states that the C.P.R. has no such intention. There are plenty of other steamers besides those of the Dominion line to be got from St. John, Mr. Shaughnessy says, & the C.P.R. will still do business through Canadian channels.

The output of barked cedar railway ties, which constitutes no inconsiderable source of revenue in Gaspé & the Chaleur Bay, is this year likely to be less extensive than usual. It is found that at the price offered for ties, & the export duty of 4c. a tie, there is not enough in the business.

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Through Canada to the Yukon.

In discussing the Alaska boundary question in the House of Commons, July 22, Sir Chas. Tupper proposed that the Government should introduce a bill to provide for the construction of a railway from Kitimat Arm, to Dawson, Yukon, & that it should be passed by the unanimous vote of Parliament. He said:—Let that bill provide that it shall only be done on a proclamation by the Governor-in-Council. The moment our Government finds that this unreasonable determination on the part of our great neighbors is persisted in, I have no doubt such a measure would commend itself to the judgment of my hon. friend. It is known that the country from Kitimat Arm in B.C., running up to Telegraph Creek is a very good country. Two charters, I believe, have already been given by the Government of B.C. for building a railway, & I think a subsidy of some \$4,000 a mile has been granted by B.C. to construct a road from Kitimat Arm to Teslin Lake, provided it is found that there are no insuperable engineering difficulties. The very fact that there is water communication from Teslin Lake shows that there is a valley where it would be comparatively easy

he said:—There are only two means of access to the Yukon—one by the Lynn Canal, & the other by one of the lower ports which we have in our own territory. It we had the Lynn canal under our control we would have a shorter way of access to the Yukon, but, unfortunately, at the present time it is in the possession of our rivals in business & our opponents in this controversy; it is in the hands of the U.S. Of course, if we had the water stretch of the Lynn Canal we would have the best means of all to enter the Yukon; but we have not, & having it not, we thought the best thing we could do was to make use at once of the Stikine River, which is not ours, but which, under the terms of the treaty, we have a right of access to for commercial purposes. We thought to use that at first as a basis of operation, to put a railway into the Yukon country, & then afterwards extending it to this very Kitimat Harbor, which my hon. friend now proposes as the terminal. If we had been able last year to pass our bill, which provided for the immediate construction of a railway from the Stikine River to the waters of the Yukon, we would have constructed that line last year, & this year we would have been able to prolong it down to Kitimat Harbor.

Baldwin Locomotive for W. P. & Y. Ry.

The illustration on this page shows a compound consolidation locomotive recently built by Burnham, Williams & Co., Baldwin Locomotive Works, Philadelphia, for the White Pass & Yukon Ry. The general dimensions are as follows:—

GAUGE.....	3 ft.
CYLINDERS.....	Diameter, high pressure..... 11 in.
.....	low pressure..... 10 in.
.....	Stroke..... 20 in.
.....	Valve..... Piston Valve
B-BOX.....	Diameter..... 34 in.
.....	Thickness of sheets..... 9-16 in.
.....	Working pressure..... 200 lbs.
.....	Fuel..... Coal
FIREBOX.....	Material..... Steel
.....	Length..... 11 ft.
.....	Width..... 45 1/2 in.
.....	Depth, front..... 47 1/2 in.
.....	..... back..... 46 1/2 in.
.....	Thickness of sheets, sides..... 3/8 in.
.....	..... back..... 1/2 in.
.....	..... crown..... 1/2 in.
.....	..... tube..... 1/2 in.
TUBES.....	Number..... 120
.....	Diameter..... 2 1/4 in.
.....	Length..... 15 ft. 2 1/2 in.
HEATING SURFACE.....	Firebox..... 65.38 sq. ft.
.....	Tubes..... 1,069.81 sq. ft.
.....	Total..... 1,135.19 sq. ft.
.....	Grate area..... 15.70 sq. ft.
DRIVING WHEEL.....	Diameter outside..... 8 ft.



BALDWIN COMPOUND CONSOLIDATION LOCOMOTIVE FOR WHITE PASS AND YUKON RY.

to run a line of railway down to Dawson. It would only be a light railway that would be required to be constructed; any description of railway, however light, that would give us access from a Canadian port in B.C., about which there can be no question, to Dawson. I am quite certain that if the right hon. gentleman were to call, as he could tentatively, for tenders for the construction of such work with the present position existing, it would involve no very heavy cost. I would have the work constructed & owned by the parties who constructed it, & I would have the rates over the line controlled by the Governor-in-Council. I would put a clause in the bill providing that this act should only be brought into operation by proclamation of the Governor-in-Council. I am quite satisfied that the right hon. gentleman will find, as he will find at an early day, if this proposed legislation does not effect a change of attitude, as I hope it may, that public opinion will thoroughly justify him in this course, in so far as it would give ingress and egress to & from the great Canadian gold country to all British subjects, & in fact, to every person who desires to use it.

In replying, Sir Wilfred Laurier defended the Canadian Yukon Ry. bill of 1898 & denounced its rejection by the Senate. Continuing

By this time or, at all events, at the end of this season, we would have had a line of railway of our own, extending all the way from Kitimat Harbor to the water system of the Yukon. It would be a longer route, I admit, than a railway which would connect the Lynn Canal with the waters of the Yukon; but one thing is certain, & that is that the railway built last year from Skagway to the waters of the Yukon would not have been built if we had obtained the power to build our own railway. There are other reasons why we should have built a railway along that route, for there is every reason to expect that in that territory we would have found valuable deposits similar to those we have in the Yukon, & it is reasonable to suppose that at no distant date we would have a populous territory extending all the way from Kitimat Harbor to the Yukon. I will not say at present what we shall do with regard to this matter, but I may say at once that I shall take those propositions of the hon. gentleman into very serious consideration.

A combined postal & smoking car has been added to the P.E.I. Ry. equipment. A refrigerator car & two 1st class coaches are being built.

DRIVING WHEELS.....	Diameter of centre..... 8 ft.
.....	Journals..... 6 1/2 x 7 in.
ENGINE TRUCK WHEELS.....	Diameter..... 4 ft.
.....	Journals..... 4 1/2 x 8 in.
WHEEL BASE.....	Driving..... 11 ft. 6 in.
.....	Total engine..... 18 ft. 0 in.
.....	Total engine & tender..... 43 ft. 8 1/2 in.
WEIGHT.....	On drivers..... 80,000 lbs.
.....	On truck..... 9,500 lbs.
.....	Total engine..... 89,500 lbs.
.....	Total engine & tender..... 150,000 lbs.
TENDER.....	Diameter of wheels..... 26 in.
.....	Journals..... 3 1/2 x 7 in.
.....	Tank capacity..... 3,000 gals.
.....	Weight empty..... 20,000 lbs.
SERVICE.....	Freight
Grade.....	4%
Curves.....	16°

The Joughins Car Truck.

On page 201 is an illustration of this truck, which was one of the first freight car trucks made up from structural shapes, & was designed with the idea of abandoning the use of the more expensive pressed steel shapes on that style of truck which has the springs placed on the top of the journal boxes. Each side frame is made up of an I beam, & the transom is formed by two I beams, which are connected to the side frames by vertical angle irons & horizontal gusset plates. A special feature of this truck is the open-ended pedes-

It permits the wheels & axles to be removed after jacking up the car only just enough to raise the springs. Instead of having to jack it up the entire height of the pedestal legs. This pedestal has its outer leg formed as a hinged or removable piece. In one form at each end of the side frame I beams are split horizontally & opened out, the superstructure web being cut away, leaving the top & bottom flanges. A bent steel T bar riveted to the web forms the top & inner leg of the pedestal, the outer leg being an L shaped piece of cast steel hinged to the outer end of the top of the pedestal & bolted to the bottom of the inner leg. In another form of the truck the fixed part of the pedestal is a cast steel piece in the form of an inverted L, riveted to the end of the side frame, while another L shaped piece, secured by a bolt at each end, completes the pedestal. By removing the bottom bolt in either form of truck, the loose outer piece of the pedestal can be swung up clear of the axle box, & the wheels can then be run out. The weight of the truck is about 1,200 lbs. (exclusive of wheels, axles, boxes & springs). Some of the trucks have been in experimental use under tenders on the Norfolk & Southern R.R. (U.S.A.) for over two years, & a number of them are in use on the Intercolonial, of which the inventor, G. R. Joughins, is Mechanical Superintendent.

Increase in Equipments.

That both the great railway systems anticipate a great increase of business in the near future may be judged by the number of freight cars which have been added to the rolling stock of the C.P.R. & G.T.R. recently. These, in the aggregate, reach into the thousands, & still the capacity is taxed to the utmost. The G.T.R. has more demands for freight cars than it can supply, while it has for years past been a complaint on the part of Northwest farmers that the grain crop could not be moved east by the C.P.R. with sufficient despatch to please them. These new freight cars are of almost double the capacity of the former patterns, which have now become obsolete, & large numbers of which have been broken up into firewood. The new make provides for the haulage of 30 tons, but this is not the last word on the subject either of the capacity of the cars or the locomotives. A

newer type still of the latter is possible—a type which will be as much in advance of the present pattern as the present pattern is in advance of the locomotive of 5 years ago. The first thought of the management of the C.P.R. & G.T.R. is, not so much the making fresh connections or affiliations, as providing facilities for the expeditious handling of the business which offers, in order to make, upon a tremendous increase of carrying power, a small margin of profit. This is the new problem, how—with low rates, which will be kept low, & which the managers of the great systems in the U.S. say will be lower still—to make a profit upon a business quadrupling in volume that which was done 10 years ago. The secret is found to lie in the increased capacity, & it is to provide this increased capacity that the shops of the G.T.R. & C.P.R. are kept busy. With regard to the monster locomotives of the latter, although the order for the present is limited, others will be added in the near future for the general service, & of a still greater power. This type will be employed in the haulage of the grain crops in the Northwest. A great freight train will carry double the quantity, will make better time, & will be able to meet the extra demands of the farmers with the increase of the wheat-growing belt, which increase will be felt in the greatly enlarged output of the next few years.—Witness.

Railway Equipment Notes.

Two narrow gauge locomotives have been added to the P.E.I.Ry. equipment.

The Sydney & Louisburg Ry. has ordered twenty 30 ton cars from Rhodes, Curry & Co., Amherst, N.S.

The Great Falls & Canada Ry. is having a narrow gauge passenger car & a narrow gauge sleeping car built in the U.S.

The Canadian Northern & the Manitoba & Southeastern railways have been adding considerably to their equipment recently.

The White Pass & Yukon Ry. is building stock cars 33½ ft. long at its shops at Skagway, Alaska. Two have been completed & 8 are under way.

The Midland Ry. of Nova Scotia has ordered twenty 30-ton flat cars from Rhodes, Curry & Co., Amherst, N.S. They will be

34 ft. long & equipped with Westinghouse air brakes.

The Intercolonial has recently received 30 box cars from Rhodes, Curry & Co., Amherst, N.S., also 6 2nd class passenger cars, & 30 box cars from other works. An order has been given Rhodes, Curry & Co. for 20 Wick's patent refrigerator cars for early delivery. They will be of 30 tons capacity & 36 ft. long.

The Dominion supplementary estimates provide for the Intercolonial railway \$10,000 for changing the draw-bars of cars from the link & pin coupler to the master car-builders' standard coupler, \$13,000 for changing car couplers, \$10,385 for a 1st class passenger coach, & \$30,000 for refrigerator cars. All the foregoing is chargeable to capital account.

The 6 consolidation locomotives for which the C.P.R. recently placed an order, as mentioned in our last issue, will weigh 150,000 lbs. each, & have 21 x 33 in. cylinders. The boilers will be 60¾ ins. diameter, & the working pressure 200 lbs. The fire boxes will be 9 ft. 1¼ long, by 3 ft. 6½ ins. wide, & will have 255 tubes. The steel tender will have a capacity of 4,000 gals. The specifications call for Westinghouse air brakes. The locomotives are to be delivered by Oct. 1.

The G.T.R. has added a new dining-car to its service between Niagara Falls & Port Huron, in connection with the through fast expresses from the east & west. It is known as no. 828, & will be attached to trains nos. 3, 5, 6 & 8. Palatial in its appointments, & containing all the latest improvements that tend to the comfort as well as convenience of the travelling public, the car, it is claimed, is one of, if not the finest, that ever ran over the tracks of a Canadian railway. The interior woodwork is of quartered oak, & the carpets & curtains are of velvet, in a handsome combination of olive & gold. Scores of small bevelled mirrors, between the wide windows, & cunningly enclosed in little nooks around the doors & corridors, add to the attractions of the interior. Both large & individual tables flank the broad centre aisle, & the chairs are all upholstered in leather. The pantries, sideboard and wine closets are magnificent creations in cabinet work. Everything for the holding of glass & silver is lined throughout with plush.



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*Electric Locomotives and Electric Car Trucks with
Approved Motors.*

Burnham, Williams & Co., Philadelphia, Pa., U.S.A.

RAILWAY FINANCE, MEETINGS, &c.

The Alberta Ry. & Coal Co. has given \$1,000 to the town of Lethbridge to be expended in tree planting.

Brockville, Westport & Sault Ste. Marie.—At the annual meeting at Brockville, July 12, the following were elected: President, E. R. Dick, Philadelphia; Vice-President, Col. W. H. Cole, Brockville; Gen. Manager, S. Hunt, Cincinnati; Supt., G. F. Agt. & Treas.—J. Mooney, Brockville; other directors R. A. Williams, Philadelphia; D. W. Downey, R. Bowie, D. Derbyshire, G. H. Weatherhead, Brockville; R. G. Murphy, Elgin; W. C. Fredenburg, Westport.

Calgary & Edmonton net earnings for May \$7,913.16, against \$14,614.27 in May, '98.

Notice was recently given that the Dominion Government subsidy for the 6 months ended June 30, together with the net earnings of the Co. to Oct. 31 last, permitted of a distribution of 2% on the 1st mortgage bonds in respect of the interest coupon falling due July 1, & that the payment of such interest would be made on & after that date on presentation of the coupons at the office of Morton, Chaplin & Co., London, Eng. The Co.'s scrip will be given for the unpaid balance of 1%.

Canada Atlantic.

On July 14 the House of Commons Railway Committee reported the bill providing for the amalgamation of the Canada Atlantic & Ottawa, Arnprior & Parry Sound railways, under the name of the Canada Atlantic Ry. Co. Both the C.P.R. & the Ottawa & New York Ry. opposed the measure on the ground that as drafted the bill would institute an unfair advantage to the amalgamated companies over all others in connection with the rights of entry to the central station over the canal reserve. Arguments in this direction failed to convince the committee that any injustice would be perpetrated, & no amendment in this connection was allowed.

The Canada Southern has declared its regular semi-annual dividend of 1% payable July 17.

Canadian Yukon Ry.—An Ottawa despatch of July 9 stated that the Dominion Government had decided on a sum to compensate Mackenzie, Mann & Co. for the failure to carry out this contract, owing to its rejection by the Senate.

C.P.R. School Taxes in Winnipeg.—Some time ago a suit was entered on behalf of the city of Winnipeg against the C.P.R. to recover arrears of school taxes from 1890 to 1894. The Co. in its defence set up that it was not liable as under a by-law passed by the city council it was provided that all the Co.'s property within the city of Winnipeg used for railway purposes or in connection therewith should be forever free & exempt from all municipal taxes, rates, levies & assessments of every nature & kind. The city demurred to this, & the matter came before Judge Bain, who decided in favor of the city, holding that the Co. was not exempt from school taxes, & that the council had no authority to pass a by-law exempting it, that tax being handled by an entirely different body, & merely collected with the other taxes as a matter of convenience and to save expenses. The

Co. appealed from this decision to the full court, which held that the appeal should be dismissed with costs, & the decision of Judge Bain upheld.

Central Counties.—The employees of this railway, which runs from South Indian to Rockland, & from Glen Robertson to Hawkesbury, have been notified that the Government receiver of the road will cash their claims for wages. The claims are to be paid out of the subsidy voted last session by the Ontario Legislature. This Co. is a subsidiary of the Canada Atlantic.

Central Ontario.—Two suits, brought by S. J. Ritchie, of Akron, Ohio, one against the estate of Senator Payne, & the other against Judge Burke, of Cleveland, have reference to C.O.R. bonds of the value of \$875,000. The bonds were pledged to the defendants by Mr. Ritchie, who built the road, for advances made. These advances, he claims, have been repaid, & he now seeks to have the defendants declared his trustees for the securities.

Dominion Atlantic.—Earnings for 5 months to 31st May \$204,906, against \$184,894 for corresponding period.

Great Northern (U.S.A.) It is rumored in New York that J. J. Hill, President of the G.N.R., has secured an important interest in

ed by the trustees of the 1st mortgage bondholders to make a final distribution of £3 10s. 6d. from the proceeds of the sale of land warrants & rights to lands.

Cheques have been issued for the outstanding working expense claims contracted prior to the appointment of the Receiver in 1893. The claims have been paid in full without interest.

The Manitoba Legislature has authorized an agreement with the Co., by which the Province will take over about 500,000 acres of land in payment of monies advanced to the Co. for interest, etc. The land is to be selected out of 2,700,000 acres mostly in the Province, & will be sold to actual settlers only.

Minneapolis, St. Paul & Sault Ste. Marie.—The London Stock Exchange Committee appointed June 29 as a special settling day in this Co.'s scrip of \$3,500,000 second mortgage 4% 50 year gold bonds, & ordered the security to be quoted in the official list.

New York Central.—The recent acquisition of the Boston & Albany by the New York Central gave rise to a variety of reports in the U.S. papers affecting Canadian railways. According to one rumor the C.P.R. & the New York Central had entered into a formal alliance, & as part & parcel of their agreement had secured control of the projected Grand Island bridge over the Niagara River, a few miles above Buffalo. That was said to be one part of the deal. The other concerned the working of the two systems in the east, & with the acquisition by the New York Central of the control of the Boston & Albany as a basis, a fantastic web of romance was woven of war between the C.P.R.-New York Central combination & the G. T. R.-Central Vermont system. D. McNicoll, Assistant General Manager of the C. P. R., declared without reserve that there was nothing whatever in the report, so far as the C. P. R.

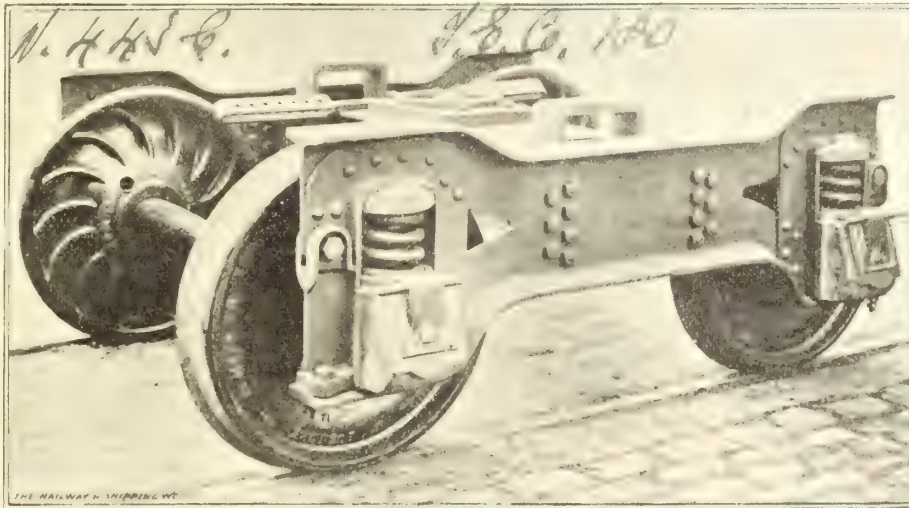
was concerned. The C.P.R. & the New York Central, of course, had worked together for years, the latter being the C.P.R.'s United States connection, & the C.P.R. the Canadian connection of the Central. They would continue to work together on the same basis, but as for any new alliance between them on the lines indicated in the report from Buffalo, or the other report from Boston, there was nothing in it.

Qu'Appelle, Long Lake & Saskatchewan net loss for May \$321.29, against net loss of \$1,487.35 in May, '98.

Quebec Central net earnings for 5 months to May 31, \$50,816, against \$42,056 for corresponding period.

Traffic receipts for June, \$50,548.78, against \$41,270.41 in June, '98. Traffic receipts for 6 months to June 30, \$219,060.38, against \$199,956.48 for corresponding period.

The Quebec & Lake St. John Ry. Co. has defaulted in the interest due July 1 on its £780,000 5% mortgage bonds which were issued in Feb., 1889, through the Railway Share Trust & Agency Co. at 96, being secured by a first mortgage on the main line from Quebec to Roberval. The other capital issues are city of Quebec preferential stock \$450,000, & capital stock \$4,074,000. The Quebec Government guaranteed the payments of interest



THE JOUGHINS CAR TRUCK.

the new Wisconsin Central Co., which will enable him to carry out a plan long attributed to him—that of forming a new transcontinental line that will extend from the Atlantic to the Pacific. This is to be accomplished by means of the Baltimore & Ohio, in which he is an important factor, & the Great Northern, with the Wisconsin Central as the connecting link. Under this combination the Hill transcontinental system would aggregate 7,499 25 miles, or 3,385 miles from New York to Seattle.

Kootenay Valley Ry. & Navigation Co. A mortgage given by this Co. to secure about \$2,400,000 has been filed with the County Auditor at Rathdrum, Idaho. It is given on the portion of the road extending from the southern end of Kootenay Lake to the International Boundary Line, & from the Boundary Line to Bonner's Ferry, Idaho. The mortgage is to the Stock Conversion & Investment Trust, Ltd., of London, Eng., securing a loan of £480,000. The mortgage embraces the road bed & all equipments. The rate of interest is 5%, payable semi-annually in London. This loan will enable the Co. to carry on its proposed plans. The Co. is composed principally of Scotch capitalists, & works in harmony with the G.N.R. of the U.S.A.

Manitoba & North-Western. The Clydesdale Bank, London, Eng., has been instruct-

The S. bonds for 10 years from Jan. 1, 1888. The gross earnings of the Co. for the year ended June 30, 1898, were \$258,730.00, & the working expenses \$17,802.72, so that it would appear that there is not a very inviting prospect for the bondholders, & the bonds have fallen in London to 23-28. It is announced that the Railway Share Trust & Agency Co. has instructed its solicitors in Quebec to apply for a receiver for the Q. & L. St. J. R. Co. The main line of the Co. from Quebec to Roberval is 102 miles, & the eastern extension from Chambord Jet, to Chicoutimi 53.85 miles. The Co. leases the Lower Laurentian Ry. 30.50 miles, making a total operated of 285.35 miles. The gauge is standard, & the rails are 30 & 40 lbs. Inquiry of the management in Quebec has elicited the reply that "the bond issue of the Co. is being readjusted by a friendly agreement between the bondholders & the Co."

Stewiack Valley & Lansdowne. The trustees for the holders of certified 1st mortgage 6% bonds of this Company, recently gave notice that they would on June 15 be prepared to pay a dividend of 18% on the capital of the bonds.

Sydney & Louisbourg Ry.—It is proposed to lease the Dominion Coal Co.'s property in Cape Breton to the recently organized Dominion Steel & Iron Co., for a term of years contemporaneous with the existence of the Dominion Coal Co.'s leases, on a basis of 6% dividends on the common stock. If the arrangement is carried out the control of the S. & L. Ry., as well as other plant & equipment of the Coal Co., would pass to the lessee. The charters of all steamers & barges now in existence would also be turned over to the leasing company.

C.P.R. Earnings & Expenses.

Gross earnings, working expenses, net profit and increases or decreases over 1898, from Jan. 1, 1899.

	Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan. S.	\$1,956,281	\$1,416,332	\$540,000	\$101,000.27 +
Feb.	1,824,434	1,674,453	149,981	170,034.12 +
Mar.	2,186,359	2,048,970	137,389	75,662.06 +
Apr.	1,942,543	1,918,477	24,066	203,212.80 +
May	2,039,239	1,940,980	98,259	106,049.30 +
June	2,062,137	1,880,402	181,735	
	\$12,010,993	\$11,379,614	\$631,379	

Approximate earnings for June, \$2,352,000, against \$2,124,000 in June, 1898; increase, \$228,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—Approximate earnings for June, \$213,105; increase over June, 1898, \$38,000.

Net earnings for April, \$61,388, against \$14,185, for corresponding period, making for 4 months to April 30, \$208,490, against \$125,334, for corresponding period.

MINERAL RANGE, HANCOCK & CALUMET.—Approximate earnings for June, \$36,233; increase over June, 1898, \$5,007.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Approximate earnings for June, \$385,630; increase over June, 1898, \$79,730.

Net earnings, for 10 months, to April 30, \$2,232,088, against \$2,218,427, for corresponding period.

Canadian Pacific Railway Land Sales.

	Acres.	Amount.
Jan. 1899	14,718	\$46,411.35
Feb.	13,717	43,371.00
Mar.	24,045	74,430.00
Apr.	36,626	116,835.00
May	39,573	125,862.00
June	54,225	169,234
	182,934	\$566,143.35

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.:

	1899	1898	Decrease	Increase
Jan.	\$1,956,281	\$1,916,332	.....	\$39,949
Feb.	1,824,434	1,674,453	.....	149,981
Mar.	2,186,359	2,048,970	.....	137,389
Apr.	1,942,543	1,918,477	.....	24,066
May	2,039,239	1,940,980	.....	98,259
June	2,062,137	1,880,402	.....	181,735
	\$12,010,993	\$11,379,614	.....	\$631,379

The following figures are issued from the London, Eng., office:

GRAND TRUNK RAILWAY.

Revenue statement for May, 1899:

	1899	1898	Increase	Decrease
Gross receipts.....	£344,300	£322,932	£21,368	.....
Working expenses. 208,600		197,744	10,856	.....
Net profit.....	£135,700	£125,188	£10,512	.....

Aggregate for 5 months, from Jan. 1 to May 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts.....	£1,633,200	£1,560,938	£72,262	.....
Working expenses 1,102,500		1,075,699	26,801	.....
Net profit.....	£530,700	£485,239	£45,461	.....

CHICAGO & GRAND TRUNK RAILWAY.

Revenue statement for May, 1899:

	1899	1898	Increase	Decrease
Gross receipts.....	£59,300	£61,679	.....	£2,379
Working expenses. 50,500		46,669	£3,831	.....
Net profit.....	£ 8,800	£15,010	.....	£6,210

Aggregate for 5 months, from Jan. 1 to May 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts.....	£339,000	£317,010	£21,990	.....
Working expenses. 285,300		251,764	33,536	.....
Net profit.....	£53,700	£65,246	.....	£11,546

DETROIT, GRAND HAVEN & MILWAUKEE RY.

Revenue statement for May, 1899.

	1899	1898	Increase	Decrease
Gross receipts.....	£15,400	£14,219	£ 1,181	.....
Working expenses. 14,000		10,753	£3,247	.....
Net profit.....	£1,400	£ 3,466	.....	£2,066

Aggregate for 5 months, from Jan. 1 to May 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts.....	£71,800	£73,653	.....	£1,853
Working expenses.. 63,500		59,643	£3,857	.....
Net profit.....	£8,300	£14,010	.....	£5,710

DETAILS OF G.T.R. RECEIPTS JAN. 1 TO MAY 31.

	1899.	1898.
Passengers, number.....	2,244,753	2,396,977
Immigrants, number.....	386,583	353,049
Mails, express, &c.....	2,462	1,524
Freight, tons.....	4,040,849	3,875,091
Miscellaneous receipts.....	£1,115,265	£1,095,095
Total receipts.....	£1,633,350	£1,561,058
Increase.....	£ 72,292	.....

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, Jan. 1 to June 30.

	1899.	1898.	Increase.	Decrease.
Grand Trunk.....	£1,980,799	£1,870,605	£120,194	.....
Chicago & G.T.	397,436	380,786	16,650	.....
D., G. H. & M.	89,776	86,886	£2,890	.....
Total.....	£2,468,011	£2,338,277	£129,734	.....

Mail Subsidies.—Clarke Wallace, M.P., recently raised in the House of Commons the question of the amounts allowed railway companies for the carriage of mails which aggregate \$1,352,000 a year. In his opinion the companies were very much overpaid. Last session the Postmaster-General had taken a vote for the purpose of investigating the matter, but so far nothing had been done. The Postmaster-General said that the railway companies, especially the G.T.R. & the C. P.R. companies considered they were very much underpaid, & pointed to the prices paid by the U.S. Government which were very much higher. It was true he had taken a vote last session for a commission of enquiry into this matter, but on the representation of the railway companies that the amounts paid them had been sanctioned by long usage & were not as large as the amounts paid for a similar service in other countries, he had not thought it necessary to proceed further.

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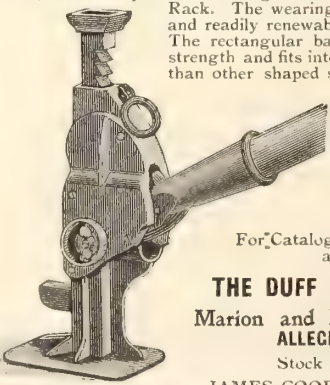
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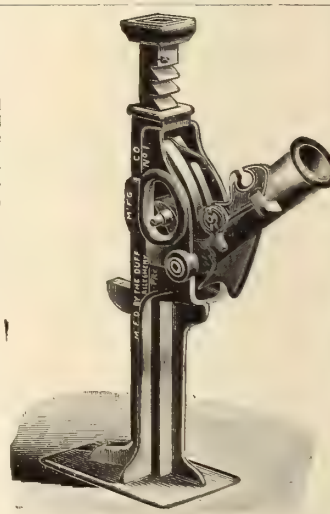
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RAILWAY APPOINTMENTS, Etc.

Canadian Pacific.—C. Drinkwater, who has been Secretary of the Co. since its formation in 1881, has been appointed Assistant to the President, & will continue to discharge the duties of Secretary. A. R. G. Heward, for several years Chief Clerk in Sir Wm. Van Horne's office, has been appointed Assistant Secretary of the Co.

There is no truth in a report published in B.C. papers, stating that the offices of the assistant general freight & passenger agents of the Pacific Division were to be removed from Vancouver to Montreal.

L. R. Johnson having been appointed Superintending Engineer of the Co.'s ocean steamships with headquarters at Vancouver, it has been decided that he shall also have charge of the shops at Vancouver reporting to and taking instructions in connection therewith from the General Superintendent of the Pacific Division.

F. E. Hobbs has been appointed Master Mechanic of that Division with headquarters at Revelstoke.

J. Fahey, conductor on the Western Division, has been appointed trainmaster at Winnipeg, H. O'Connor having resumed his former duties as fire inspector for the division.

W. A. Walker, storekeeper at Nelson, B.C., has been transferred to the Montreal stores.

W. O. Miller, heretofore station agent at Kamloops, has been appointed Car Service & Fuel Agent for the Pacific Division.

Central Vermont.—J. W. Shanks having resigned, W. P. Elrod has been appointed General Road Master. Office at St. Albans, Vt.

J. O. Olmstead having resigned, D. A. Sheedy has been appointed Superintendent of Bridges & Buildings. He is a brother of J. A. Sheedy, who recently resigned the position of Master of Bridges & Buildings, Middle Division, G.T.R.

Grand Trunk.—John Henderson has been appointed Roadmaster, 5th & 6th districts, between Vaudreuil and mileage 175 west of Kingston Jct., vice J. McGovern, resigned. Office: Brockville, Ont.

W. W. Ashald has been appointed Train Master 1st & 3rd districts & 2nd district between Richmond & Island Pond, with headquarters at Island Pond, Vt., vice C. S. Cunningham, resigned. P. J. Lynch has been appointed Train Master 6th & 7th districts, with headquarters at Belleville, Ont., vice W. W. Ashald, transferred. D. J. O'Connor, Train Despatcher at Stratford, has been appointed acting Train Master of the 22nd, 23rd & 24th districts, with headquarters at Stratford, vice P. J. Lynch, transferred.

G. T. Bell, Assistant General Passenger Agent at Montreal, has been appointed 1st Assistant General Passenger & Ticket Agent, with headquarters at Chicago, vice E. H. Hughes assigned to other duties. G. W. Vaux, heretofore Chief Clerk in the Passenger Department at Montreal, has been appointed Assistant General Passenger & Ticket Agent, with headquarters at Montreal, vice G. T. Bell promoted. Both appointments date from Aug. 1.

Intercolonial.—Hitherto W. B. Mackenzie has been Chief Engineer, with T. C. Burpee as Assistant Engineer, Mr. Mackenzie having control over both construction & maintenance. In accordance with the practice prevailing on the C.P.R. & G.T.R., the duties of the engineering department have been divided. Mr. Mackenzie remains as Chief Engineer, but with supervision of construction only. The maintenance of ways and works has been transferred to General Supt. Price's department, with T. C. Burpee as Engineer.

Minneapolis, St. Paul & Sault Ste. Marie.—G. R. Huntington has been appointed Superintendent at Minneapolis, Minn., succeeding F. C. Batchelder, resigned.

Ottawa & New York Ry. & New York & Ottawa R.R.—W. Chance, having resigned as Sec. & Treas. of these companies, A. Nichols has been elected Sec. & Treas. Office: 27 Pine Street, New York. G. B. Colpas has been elected 1st Assistant Treasurer. Office: Ottawa, Ont.

Death of C. J. Pusey.

C. J. Pusey, President & Manager of the Irondale, Bancroft & Ottawa Railway, died July 16 at the residence of his son-in-law, R. G. Kingan, Peterboro', Ont., where he had been suffering from an organic affection of the heart since the middle of June. For many years Mr. Pusey had been a prominent figure in railway circles in the north. He was a native of Chester, Pa., & early in life developed the aptitude for railway work that distinguished him all his life. In 1870 he became President of the Hudson Suspension & New England Ry., & later General Manager of the Sodus Point & Southern Ry. From 1873 to 1878 he was interested in mining in the Madoc District, & noting the heavy handicap to mining operations imposed by the absence of railway facilities, he turned his attention to railway development. In 1886 he purchased the nucleus of the present I.B. & O. Ry., 6 miles of line, extending eastward from the junction with the Victoria branch of the G.T.R. His object was to extend the line to Brockville, with connections to Ottawa, to give a U.S. outlet to mining products, & to extend the line westward & north to the Georgian Bay. His idea was the establishment of large smelting works in Hastings County. By his own almost entirely unaided exertions he secured Ontario & Dominion charters, & in the face of great difficulties extended his railway eastward by ten-mile sections, till now 47 miles are in operation, with 5 additional miles to be completed this fall. Mr. Pusey leaves four daughters, Mrs. F. C. Jones, Toronto; Mrs. L. B. Howland, Irondale; Mrs. R. G. Kingan, Peterboro'; & Miss Pusey. The funeral took place to Greenwood Cemetery, Brooklyn, N.Y.

Mainly About People.

S. J. Stratton, Chief Clerk Ontario Department Bell Telephone Co., died in Hamilton June 9.

J. A. Ashe, ex-Train Despatcher of the I.C. R. at Truro, is now on the New York Central at Oswego, N.Y.

C.P.R. President Shaughnessy was indisposed early in July for a few days & was confined to his house.

Lyman Dwight, Superintendent of the G. N.W. Telegraph Co., & Mrs. Dwight are visiting Banff, Alta.

C. R. Hosmer, Manager C.P.R. Co.'s Telegraph, left New York for England July 12, accompanied by his son.

At the monthly meeting of C.P.R. Directors July 10 Sir Wm. Van Horne presided for the first time as Chairman of the Board.

Mrs. W. T. Payne, wife of the C.P.R.'s General Traffic Agent for Japan at Yokohama, is spending the summer at St. Andrews, N.B.

W. A. Kittermaster, General Agent Freight Department C.P.R., Chicago, is posted for membership in the Chicago Board of Trade.

Lady & the Misses Van Horne are spending the summer at Sir William's seaside residence, Minister's Island, St. Andrew's, N.B.

H. P. Bell, C.E., of Victoria, B.C., has gone north to act as inspector of the portion of the White Pass & Yukon Ry. within British Columbia.

The engagement is announced of Miss Blair, second daughter of Hon. A. G. Blair,

Minister of Railways, & W. C. Clarke, of St. John, N.B.

Mrs. G. H. Webster, wife of the Land Commissioner of the M. & N. W. Ry., & her children are spending the summer at Portage la Prairie.

Mrs. W. R. Baker, wife of the General Manager of the M. & N. W. Ry., & her children are spending a few weeks at the Lake of the Woods.

J. McGovern, Roadmaster of the G.T.R. at Kingston for 20 years, & for 30 years in the service of the Co., has resigned to become a railway contractor.

Superintendent J. Wilson, of the Pacific division of the C.P.R. Co.'s Telegraph, is still in California for his health. Mr. Fletcher is acting as Superintendent.

Geo. E. Macdonald, of the C.P.R. traffic department at Vancouver, has been appointed General Agent on the B.C. Mainland for the Union & Wellington collieries.

Manager Whyte, of the C.P.R. Western lines, has been making an inspection of the Pacific Division, including the new lines in Kootenay & Kettle River districts.

Senator Proctor, who represented President McKinley during the presence of the Grand Army of the Republic in Montreal recently, was the guest of Sir Wm. Van Horne.

W. G. Reid, of Montreal, contractor & part owner of the Midland Ry. of Nova Scotia, was, on July 16, reported as confined to his house in Truro, N.S., threatened with typhoid.

After making an inspection of the G.T.R. system, President Sir C. Rivers Wilson & the Hon. Lady Rivers Wilson sailed from New York July 1, and are in town at 1 Point St., London, for the season.

Prior to leaving Winnipeg early in July for Montreal, C.P.R. Passenger Traffic Manager Kerr was tendered a dinner at the Manitoba Club, & was presented with a dinner set by the Traffic Department staff.

T. Tait, Manager C.P.R. eastern lines, returned in the middle of July from a two months' trip to Europe. Mrs. Tait is visiting her parents, G. R. & Mrs. Cockburn, at their summer place at Birch Point, Muskoka.

The engagement is announced of C. A. McGrath, Land Commissioner Alberta Ry. & Coal Co., at Lethbridge, to Miss Mabel Galt, daughter of the late Sir A. T. Galt, & sister of E. T. Galt, President of the A.R. & C. Co.

Capt. C. Goodall, senior member of the firm of Goodall, Perkins & Co., of San Francisco, who control the Pacific Coast Steamship Co. operating between San Francisco, British Columbia & Alaska, died suddenly in England recently.

W. E. Mullins, formerly chief clerk to Superintendent Fitzhugh, of the Middle Division of the G.T.R., & now occupying a similar position with Mr. Fitzhugh on the Central Vermont, was presented with a purse & a travelling bag on leaving Toronto recently for St. Albans, Vt.

The receivership of the Baltimore & Ohio Ry. terminated June 30, a reorganization having been effected without foreclosure. F. D. Underwood, formerly of the Minneapolis, St. Paul & Sault Ste. Marie, was appointed 2nd Vice-President, in addition to the position of General Manager he previously held.

W. R. MacInnes, recently appointed General Freight Agent of the C.P.R. western lines at Winnipeg, is but 32 years of age. He entered the service of the C.P. in June, 1885, as clerk in the Purchasing Department, & in Nov. of the same year was transferred to the solicitor's office. In Sept., 1886, he was again transferred to the office of General Traffic Manager Olds, & was appointed chief clerk to him in May, 1887. He remained in

on Saturday, March, 1890, when he went to Chicago as General Agent of the Freight Department of the Canadian Pacific "Sea" & Pacific South Shore & Atlantic, & also as agent of the Canadian Pacific Dispatch.

D. D. Mann, of Mackenzie, Mann & Co., left Montreal July 25 for Vancouver, to sail by the R.M.S. Empress of India for Shanghai. Before starting he said to a Star reporter:—"I shall look over the ground, while in China, & if there appears to be an opening, it is quite possible we will take a hand in, & build a few railways in that country. We have, however, received no concessions, nor have we had anything to do with the schemes which certain New Yorkers desire to carry through. There is a very wide field for railways in China, & if possible we intend to do our share in constructing them." Mrs. Mann & family accompanied Mr. Mann as far as Banff, where they will spend the remainder of the summer.

By a unanimous vote Eben E. McLeod, Assistant General Passenger & Ticket Agent of the Chicago, Rock Island & Pacific Ry., has been selected Chairman of the Western Passenger Association, to succeed Mr. Caldwell. The selection is hailed as an admirable one from all quarters, & probably the most surprised man of all is the young "dark horse" himself. Mr. McLeod has made an enviable record in the railway service. He is only 33 years of age. He was born in Newport, Nova Scotia, from where his father moved to Charlottetown, Prince Edward Island, when he was a child. He was graduated from Prince of Wales College & went to Boston as a clerk in the G.T.R. offices in 1885, & into the Boston & Albany ticket office in 1887. Dec. 1, 1889, he was made Travelling Passenger Agent in New England for the Chicago, Rock Island & Pacific Ry., & in 1892 he was given the Canadian territory in the same position, & afterward the Pittsburg territory. In Jan., 1898, he was made Assistant General Passenger Agent at Topeka, Kan., & was promoted to First Assistant at Chicago, Dec. 1 last. He is the son of the Rev. J. M. McLeod, of Vancouver, B.C.

Immigrant Traffic Conference.

The Special or Advisory Committee of the Western Passenger Association in charge of immigrant traffic, headed by Chairman McLeod, held extended sessions in New York in the middle of July for the purpose of rendering effective the agreement regulating that class of business through the port of New York. The committee held conferences with representatives of the transatlantic, trunk

lines & others, including the Canadian Pacific & Southern Pacific. There was a general disposition to co-operate on the part of the two transcontinental lines, & the outlook is regarded as extremely bright for the new compact. The new compact which is to govern the Western Passenger Association lines in the matter of immigrant traffic, provides for the management of the bureau by an advisory committee, which also has the general supervision of the carrying out of the agreement. The advisory committee is to promptly provide for European supervision of the business, & is to arrange with the steamship lines for the handling in Europe of bureau orders, upon which is to be shown the names of each line in the bureau, under the terms of a contract heretofore made with the steamship companies. Split orders are prohibited, & the committee has full authority to arrange for the through ticketing of the business subject to the bureau, from seaboard to destination. The officers of each line, it is declared in the agreement, "are bounden to do all they can to aid the Chairman to locate & properly describe the tickets used by any immigrants, to the end that such passengers may be properly charged to the roads that carry them, provided that no road shall be bounden to furnish any record or information for the purpose of making such charge against other roads." Withdrawals may be made from this agreement upon 30 days' notice to the Chairman of the advisory committee.

These rules are supplemented by a memorandum which provides that in the event of failure to arrange satisfactorily with the steamship companies in regard to European supervision of the business, the advisory committee may, within 90 days from July 1, establish an agency or agencies, for the sale of bureau orders, in Great Britain & on the continent of Europe, in order to secure the business for the lines; if, however, for any reason it proves impossible to place these immigrant orders on sale in Europe, or for any reason the orders have to be withdrawn, & the advisory committee fails to promptly accomplish European supervision in some other manner, then, in order to meet the competition of the Southern Pacific, the Canadian Pacific or other roads, any line or group of lines may exercise the right to place orders of their own in Europe for sale through any agency that may be deemed best, provided that the business subject to the agreement thus secured on such orders shall be subject to the rules & regulations of the agreement in the same as they apply to the business handled by the steamship lines & the Southern Pacific.

Negotiations are to be opened with the

Southern Pacific by the advisory committee to at once secure its co-operation with its connections via Ogden & its participation with them in the division of rates & commissions on current or agreed ticket divisions when normal rates are reduced, or normal commissions increased. The arrangements heretofore in force between the bureau & A. E. Johnson, an outside immigrant agent, are to be discontinued. In the revision of percentages for the division of any or all of the business, if the advisory committee is unable to reach a unanimous conclusion, the subject may be submitted to arbitration. If the bureau cannot, by unanimous action, agree upon a single arbitrator, there are to be 3 arbitrators—1 chosen by the applicant for revision, 1 by the bureau without the vote of the applicant, & these 2 to select a 3rd. The decision of the sole arbitrator, or a majority of the 3, is to be final.

The most important features of this agreement are the provisions relative to European supervision & requiring steamship companies to use the bureau immigrant orders, together with the independent action allowed the lines if this is not accomplished in 90 days; the settlement of percentages by arbitration, if not otherwise agreed upon, restriction of authority to be exercised by the Chairman, & the discontinuance of all arrangements with all outside immigrant agents. These agents will, of course, continue to do business abroad, but if the agreement can & is carried out to the fullest extent of its provisions, especially with reference to control the traffic in Europe, they are likely to suffer big losses. In this much depends upon what the steamship companies do. They have always insisted that they could control the traffic, & they now have the best opportunity ever accorded them to prove this.—Leonard's Railway News.

Passenger Traffic Matters.

The Passenger Department of the Dominion Atlantic Ry. has issued *The Story of Acadia*, by Dr. Hannay, in book form.

Think of being able to go from Victoria to Dawson in 10 days; 14 days from Montreal, if you please, & on a pinch 20 days from London. These are assuredly days of progress.—Victoria, B.C., Colonist.

A San Francisco telegram says the C.P.R. has withdrawn from the California Passenger Association on the ground that the purposes of the Association were in conflict with the provisions of the Interstate commerce law.

W. D. Reid, General Manager of the Newfoundland Ry., predicts that Newfoundland as

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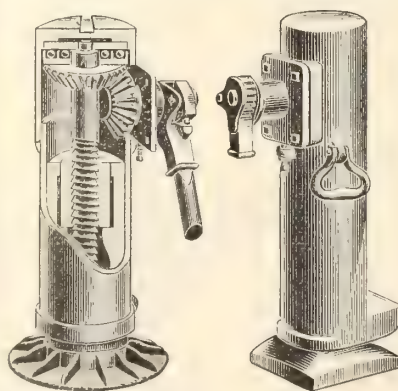
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a summer resort will see more visitors this year than ever before. Its beauties are only just beginning to be known, & it will attract in constantly growing numbers the tourist travel of not only Canada & the U.S., but of Europe as well.

The G.T.R. has announced positively that it will not withdraw its summer tourist rates to Boston so long as the Vanderbilt lines make summer tourist rates via Albany & Boston to New England points. At the meeting of the Central Passenger Association all the lines except the G.T.R. assented to a resolution that tourist rates to Boston be withdrawn.

Central Passenger Association lines have agreed to adopt a form of ticket on all east-bound business from Chicago to trunk line territory requiring the holder to travel on a particular train, the leaving & arrival times of which will be specified in the margin of the ticket. This action was taken upon the recommendation of the trunk lines, & is designed to prevent the scalping of through tickets to the East by brokers at Pittsburg & Buffalo. The change went into effect July 1. Many of the roads previously used such a ticket, & its general adoption is expected to prove a great benefit.

H. R. Charlton, Advertising Agent of the G.T.R., states that the results of the exhibition of Canadian pictures by the G.T.R. throughout the U.S. are showing themselves in a marked degree. Down South, where the Muskoka lakes & the highlands of Ontario were unknown, people are talking about them, & in a recent trip to St. Louis, Mo., he met lots of people either going up or about to take a trip to the northern country. He also states that owing to the vigorous policy of the G.T.R. in advertising Canada, & the playgrounds that are reached by the system in Ontario, applications are being received from the continent of Europe, including Italy, France, Germany, & even Russia.

The fight between Eastern U.S. roads over passenger rates may be said to be fairly on. The Wabash & the Nickel Plate gave notice at the end of June that they would meet the \$5 reduction in round-trip tickets between Chicago & Boston made by the Erie. The Michigan Central practically has announced that it will cut its fares \$5, although no official notice has yet been given. The Erie's cut was made to preserve its differential, & if it be fighting for principle its only course is to make another cut below the standard lines. The Michigan Central's policy all along has been that no competitor is entitled to make lower rates than itself for summer tourist business. Hence, if it is fighting for principle it may be expected to meet any reductions made by the differential lines. — *RailwayWorld*, July 7.

Summer travel on the railways & steamboats is now in full blast, & officials are up to their ears in the rush of business that began with the opening of July. Officials of all lines say that the volume of travel has been greater than at the same period of any other year within memory. Almost every car in the possession of the several roads has been in service, & as for the steamboats they have been filled practically to the limit of their capacity. The summer travel by the St. Lawrence route from Niagara Falls & Ontario points began much earlier this year than last, & every boat arriving in Montreal from the west is crowded. The tourist travel on the railways is especially heavy, & of course, the Christian Endeavor Convention at Detroit & the Educational Convention at San Francisco have added to the numbers of the travellers.

The Tramway Incorporation Amendment Act passed by the British Columbia Legislature in 1898 has been disallowed by the Governor-General-in-Council, as it prohibits Chinese and Japanese being employed on any undertaking authorized by the act.

The C.P.R.'s Train Service.

The Winnipeg Commercial says: "The train service which recently went into effect on the C. P. Railway main line & numerous branches, is a source of unbounded satisfaction throughout the West. It is simply far beyond expectations. We have now from ocean to ocean, through Canada, by all odds the best transcontinental train service on the continent. The Imperial Limited, as the new C. P. R. transcontinental service is called, is something which this country has reason to be proud of. It is sure to result in a large increase in transcontinental travel of the better class. Tourists & others who travel for pleasure, will hardly fail to avail themselves of the superb service afforded by the C.P.R. when selecting a route for such a trip. Add to this the grandest trip on the continent in point of scenery, & there is nothing left that could be desired for the Canadian route. With a splendid trans-Pacific steamship service in connection with the railway, & equal advantages compared with any other route for connection with Atlantic steamships, the C.P.R. should be right in the field for a large share of around the world travel.

"The residents of the West who were here during the early days of the railways in this country, will feel specially gratified at the wonderful growth of travel here. It is not a great many years to look back to the opening of the C.P.R. through to the Pacific coast. During the few years following the opening of the road, those who had occasion to travel much will well remember how the transcontinental trains jogged along over open prairie or through the mountains, with often scarcely half a dozen passengers. The writer once travelled some distance on one of these trains, with only one other passenger as a companion in the first-class coach. This one passenger, it transpired, was riding on a second class ticket. As he was the only other passenger on the train, he was allowed to invade the first class carriage. How things have changed in these few brief years. The lonely prairie now has a line of prosperous towns & villages along the railway, while comfortable rural residences abound. Evidences of advancement & civilization are to be seen on every hand. Now the transcontinental trains speed along with a full complement of passengers, local & through. While the splendid train service now provided is to some extent due to the favor with which the Canadian route is now regarded by tourist travellers, the great improvement is mainly due to the development of the country served by the road. It is but an indication of the general progress of the country. This is shown by the fact that the service on the branch roads, where tourist travel is not a factor, has been improved in keeping with the main line. As it is now, an excellent train service has been established on the branch lines as well as on the main line."

Piece Work on the I.C.R.

Mechanical Superintendent Joughins recently issued the following circular to foremen in the Moncton shops:—"The management of the Intercolonial wish you to assure all those who will adopt the piece work system, that their desire is to have the work so done & prices so made as to be of mutual advantage, that it be more of a profit sharing than a piece work system, believing that the men have an interest in the prosperity of the road & of the town in which they live. With this end in view each man on piece work will have the full benefit for 6 months of all improved methods he may use to turn out work, no matter how much wages he may earn within reason.

"On Jan. 1 & July 1 each year prices will be revised to a usual fair & just basis as be-

tween the men & the railway by mutual agreement. The expectation & object of the management is to see every able-bodied man in its employ busy, prosperous & contented, doing a fair day's work for a fair day's pay or wages. This is not piece work on the ordinary plan, but on a co-operative mutual benefit plan. There will be no unfair crowding to get a lot of work done at cheapest possible rate. No one will be compelled to accept piece work, & any one may drop it whenever he sees fit to do so, while those who are old & feeble will not be expected to undertake it. There may, of course, be exceptions to the above where there appears to be any glaring mistake. The prices will then be raised on behalf of the workmen, or lowered on behalf of the railway, or cancelled as may be necessary; the idea being to share the profits of any improved method which may be introduced by the foremen or the men, so as to make it really an industrial partnership."

Railway Operating Matters.

The C.P.R. is said to be contemplating a change in its operating department by which the B.C. branch lines will be despatched from Nelson instead of from Nakusp & Trail as at present.

On July 25, G. T. R. Superintendent of Motive Power Morse announced that the negotiations which have been going on for some time now between the locomotive drivers & the G.T.R. management were proceeding to a satisfactory conclusion. Mr. Morse added it was quite possible that the terms of the new agreement might be made public in the course of a few days thereafter.

The C.P.R. has brought a number of machinists from Great Britain recently, principally from Liverpool, & has distributed them among its shops. The new arrivals say the Co. is advertising extensively for this class of skilled labor in the press of Great Britain, & it is probable more will follow. A Winnipeg paper says the old sodders received a cordial welcome from their fellow craftsmen there, as it is felt there is work enough for all.

At the convention of the Train Dispatchers Association of America at Milwaukee recently, W. M. Goodwin, of the G.T.R. at London, Ont., who has been instructor on the standard code on that road for the past year, brought up a number of points of difference between the recently adopted revision of the standard code, & that which it superseded, & animated discussion of the various questions followed, which was participated in by many members. Mr. Goodwin was elected a member of the Executive Committee.

The Wabash has advanced wages as follows: Freight enginemen will receive \$3.90 per 100 miles, in place of \$3.75; freight firemen \$2.90, instead of \$2.79; freight conductors \$2.90, instead of \$2.80; brakemen \$1.17, instead of \$1.10; passenger conductors running from 3,000 to 4,000 miles monthly will receive \$90; 4,000 to 5,000 miles, \$100; 5,000 to 6,000 miles, \$105; 6,000 to 6,500 miles, \$110; over 6,500 miles, \$115. Baggage men get 55 & brakemen 30% of their conductors' pay. Passenger engineers receive \$3.35 per 100 miles' run; firemen \$1.90 per 100 miles. — *Railroad Gazette*.

The Whitney syndicate which controls the coal fields at Glace Bay, N.S., is making a big effort to introduce coke for firing purposes on the railways of the New England States. Heavy shipments of coal for gas manufacture at Boston will give an almost unlimited supply of coke. Experiments made with coke on the Dartmouth branch of the Intercolonial Ry. are said to have been so satisfactory that an extension of the trials will be extended to U.S. roads. The syndicate has sent C. Wilson of the Intercolonial to make tests on the Boston

& A. J. J. the Maine Central & other roads. Should the results be to the satisfaction of those interested Mr. Whitney will have solved the problem of securing a market for a big output.

The employees of the Canada Atlantic have renewed the negotiations which were commenced last fall in order to procure if possible a higher scale of wages & a 10-hour day. The officials last year told the members of the deputation which waited upon them that the road was not in a position to grant the request, but that negotiations might be renewed this spring. The trainmen claim that taken all around the wages paid them average about a-third less than on the C.P.R., & that as the Co. now operates about 700 miles of road it is in a position to pay a higher schedule. There are about 300 train hands on the line. It is expected that increases will be given the trainmen & that the matter will be settled without any difficulty.

A Winnipeg despatch of July 25, said: The C.P.R. drivers, firemen & trainmen are in consultation with General Superintendent Osborne in connection with proposed changes in the schedule. There are three principal points in dispute, the men claiming as follows: 1st, since the big engines have been introduced the trains have been longer & slower, owing to the heavier loads & delays; as the men are paid by the mileage they do not get so much & want an increase. 2nd, trainmen want more brakemen with their long trains; & 3rd, is the complaint against reduction of the number of baggagemen & the requirement of express messengers to do the work, as the express messengers are tied to their trains & cannot give the necessary assistance in case of mishap. It is likely everything will be amicably settled.

G.T.R. Train Rules.

The new train rules for the G.T.R. based on the standard code of the American Railway Association, which were approved of by the Government last year, & in which the men have been instructed & examined for some time past, went into effect on the lines of the system west of the Detroit & St. Clair Rivers on July 10, & will very soon be put in force on the whole of the rest of the system. In a recent interview General Superintendent McGuigan said: "It will only be a short time now when we will have the new rules in operation. The men seem to understand them pretty well now. They are to-day in force on the western district of the G.T., that is the Chicago & G.T. line, as it is known. While in Canada we have not put the rules into effect, you can easily see that it is necessary to have

the one system of train-running over the entire line of the G.T. These rules are the ones adopted by the American Railway Association representing the principal roads in the U.S. There are 180,000 miles of railway in the U.S., & roads representing 162,000 miles have adopted these rules. At sea, ocean steamships, no matter what country they hail from, have the same rule of the road, & this is the system that should obtain on the railways. There is no question that the new rules will, within a few weeks, be enforced all over the G.T. system."

Railway Committee of Privy Council.

A number of cases were heard at a meeting in Ottawa July 4.

Bedlington & Nelson Ry.—In the application of this Co. for power to run over a portion of the C.P.R.'s Crow's Nest Pass Ry., the parties being unable to agree, the committee fixed the rent to be paid by applicants at \$475 a mile per year, with conditions as to renewal, etc.

Toronto Matters.—A deputation from Toronto City Council was heard in reference to the crossing of the C.P.R. & G.T.R. tracks at Lansdowne Avenue, Parkdale, which the city wants to be declared a public crossing. The Postmaster General said, after examining the site, he had come to the conclusion a subway was necessary. It was contended that this would cost \$80,000 & the city wanted to avoid the expense. It having been pointed out that in Jan. 1898, the committee had given instructions that a subway, a foot bridge or an overhead bridge be constructed by the City, the Minister of Railways said the order should have been obeyed. Counsel for the City asked to have the matter reopened. The Minister of Railways said the Chief Engineer of the Department had reported that a level crossing would be dangerous. Decision was reserved.

A request of the city that gates & watchmen be placed at the G.T.R. crossings of Dunn, Jamieson & Dowling Avenues, was left over till the next meeting so that counsel for the City & for the G.T.R. could confer with a view of arriving at an arrangement.

A similar request was made by the City in regard to the crossings of Cherry street by the G.T.R. & C.P.R. The Co.'s claim is that the street was only opened up by law in 1890, & that the City should therefore foot the bill. The City Surveyor said that Cherry street had been opened at the point in question as far back as 1855. Counsel took issue on this point, & the committee decided to defer the consideration of the question until its next sitting.

The City of Toronto applied for the extension of the Toronto Ry. Co.'s Bloor St. line west of Lansdowne Avenue to Dundas Street. The City Council had ordered the Ry. Co. to extend the line, but the Co. declined to do so. The Council contended that a population of about 3,000 would be served by the extension. Manager Keating, of the Ry. Co., stated that there was no public call for the new line, & that if completed it would not pay. He saw no probability that the line could be utilized in the future as part of a belt line. Mr. Bicknell, on behalf of the Co., claimed that the act provided that applications for permission for electric lines to cross steam lines must come from the former, & not from municipalities. He gave notice that in case the Committee granted the city's request he would call into question the Committee's jurisdiction. Counsel for the C.P.R. said another set of gates would have to be placed at the C.P.R. & G.T.R. crossings at Bloor St. It cost the two companies \$1,000 a year to guard these crossings. He hoped that if the city's request were granted the railway companies would be enabled to continue the arrangement at the same annual charge. He thought a level crossing would be undesirable. The Committee reserved decision.

G.T.R. Crossings in Frontenac.—Frontenac County Council asked the Committee to compel the G.T.R. to place electric alarms or other protection at the crossings at Collins Bay, Cataraqui & Perth Roads. The petition was allowed to stand, the Committee deciding to send a Government Engineer to inspect these crossings.

The Portage & Northwestern, a subsidiary of the Northern Pacific, had 3 applications, the 1st for permission to run its line along Pacific Avenue, Portage la Prairie, & to cross the C.P.R. on the Avenue; the 2nd to secure approval of the place & mode of junction of its railway with the Manitoba & Northwestern Ry., near Portage la Prairie, & the 3rd for leave to cross the tracks of the Manitoba & Northwestern Ry., near the same town. All the applications stood over after argument had been heard, the parties representing agreeing to appear on a week's notice.

The Toronto, Hamilton & Buffalo Ry. applied for permission to run a branch along Trolley Avenue, Barton Township, crossing the G.T.R. Counsel for the G.T.R. offered to allow shunting privileges on the G.T. tracks along Trolley Avenue to the T., H. & B. on payment of a reasonable wheelage. Counsel for the T., H. & B. said that the G.T. had refused to allow this two years ago, the figure then mentioned being \$5 a car. Counsel for the G.T. replied that the G.T. would agree to whatever the Committee

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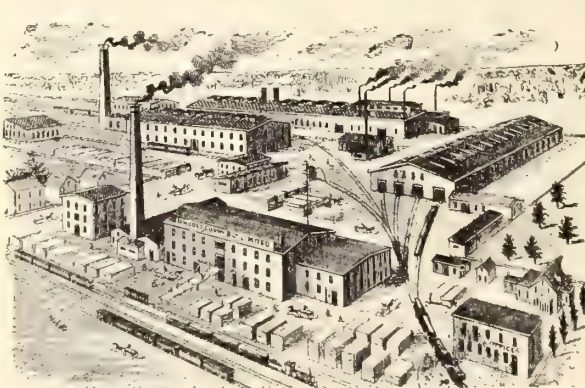
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Car Wheels, Castings, Forgings, &c.
AMHERST, NOVA SCOTIA.

thought fair. The question of the 7 ft. clear headway above freight cars under bridges was involved in this case, & Counsel for the T., H. & B. asked for a ruling as to whether the exception made in the case of trains of cars under air-brake control applied to trains of cars some of which were not so equipped. Mr. Blair replied this was a question to be considered. Decision was reserved. Judgment on another application of the T., H. & B. Ry. for authority to build a branch from a point in the 3rd concession of Barton to Wellington St., Hamilton, north of the G.T.R., was also reserved.

Allandale Crossing, G.T.R.—An agreement was filed between the G.T.R. & the Township of Innisfil, in relation to the Allandale crossing, this matter having been enlarged for the agreement of the parties. The agreement calls for a slight deviation of a highway. The Committee sanctioned the arrangement.

Canada Atlantic Crossing.—In reference to the complaint of G. M. Loy, of Valleyfield, that the C.A. crossing on Grand Ile Line road, Valleyfield, was in a dangerous condition, Messrs. Bethune & Mountain, on behalf of the railway, stated that the cause of complaint would be removed.

G.T.R. Crossing at Richmond.—Strong opposition was made to the application of the Town of Richmond, Que., for permission to open Stanley Avenue across the G.T.R. track. The Co.'s Counsel stated that a land-booming scheme was the cause of the application. Decision was reserved.

G.T.R. Trackmen's Wages.

The G.T.R. management has announced that, effective July 24, it has raised the minimum pay of the trackmen on its main lines of heavy traffic from \$1 to \$1.10 a day. The increase affects the following lines:—Portland, Me., to Sarnia Tunnel; Rouse's Point, N.Y., to Montreal; Toronto to Hamilton; Niagara Falls to Sarnia Tunnel; Niagara Falls & Fort Erie to Stratford; Fort Erie to Kingscourt Jct., via St. Thomas & Glencoe; Kamoka to Windsor. The men on the branch & other lines do not receive any advance. In an interview on the subject General Superintendent McGuigan said:—"I have been authorized to state that the trackmen on the main lines have had their salaries advanced to \$1.10 a day, & that is as far as the Co. is prepared to go. The reason why no increases have been granted on the branch lines is that the cost of living is much less on those branches. The increase, of course, only affects those who have been receiving \$1 a day. Those whose wages are more than that are not affected. We have on the main lines some 486 men receiving \$1.25 a day & about 200 receiving \$1.20 a day. There are from 1,200 to 1,500 who are working on the main lines & who will benefit by the increase, while the trackmen on the branch lines number from 600 to 800."

The demand made by the men when they struck on May 22 will be found in full in our June issue, pg. 171.

The Chilcoat Pass Tramway.

It is said this concern has been sold to the White Pass & Yukon Ry. A Tacoma, Wash., paper, referring to the return there of H. C. Wallace, one of the originators & a heavy stockholder in the enterprise, says the aerial tramway operates between Canyon City & Crater Lake. Canyon City is 6 miles distance from Dyea, & prior to the completion & operation of the railway to the summit, this short pack was considered as next to nothing by the traders & prospectors who had endured the fearful toil & hardships incident to getting their outfits & goods over the en-

tire length of the trail from Dyea to Lake Bennett. With the inception of the railway, however, transportation affairs on the Chilcoat Pass assumed a different phase. With the railway, the necessity of making the pack to Canyon City was obviated. The matter finally resolved itself into the tramway people extending their line on to Lake Bennett or selling out to the White Pass Ry. The tramway had cost \$200,000 to build. To make a terminus at Lake Bennett would cost \$300,000 more. But with this extension added the tramway would be enabled to carry freight at a cost of about 12% of what the railway tariff must be to make the road profitable. The railway people, so it is rumored, offered \$150,000 for the tramway plant with other minor concessions added. It became a question with the tramway stockholders whether to go to the further expenditure of \$300,000, build on to Lake Bennett & control the freight business over the Chilcoat Pass or sell out to the White Pass railway. To arrange a settlement of these matters is the errand on which Mr. Wallace left for the north, & from which he has just returned.

Grand Trunk Betterments, Etc.

An up-to-date station is to be built at Point St. Charles, Que.

A passenger station is to be built at Queen St. East, Toronto.

A track is being built along Goderich harbor front to the beach.

It is said an improved round-house is to be erected at Fort Erie, Ont., & that work will be started at an early date.

On July 16, General Traffic Manager Reeve & party drove across the Victoria Jubilee Bridge, in the first vehicle to pass over it. The bridge is not yet, however, completed for vehicular & pedestrian traffic.

Work is in progress to complete the double track between Montreal & Toronto. What is being done includes four miles between St. Anne & Vaudreuil, & 3½ miles between Sidney & Murray Hill, Ont. A mile & a half is also being double tracked between St. Lambert & St. Hubert, Que.

A recent press despatch stated that the management was considering the advisability of double tracking the Midland branch, owing to the expected increase in grain carrying & the erection of a smelter at Midland. We are officially advised that at present no action of that character is contemplated.

A recent press report stated that a joint passenger station would be built at Durand, Mich., for the G.T.R. & the Ann Arbor railways, that the work would probably be begun so as to enclose the structure before Jan., 1900, & that the building would probably cost \$30,000. On July 21 we were officially informed that nothing definite had been concluded in regard to the matter.

In regard to the International Bridge between Fort Erie, Ont., & Buffalo, we are officially informed that it is the intention to replace the present structure, which is too light for modern rolling stock, with one that will meet all present requirements & provide a reasonable margin of strength for future increase of weights of rolling stock. There will be no change made in the piers & abutments. The work will not be completed until next summer, but the draw spans will be built during the coming winter as that work cannot be well done during the navigation season.

Owing to the difficulty in procuring iron girders & columns, work on the general office building, McGill st., Montreal, has been postponed until next year. In a recent interview on the subject the architect said: "The demand for iron is far greater than the supply. We practically cannot get it for love or money. Carnegie's mills are working 7 days a week, & 24 hours a day, & yet they find it

impossible to keep pace with the demand. They are probably turning out \$1,000,000 worth of iron work a day, & from these figures you may be able to form some idea of the nature & dimensions of the present demand. The railways of Canada find it absolutely impossible to secure rails for their tracks. At the present moment they want 64,000 tons, & can't get a pound. The English & French foundries can hardly provide enough iron for their local markets, so that the question of importation cannot be entertained. Within the past year the Russian government has ordered 1,800,000 tons of rails for its great Siberian railway; the French Exposition has utilized another 1,000,000 tons in the construction of the exhibition buildings in Paris, & an additional 500,000 tons will yet be used before these structures are completed. The Russian government has ordered from U. S. locomotive manufacturers upwards of 482 engines for the railway to which I have already alluded. Then there are the bridges & public works in Canada & the U.S. to be taken into consideration. When you add to these the recent order of the British Government for 500,000 tons of armor plate, you will gain some idea of the tremendous proportions which the demand for iron has assumed during the present year. The scarcity of the material has enhanced its value, & this is another feature which has caused us to postpone the erection of the walls of the offices until next year. You will scarcely believe me when I say that the British government is paying \$500 a ton for its armor plate, & yet such is the case. As Canadian nickel enters largely into the construction of such, you will see how valuable this industry will yet become to the Dominion. With regard to the future I do not know what we are going to do. Every modern public building is constructed in the main of iron, & with the increase in the number of such will come a proportionate increase in the demand for iron. What to do under the circumstances is a question hard to solve."—Star.

Canadian Pacific Betterments, &c.

Mattawamkeag to Princeton.—With reference to the unconfirmed report mentioned in our last issue to the effect that surveys are being made for a connecting line from the Co.'s main line at Mattawamkeag, Me., some 50 miles southeast to Princeton, Me., to connect with the St. Croix & Penobscot, we are officially informed that there is no foundation for the report. (June, pg. 172.)

Windsor St. Station, Montreal.—Work is rapidly proceeding upon the extension of the station. All the houses on the south side, which have been acquired for the purpose, have been raised, & the foundations will soon be ready to be placed. The new plans provide for a double entrance & a great extension of the frontage from the original design. Internally, the changes will be radical. The present suites of offices will be altered to suit the more pressing need of space & facility for the expeditious conduct of business. At present there is great overcrowding. In the new building the President will have a handsome suite of offices. Arrangements will be made not merely for the better carrying on of the clerical labor, but for the general business of the station, which has overtaken the space originally allotted to it.

Arnprior.—The new station is to be completed by September. A large freight shed is being erected, & the yards are being extended & improved.

Fort William.—Extensive improvements are to be made in the Kaministiquia hotel, including a stone foundation. A number of improvements will also be made to elevator B.

Rat Portage.—Arrangements have been completed between the Co. & the town coun-

& the contemplated improvements are to be gone on with. They include a station building, a 20 stall round house with turn table, & large extension of track & yard accommodation. (May, pg. 130.)

Fort William to Winnipeg.—Engineers H. D. Lumsden & F. P. Busteed are still at work on surveys for the proposed double track between these points. (May, pg. 139.)

Winnipeg Terminals.—The Co.'s solicitor has served notice on a number of owners of property near the Winnipeg station, that their land will be required for the Co.'s purposes. This is in connection with the station & hotel, the erection of which has been decided on. It has not been announced how Main st. will be crossed, whether by a level crossing or a subway. It is said an overhead bridge is impracticable. (June, pg. 172.)

Snowflake Branch.—It is understood this branch will run from the 1st siding west of La Riviere, on the Pembina Mountain branch, to Snowflake. An act empowering the Co. to construct it was passed at the recent session of the Manitoba Legislature. (June, pg. 172.)

Deloraine to Waskada.—It now appears as if the C.P.R. had forestalled the Northern Pacific in regard to the construction of a branch to the Waskada district. A charter given by the Manitoba Legislature for the construction of a line in that direction is held by a resident of Waskada in the interest of the N.P.R., but at the recent session the Legislature also granted a charter to the C.P.R. to construct a line from or near Deloraine, southwesterly & westerly in townships 1, 2 & 3 to the western boundary of the Province. The life of the charter is limited to one year,

& the Co. is required to permit the loading of grain in cars from farmers' vehicles or flat warehouses. (June, pg. 172.)

Pipestone Branch.—A Winnipeg telegram says G. H. Strevel has been given a contract for building some 40 miles from last year's terminus, some 19 miles west of Reston, into the Moose Mountain district. (May, pg. 139.)

Crow's Nest Pass Ry.—It is rumored that a preliminary survey will be run immediately from the Crow's Nest line to the Windermere mining district following the Kootenay River to Canal Flats, thence down the west side of the Columbia lakes, tapping the principal creeks, to connect with the Arrowhead branch via Toby Creek, from the Lardo-Duncan-Trout Lake country.

A Vancouver despatch says:—"On July 20 the first sod was turned for the Cranbrook-North Star mine branch. The road will be 20 miles in length. The work of construction is being done by the C.P.R. itself. Tenders were called for, & several contractors figured on the job, but when the tenders were opened the management decided they were too high."

The Nelson Miner says that the western portion of the Crow's Nest line between Nelson & Balfour, on Kootenay Lake, is likely to be built this year, & that the line is required to overcome the difficulty experienced last winter in taking barges to Nelson through the ice from Balfour. Beyond that point no trouble was met with. The same paper says the C.P.R. may try & get running powers over the Nelson & Fort Sheppard Ry., between Nelson & Five Mile Point, which is the heaviest part of the line between Nelson & Balfour. We were officially informed on July

28 that nothing had been decided as to building between Nelson & Balfour this year. (June, pg. 172.)

Vancouver Terminals.—Coal bunkers are being built & additional tracks laid at False Creek.

Kaslo Wharf.—Pending hearing, the Co. has been restrained from building a wharf at Kaslo, on ground claimed by one Foster.

Arrowhead to Kootenay.—Poupore & McVeigh, contractors, have some 600 men at work on this line. The engineer in charge is A. E. Doucet, not H. B. Walkem, as stated in our last issue. (June, pg. 174.)

Columbia & Kootenay.—Work is progressing satisfactorily on the improvement of the alignment, etc., of this branch between Nelson & Robson. (May, pg. 139.)

Columbia & Western.—The narrow gauge rails are being taken up between Trail & Rossland. The short ties will be used at the Trail smelter as fuel. The narrow gauge rolling stock and rails are for sale. The road-bed is in splendid condition, for a new line, & passenger trains are making the runs on excellent time. (June, pg. 173.)

The station on Second Avenue, Rossland, is completed. Track has been extended up to the Le Roi shipping point at Rossland, so that supplies for the mines on Red mountain can be unloaded at the crossing above the Centre Star hoist.

Rapid progress is being made with the extension from West Robson to Midway. Twenty-six miles of track were laid in June. The track is expected to reach Cascade during the 1st week in August & Grand Forks 10

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$3 to \$4 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.

160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.

160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.

160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.

160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.

160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.

160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

Write for maps and full particulars.

L. A. HAMILTON, Land Commissioner,
F. T. CRIFFIN, Asst. Land Commissioner,
WINNIPEG.

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General Waiting Room	Men's Toilet	Freight Office	Lunch Room
Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

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days later. The completion of the balance of the line will be rapid, as few impediments will stand in the way of continuous track-laying. McLean Bros., contractors for the big tunnel, gave up the work, which is now in the hands of O. Olson, who has 120 men at work. They are piercing through the rock 3,100 ft. Working from both ends, they are now in over 1,200 ft. A compressor plant is in operation. Recently 11 ft. of rock in the tunnel was blown out at one shot. Pending the completion of this big undertaking, trains overcome the mountain by a switchback, there being 6 legs on each side. The grades are 4%, with curves of 22 degrees without compensation. The Co. is now receiving freight for Cascade, Grand Forks, Greenwood & Midway, via West Robson, taking it in by construction trains. (June, pg. 174.)

Duluth, South Shore & Atlantic.—Press reports say that surveys are being made for an extension from Houghton, Mich., southwest some 45 miles to Ontonagon, along the lake shore.

Minneapolis, St. Paul & Sault Ste. Marie Ry.—It is said a contract has been let for the construction of a branch from Rapid River, near Gladstone, north-west some 30 miles through agricultural & timber lands.

The Bradley-Watkins Lumber Company is said to be building a spur from a point on the main line east of Hermansville to Spaulding, Mich., about 8 miles.

Surveys, Construction, Betterment, &c.

The Algoma Central Ry. is projected to connect Sault Ste. Marie with the main line of the C.P.R. at Missanabie, with a branch line from Missanabie to Michipocoten harbor. We are officially informed that the Michipocoten branch is now under construction & that about 10 miles of it will be built this year. Tenders were recently advertised for for cutting ties, grubbing & clearing right of way, grading road & rock cutting. It is also intended to build 40 miles on the main line from Sault Ste. Marie northward. The branch line is intended to develop a most important mining district, the ores of which are of a very low grade, & many of which could not be worked at a profit unless they could be taken out at Michipocoten Harbor, on Lake Superior. The main line will run through a hitherto inaccessible wilderness, which, topographically speaking, consists of rough formation, making the road expensive to build, but, nevertheless, much of the soil is said to be most excellent for the cultivation of grain and root crops. There is a vast area of timber lands, suitable for the manufacture of pulp and other purposes, & the region abounds in mineral wealth, especially in sulphate of copper, sulphate of iron & sulphate of nickel. F. H. Clergue, the President of the Co., who is also President of the Sault Ste. Marie Pulp Mills, proposes to erect reduction works for refining copper & other ores, & for the production of nickel steel. (June, pg. 175.)

The Canada Atlantic will this fall commence the erection of large car shops at Ottawa in addition to those already put up. The new shops will be located near the Rideau roundhouse, where the machine shops & repair works are situated. The buildings put up this spring at the foot of Elgin st., & which are now being used, will be discarded after the proposed structure at Ottawa East is up. They will then be used by the Co. for storage, or may be available for manufacturing purposes. When the new car shops, which will be erected & equipped at a heavy cost, are completed, all the works of the Co. will be adjacent to each other, instead of being $\frac{1}{2}$ a mile apart, as at present. They will consist of erecting, woodworking, drying & painting shops, & will run by electricity. In order to make a foundation a great deal of filling in

will have to be done, & work on this will commence in the near future in time for the erection of the shops to start in Nov. & be completed early in the spring.—Ottawa Citizen.

Canadian Northern.—When in Winnipeg recently, on his way to China, D. D. Mann was asked if it was true that this Co. had in view a transcontinental line running through the Saskatchewan valley to the Pacific coast. In reply he said that no such scheme had yet become a feature of the plans, though he could not say what might ultimately occur in that respect. In the meantime all talk of a transcontinental line was visionary. The Co., however, intended to build into the Saskatchewan valley, its objective point being Prince Albert, beyond which it had no charter. (June, pg. 157.)

Cassiar Central.—A commencement is said to have been made on this line within the last month. However, recent arrivals at Vancouver from Glenora say that a disagreement has occurred between the employees & the Co. in regard to a demand for higher wages, which the management declined to accede to, as the men were fully aware of the pay offered at the time of their entering into the contract either at Victoria or Vancouver where most of them were engaged. (Jan., pg. 11.)

Central Ontario.—A contract has been let to R. Weddell, Trenton, for the extension of this line from Ormsby, 5 miles from its northern terminus at Coe Hill to Bancroft, about 21 miles. Work will be proceeded with at once. (June, pg. 175.)

The Coast Ry. of Nova Scotia has been extended this year from East Pubnico to Lower East Pubnico, 5 miles, & the grading & masonry are about completed to Barrington, 15 miles further, to which point it is expected to have the line completed by Sep. (June, pg. 175.)

Edmonton to the Stikine.—The Government survey party, in charge of C. F. K. Dibble, C.E., which left Edmonton July 12, 1898, to survey a route for a railway through the Rockies to the head waters of the Stikine, returned to Edmonton on July 15. Mr. Dibble commenced his survey on the Peace River where the Parsnip & Finlay join & empty into the Peace. He then followed the Finlay for about 15 miles to the Omineca, & up the Omineca to Black Canyon. He reached Black Canyon Oct. 22 & put up winter quarters, but on Jan. 22 determined to push on in winter & if possible reach the Stikine before spring. The party started on snow shoes & sleds, each man hauling about 200 lbs., & making a survey as they went. After two unsuccessful attempts, they discovered a very easy pass through the Rockies & reached the head waters of the Stikine Mar. 3, a distance from the head of Omineca of about 225 miles. They found the country very heavily timbered, most of the way with balsam & spruce, but a very easy & most practicable route for a railway, in all probability the easiest & cheapest route for construction yet discovered through the Rockies, there not being a single serious obstacle from Black Canyon to the Stikine. They also discovered that the maps are in error in regard to the head waters of the Stikine & Skeena & discovered that both rivers take their source in the same muskeg about 3 miles apart.

Great Northern.—A correspondent at Lachute, Que., writes that the final survey has been completed & a definite line decided upon. It was first thought that the road would pass to the south of Lachute town, crossing the C.P.R. tracks at the eastern end of the town, following the high land & crossing the North River just south of the paper mills. This line has been abandoned on account of the heavy grade on both sides of the river & the cost of constructing a bridge at that point. The road as now decided upon will follow the bank of

the North River from the eastern end of the town, crossing it at Barron's Point, where the river is comparatively narrow, & crossing the West River at the western end of the exhibition grounds. A. S. McKown, of Cornwall, & J. E. Valois, N.P., of Lachute, have purchased the right of way from Grenville East as far as Lachute. (June, pg. 175.)

Intercolonial.—Detailed particulars of the amounts provided in the Dominion supplementary estimates for betterments, &c., will be found on pg. 216.

In regard to the Government elevator to be built at Montreal the unanimous opinion on the Corn Exchange there is that it should be of at least 1,000,000 bus. capacity, & so constructed as to admit of enlargement to 2,000,000.

Inverness & Richmond.—Contractors Ryan & Macdonald are vigorously pushing work on the first 30 miles from the Strait of Canso, & have about 1,000 men & a large number of teams at work. A. Sinclair is in charge of the Co. (June, pg. 175.)

Kootenay Valley Ry. & Navigation Co.—On July 12 it was stated that the grading for this Co.'s subsidiary line, the Bedlington & Nelson, was completed from the International Boundary north & ready for track-laying.

On July 19 we were officially informed that this Co.'s other subsidiary, the Kaslo & Lardo-Duncan Ry., was under construction from Kootenay Lake to Howser Lake, a distance of about 12 miles. Construction had only recently commenced, & no decision had been reached as to further construction this year on that line. The character of the work is light for a mountain country. C. O'Donnell, purchasing agent for G. A. Carlson & Co., contractors, reports that the clearing of the right-of-way has been practically completed from Argenta to the canyon beyond Duncan City. The construction camp is situated above the canyon, & men are grading both above & below the canyon.

Lake Erie & Detroit River.—On June 20 a by-law to grant this Co. \$20,000 towards an extension from Ridgetown to St. Thomas was defeated in St. Thomas by 207 votes. This is the 3rd time the by-law has been voted upon. It carried last fall, but was quashed on a technicality. The township of Aldboro' has voted a bonus of \$7,000 for the same purpose. (June, pg. 175.)

Manitoba & Northwestern.—About 150 men are at work improving the roadbed, etc. An improved station & a section house are being built at Millwood & the stock shipping facilities at Yorkton, Russell & Shoal Lake are being improved.

Manitoba & Southeastern.—The portion of the line built last year has been ballasted this season & a passenger service has been inaugurated. (June, pg. 176.)

The Midland Ry. of Nova Scotia, now under construction, has been connected with the I.C.R. at Windsor, N.S. (May, pg. 134.)

Northern Pacific.—The remains of the Manitoba hotel at Winnipeg have been cleared away. The station & division offices are being rebuilt. (June, pg. 176.)

The main line between Winnipeg & Morris is being ballasted & the Morris yard is being enlarged. The Winnipeg yard has been considerably extended.

Nova Scotia Southern. It is said H. G. Harvey, promoter of this line, expects to have it opened this fall from Shelburne to New Germany, via Caledonia, to connect with the Nova Scotia Central, which connects with the Dominion Atlantic at Middleton. (May, pg. 130.)

Ontario & Rainy River. It is expected that E. F. Fauquier's contract for the first 20 miles will be completed early in Aug. It was recently stated in the daily press that a con-

tract had been given A. B. Mann for grading the miles in the neighborhood of Lake Shebandowas. We are informed that the contract is for 4 miles only & work is already proceeding on it. The same report stated that Mr. Johnstone, of Pelly Sound, had been awarded a contract for clearing the right of way. On July 22 we were informed that no contract had been signed with Mr. Johnstone, but that one was in contemplation. Chief Engineer White is reported to have stated in Winnipeg recently that 80 miles will be completed this year. (June, pg. 1700.)

A temporary pile trestle, strong enough to carry a train & to be used as false work in erecting the permanent bridge, has been built over the Kamistiquia River. The crossing is only 250 ft. wide & it will probably be spanned by two 135 ft. steel trusses just clear of high water.

It is said the Co. has bought no. 5 dock at Port Arthur, from T. Marks & Co.

A recent despatch from Fort William gives information of a pending sale of iron ore land in the Atikokan range. The parcel under negotiation has an area of 1,200 acres, embracing 15 locations. The Atikokan range lies to the south-west of Lake Shebandowas, nearly 100 miles west of Fort William. It is to be tapped by the O. & R. R. Ry., & is only 32 miles from the line of the C.P.R. It rises 60 to 125 feet above the level of the plain, it runs in two veins—the one 30, the other 60 ft. wide—is described as from 300 to 400 ft. in thickness, & can be traced 4 or 5 miles. This body of high-grade iron belongs to the magnetite variety. Fifty miles nearer the lake shore are the famous hematite deposits on the Mattawin River.

The Ottawa & New York Ry. has two gangs of men at work on the bridge over the St. Lawrence at Cornwall, & it is expected the structure will be completed by Nov., when the road will be in a position to run through trains between Ottawa & New York. Most of the rolling stock is south of the river & will not be brought into service until the bridge is completed. (May, pg. 136.)

Pontiac & Pacific Jet.—On July 25, nine men started work a short distance west of

Deschene on the extension of this line from Aylmer to Hull. It is said the force will be increased shortly. The City of Hull is likely to give the Co. a bonus towards the cost of its terminals. (May, pg. 137.)

Prince Edward Island.—The Dominion supplementary estimates provide \$250,000 towards the construction of a branch from Charlottetown to Murray Harbor, including a bridge over the Hillsborough River. The Provincial Government has agreed to pay \$12,000 a year towards the interest on the cost of the bridge. Murray Harbor is on the s. e. coast of the Island. The estimated cost of a combined railway & traffic bridge over the Hillsborough River is estimated at \$800,000. The length of the branch would be about 50 miles, its estimated cost, narrow gauge as is the rest of the line, being from \$7,500 to \$8,000 a mile. The branch would pass through one of the best & most prosperous districts of the Province, & the Hillsboro' River bridge would be a great convenience to people living east of the river, who now have difficulty in reaching Charlottetown when the ferry traffic is interrupted by ice. A preliminary survey of the proposed line was made for the Department of Railways some 5 or 6 years ago, & a more complete one was made in 1897 by H. J. Mackenzie, C.E. (July, '98, pg. 130, May, '99, pg. 137.)

The Rutland-Canadian Ry. Co. is building a line from Rouse's Point to Burlington. There are 600 men employed on the work, which, it is expected, will be completed by Sept. 1, after which date the Co. will run through trains from Montreal to Burlington, & also from Sorel, Que., to New England points. The company will also construct a line from Lacolle to connect with the Richelieu Valley Ry., giving a through service from Sorel to New England points. Besides this it is almost decided to construct a line from St. Lambert, opposite Montreal, direct to Rouse's Point, to connect there with the Rutland Co.'s system; that also includes the railway from Burlington, Vt., to Bellow's Falls. —Railway World (June, pg. 176).

White Pass & Yukon.—On July 6 the first train reached Bennett from Skagway, the

event being fittingly celebrated. The last spike, of gold, was driven by Mrs. E.C. Hawkins, wife of the Chief Engineer, & was withdrawn & presented to her. With rail from the ocean to the head of navigation on the Yukon, the problem of Northern transportation is vastly simplified. It is said to be the intention of the Co. to extend the road as rapidly as possible, the objective point being Fort Selkirk, at the mouth of Pelly River. It is hoped that before navigation opens next year the line will be built as far as White Horse Rapids, which will render the transfer of freight from small to large steamers unnecessary. There are no serious difficulties in the way of construction beyond Lake Bennett. There is doubtless the usual amount of heavy work, but it is of such a character that a large force of men can be used to advantage.

A press report says H. B. LeFevre, of the Co.'s engineering department, has reached Skagway after a hard trip up the Watson river & along the foothills to the Fifty-Mile, below White Horse Rapids. Most of the country through which he passed is entirely new to map-makers, & no signs of trails, mess debris, chopping or other evidence of previous visitation could be found. As a consequence a number of important streams, lakes & prairies were discovered & named. Some of the lakes are quite large & teeming with trout. The lower lands of the country explored are almost entirely devoid of rock, & show no signs of mineral. On the Fifty-Mile river declivity the country is cut up with large potholes. Many of these contain lakes of the purest water. A curious peculiarity lies in the fact that their outlets & inlets are altogether subterranean. They receive their supply from the bottoms of lakes above, & their overflow percolates through their lower banks to lakes below.

The Canada Ry. News Co. gives notice that it will apply to the Governor-General-in-Council for supplementary letters patent extending its powers so as to enable it to carry on the business of catering & keeping restaurants & hotels. The Co.'s head office has been removed from Montreal to Toronto.

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Dominion Railway & Bridge Subsidies.

The resolutions introduced in the House of Commons towards the end of July provide for subsidies to the amount of \$6,590,295, as follows:

Revotes, 499½ miles at \$3,200.....	\$1,597,120
New votes, 878¾ miles at \$3,200.....	2,812,000
Ontario & Rainy River Ry., 140 miles at \$6,400.....	896,000
Quebec Bridge.....	1,000,000
Other bridges, Quebec.....	201,425
Bridges, Nova Scotia.....	33,750
Revotes for bridges.....	50,000

Total.....\$6,590,295

The resolutions as usual provide for a subsidy of \$3,200 a mile for the railways mentioned, not exceeding the number of miles stated in each case, which shall not cost more on the average than \$15,000 a mile. Where the average cost exceeds \$15,000 a mile there is granted a further subsidy of 50 per cent. on so much of the average cost of the mileage subsidised as shall be in excess of \$15,000 a mile, the subsidy not to exceed in the whole \$6,400 a mile. The expression "cost" is declared to mean the actual, necessary & reasonable cost & shall include the amount expended upon any bridge, not exceeding \$25,000, forming part of the railway subsidised not otherwise receiving any bonus, but shall not include the cost of equipping the railway nor the cost of terminals & right of way in any city or incorporated town; and such cost shall be determined upon the report of the Chief Engineer of Government Railways. In arranging the list of lines aided, as follows, we have classified them by Provinces, which will be found much more convenient for reference than as they are given in the resolutions.

NOVA SCOTIA.

From Port Hawkesbury to St. Peter's, 30 miles. Revote.

From Windsor to Truro, via Township of Clifton, 58 miles, in lieu of subsidy granted by 57-58 Vic., chap. 4. Revote.

From or near Brookfield Station, I.C.R., to Eastville, 25 miles, in lieu of subsidy granted by 60-61 Vic., chap. 4. Revote.

From a point on Central Ry. in County of Lunenburg, to Liverpool via Caledonia, or to Caledonia, via Liverpool, or for any part thereof, the whole not exceeding 62 miles. Revote.

From Indian Garden to Shelburne, 35 miles. Revote.

Port Hawkesbury to Caribou Cove, 10 miles.

From Sunnybrae to Country Harbor, and from Country Harbor Cross Roads to Guysboro', to make up deficiency in mileage between points mentioned and subsidised by 60-61 Vic., chap. 4, 15 miles.

Port Clyde to Lockport, 20 miles.

From I.C.R. at or near Halifax to Central Ry. in County of Lunenburg, 20 miles.

NEW BRUNSWICK.

St. John Valley & Riviere du Loup Ry. from Fredericton to Woodstock, 59 miles. Revote.

From Cross Creek Station, Canada Eastern Ry., to Stanley Village, 6 miles. Revote.

Central Ry. of N.B., extension from Newcastle coal fields to Gibson, 30 miles.

Extension of St. Francis Branch of Temiscouata Ry. to mouth of St. Francis River, 3 miles.

Canada Eastern Ry. from Nelson, to connect with main line running into Chatham, to complete connection from Nelson to main line, 2¼ miles.

Restigouche and Western Ry., in addition to 20 miles granted by 60-61 Vic., chap. 4, & in continuation from westerly end of the 20 miles towards St. John River, further distance not exceeding 15 miles, and for the line from a point on the St. John River, at or near or be-

tween Grand Falls or St. Leonards, easterly towards Campbellton, such point to be approved by the Governor in Council, 12 miles, in all 27 miles.

QUEBEC.

Great Northern Ry., between Montcalm & St. Tite Jct., on Lower Laurentian Ry. 53½ miles; & for branch from main line to Shawenegan Falls, 6½ miles. 53½ miles revote.

Philipsburg Ry. & Quarry Co., shortage in extension of railway from a point on the line at or near end of subsidised section, to Government Wharf, Philipsburg, 66-100 of a mile. Revote.

From village St. Remi to Stottsville or some point on the Delaware & Hudson Ry. (G.T. R.), in the parish of St. Valentine, 19 miles, of which 12 miles is a revote.

Pontiac Pacific Jct. Ry., from Aylmer to Hull, in lieu of subsidy granted by 60-61 Vic., chap. 4, 9 miles. Revote.

Portage du Fort & Bristol Branch Ry., branch from Pontiac Pacific Jct. Ry. at or near Quyon toward Portage du Fort, 15 miles, in lieu of subsidy granted by 60-61 Vic., chap. 4. Revote.

Orford Mountain Ry., branch from between Lawrenceville & Eastman to Waterloo, 30 miles. 4½ miles revote.

Atlantic & Lake Superior Ry., extension from Caplin to Paspebiac, 30 miles. Revote.

From Paspebiac to Gaspé, 32 miles.

United Counties Ry. from St. Robert Jct. to Sorel, 6½ miles, & from Mount Johnson to St. Gregoire Station, 1 mile. Revote.

Quebec & Lake St. John Ry., for 12 miles from end of line at deep water on Chicoutimi branch to Ha! Ha! Bay, in lieu of subsidy for 12 miles granted by chap. 4 of 1894. Revote.

South Shore Ry. from Sorel Jct. along South Shore to Lotbiniere, 82 miles.

Massawippi Valley Ry., for extension to Stanstead Plain, 2½ miles.

From Labelle, north-westerly to Nominiguet, via Notre Dame de l'Annoncation, 22 miles.

Ottawa & Gatineau Ry. line in & through City of Hull, 4 miles.

ONTARIO.

Central Ontario Ry. extension from or near Coc Hill or Rathburn station, to or near Bancroft, 21 miles, in lieu of subsidy granted by 55-56 Vic., chap. 2. Revote.

Strathroy & Western Counties Ry., from Strathroy via Adelaide & Arkona, to either Forest, Tedford or Park Hill, 24 miles, in lieu of subsidy granted by 57-58 Vic., chap. 4. Partly revote.

Between Pontypool & Bobcaygeon, via Lindsay, 40 miles. 32 miles Revote.

Bay of Quinté Ry., for such extensions, branches or additions as will enable it to connect its lines or connecting lines with iron or other mines or mineral or wood lands in the counties of Peterboro', Northumberland, Hastings, Lennox & Addington, Frontenac or Leeds, payable in instalments regulated by the length of each of the extensions, &c., in lieu of part of the balance remaining unpaid of the subsidy granted to the Kingston, Napanee & Western Ry. by 55-56 Vic., chap. 5, but not exceeding \$3,200 a mile for 10 miles, not exceeding in the whole \$32,000. Revote.

Bay of Quinté Ry. extension westerly from Deseronto 2 miles; also extension from Tweed northerly 5 miles, in all 7 miles.

From Hawkesbury to South Indian, 35 miles.

From Sault Ste. Marie towards Michipicoten River & harbor & to main line of C.P.R., 40 miles.

From main line of Ottawa, Arnprior & Parry Sound Ry. to town of Parry Sound, 5 miles.

From Haliburton village via Whitney, towards Mattawa, 20 miles.

Extension of Tilsonburg, Lake Erie & Pacific Ry. from Tilsonburg to Ingersoll or Woodstock, 28 miles.

Fort Francis, westerly to or near mouth of Rainy River, 70 miles.

From Owen Sound to Meaford, 21 miles.

Ontario, Belmont & Northern Ry. extension, from Iron Mines north-westerly 5 miles; also extension southerly from present southern terminus to Central Ontario Jct. of the C.P.R. 2 miles, but the aid for the 2 miles shall not be granted in case the Railway Committee of the Privy Council finds that adequate running powers on fair terms can be secured to the Co. over that portion of the line of the Central Ontario Ry. between the present southerly end of the Ontario, Belmont & Northern Ry. & the C.P.R. line at Central Ontario Jct.

From the Pembroke Southern Ry. at or near Golden Lake, towards the Irondale, Bancroft & Ottawa Ry. at or near Bancroft, 20 miles.

Lake Erie & Detroit River Ry. from Ridgetown to St. Thomas, 44 miles; to be payable only in the event of adequate running rights over the Canada Southern Ry. between the points mentioned not being granted to the L. E. & D. R. Co. on terms to be approved by the Railway Committee of the Privy Council.

Kingston & Pembroke Ry., branches from main line to iron mine at Bluff Point & to the Martelle Mine in the County of Renfrew, 5 miles.

From the Village of Parry Sound northerly towards Sudbury, 20 miles.

The subsidy which the Ontario & Rainy River Ry. is entitled to receive under 60-61 Vic., Chap. 4, for 80 miles from the Port Arthur, Duluth & Western Ry. to Rainy Lake, shall be \$6,400 a mile.

Ontario & Rainy River Ry. Co., for a railway from Stanley Station, on P. A., D. & W. Ry., to Fort Francis, for a distance of 140 miles, at \$6,400 a mile, not exceeding in the whole \$896,000.00.

NORTHWEST TERRITORIES.

Canadian Northern Ry., from present line of Winnipeg Great Northern Ry. north of Swan River to Prince Albert, 100 miles.

From near Antler Station to south of Moose Mountain, 50 miles.

Western Alberta Ry., from U.S. boundary, west of range 27, north-westerly towards Anthracite, Alta., 50 miles.

Edmonton, Yukon & Pacific Ry., from South Edmonton to North Edmonton, thence westerly towards Yellow Head Pass, 50 miles.

There are no subsidies for lines in Manitoba or British Columbia. Prince Edward Island gets a vote of \$250,000 for a branch line from Charlottetown to Murray Harbor, as will be seen by reference to pg. 250.

The following provisions are embodied in the resolutions. They contain a number of important new stipulations:—The subsidies granted to the Ontario & Rainy River Ry., the Canadian Northern Ry. & the Edmonton, Yukon & Pacific Ry., are granted upon the condition, & shall be received upon the condition, that those companies shall not, nor shall any of them, at any time amalgamate with any other railway company, or lease its line to any railway company; nor shall any of those railways be leased to or operated by any other company; nor shall any of those companies make an agreement for a common fund or for pooling its receipts with any other railway company, & any such lease, amalgamation or agreement shall be absolutely void, excepting in so far as it may extend to traffic or running arrangements which have been approved by the Governor in Council.

The subsidies hereinbefore mentioned as to be granted to companies named for that purpose shall, if granted by the Governor in Council, be granted to such companies respectively; the other subsidies may be granted to such companies as shall be approved by the Governor in Council as having established to

the satisfaction of their ability to construct & complete the said railways respectively; all the lines for the construction of which subsidies are granted, unless they are already commenced, shall be commenced within 2 years from Aug. 1, 1899, & completed within a reasonable time, not to exceed 4 years from Aug. 1, 1899, to be fixed by Order in Council, & shall also be constructed according to descriptions & specifications, & upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways & Canals & specified in an agreement to be made in each case by the company with the Government; the location also of every such line of railway shall be subject to the approval of the Governor in Council.

The granting of such subsidies, & the receipt thereof by the respective companies, shall be subject to the condition that the Governor in Council may at all times provide & secure to other companies running powers, traffic arrangements & all other rights as will afford to all railways connecting with those subsidised reasonable & proper facilities in exercising such running powers, fair & reasonable traffic arrangements with connecting companies, & equal mileage rates between all such connecting railways, & the Governor in Council shall have absolute control at all times over the rates & tolls to be levied & imposed by any of the companies or upon any of the railways hereby subsidised.

The subsidies shall be payable out of the Consolidated Revenue Fund by instalments, on the completion of each section of the railway of not less than 10 miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the Minister, or upon the completion of the work subsidised—except as to subsidies with respect to which it is otherwise provided.

Every company receiving a subsidy under this act shall each year furnish to the Government transportation for men, supplies, material & mails over the portion of its line in respect of which it may have received such subsidy, & whenever required shall furnish mail cars, properly equipped, for such mail service, & such transportation & service shall be per-

formed at such rates as may be agreed upon between the Minister of the Department of the Government for which such service is being rendered & the company performing the same, & in case of disagreement, then at such rates as may be approved by the Governor in Council, & in or toward payment for such charges the Government of Canada shall be credited by the company with a sum equal to 3% per annum on the amount of subsidy received by the company under this act.

It is reckoned that 3% per annum, which is a new condition in the contract, amounts to \$96 a mile per year; whilst the 8c. a mile reckoned for mail dues comes to about \$35 a year.

BRIDGES.

To Quebec Bridge Co., towards construction of bridge over St. Lawrence River, at Chaudiere Basin, near Quebec, \$1,000,000, payable 40% on monthly progress estimates, approved by Government engineers, of materials delivered & work done.

South Shore Ry., towards restoration & renewal of railway bridge over Yamaska River at Yamaska, Que., (Revote) \$50,000.

For the other bridges 15% of the amount expended thereon is granted not to exceed the sums mentioned.

Towards construction of bridge over Richelieu River at Sorel, Que., (Revote) \$35,000.

Towards construction of bridge across St. Francis River, \$50,000.

Towards construction of bridge across Nicolet River, \$15,000.

Midland Ry., towards construction of bridge across Shubenacadie River, \$33,750.

Great Northern Ry., towards construction of bridge across St. Maurice River, \$16,425.

Towards construction of bridge across the Rivière du Loup, \$15,000.

Towards construction of bridge across Lac River, \$15,000.

Great Northwest Central Transfer.—Chief Justice Killam has issued an order at Winnipeg for the payment over of \$27,000 to Mr. Delap, on behalf of the bondholders of the G. N.C.R. Co. This is one of the preliminaries

to the transfer of the road to T. G. Shaughnessy & others who have purchased it in the C.P.R. interest. The order of the court stipulates that the receiver can be dismissed on three days' notice.

Government Ownership of Railways.—At a meeting at Neepawa, Man., Hon. H. J. Macdonald, leader of the Manitoba opposition, was asked as to the plank in the opposition platform respecting Government ownership of railways. He said he was strongly in favor of it. It was impossible, however, to apply it to railways now in operation. They could not be forced to sell out to the Government. His policy would only have reference to future projects. When bonuses are asked for, aid should only be given on condition that the Government gets control of the freight rates over the line.

W. Shanks, Roadmaster at Carleton Jct., having resigned, has been succeeded by J. Jelly, on division 4, between Brockville & Chalk River.

Land Commissioner Hamilton, of the C.P.R., says that the Boundary Creek district town sites in B.C. are being quickly purchased, & that the influx of people into the country is little short of remarkable.

J. E. Parker, C.P.R. ticket agent in Ottawa for the past 15 years, & previously in the G.T. office, died July 27, aged 44. He had been in poor health for the past few years, although he was able to hold his position until a couple of months ago. He leaves a widow & 6 children. He was a major in the 43rd Battalion, & came from St. Andrews, Que.

At Neepawa, Man., recently, Hon. H. J. Macdonald, in speaking of his relations with the C.P.R., said he would resign his solicitorship as soon as the writs were issued for the Provincial elections. He would also sever his connection with his firm. He did not think any man present would be unreasonable enough to have him throw away the salary in connection with it until it was necessary for him to do so. If he did not draw it some one else would.

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SHIPPING MATTERS.

Prince Edward Island Winter Steamer.

The str. *Minto*, illustrated & described in our June issue, pg. 185, was launched at Dundee, Scotland, July 13, & was then towed to the fitting out berth. A Dundee paper says:—"The vessel, beautifully modelled & built of steel throughout, has been specially designed for the winter mail & passenger service between P.E.I. & the mainland. She is of the flush deck type, with a long citadel deckhouse, & has been constructed to the highest class in Lloyd's Registry & under their surveyor's special survey, as well as to the Board of Trade requirements. The principal dimensions are:—Length, 225 ft.; breadth, 32½ ft.; depth, 20½ ft.; gross tonnage, 1,100 tons. As she will encounter immense quantities of ice, the ship's form & scantling have been specially arranged to meet this, the stem being boldly cut away from the water-line, & the shape of stern designed to prevent jamming in the ice fields. The hull is flush, plated & heavily belted all fore & aft in wake of the water-line, & there are seven transverse bulkheads. Water ballast is carried in a cellular double bottom, & there are large trimming tanks aft for the purpose of sinking the stern & lifting the fore foot to get on top of ice. Accommodation is provided for about 30 passengers in the fore end of the deck-house on the upper deck, the saloon being extended right across the house, panelled in polished oak & handsomely upholstered. The officers are also berthed in the deckhouse, the seamen forward on the lower deck, & firemen aft, convenient to the engine-room. The mail-room is situated in the 'tweendecks, & a complete system of steam heating is supplied in all the accommodation, besides an installation of electric light throughout the vessel. The deck machinery consists of steam windlass, winch, & capstan, & steam & hand steering gears. The ship will be available in time of war for a fast unarmored cruiser, as four 6 pr. Q.F. Hotchkiss guns will be mounted, 2 forward & 2 aft. With her smart schooner rig & gunboat stern, the *Minto* has quite a warlike appearance. As she is expected to attain a high rate of speed, she should be a useful auxiliary to the North Atlantic Squadron."

The *Minto* will be commanded by Capt. Finlayson, now in command of the *Stanley*.

Maritime Provinces Shipping.

The Nova Scotia Steel Co. is having a steam launch built for its iron mines at Belle Isle, Nfld.

The Manhattan S.S. Co. is said to have gone into bankruptcy, but a new company will take its place & push business.

Capt. E. Kenney has been appointed in command of the Dominion Atlantic Ry's new steamer *Prince Arthur*. F. Ross is Chief Engineer.

The Steamship *Pydna* Co., Ltd., has been incorporated under the New Brunswick Companies Act, capital \$160,000; head office, Rothesay, N.B.

The Government str. *Newfield* left Halifax July 18, on her regular supply trip to the light-houses at Sable Island, & other points in the Maritime Provinces.

The Tidal Survey Branch of the Department of Marine & Fisheries has issued, in pamphlet form, the tide tables for Charlottetown, P.E.I., Pictou, N.S., & St. Paul Island, C.B., for 1899.

The office of Canadian Agent of the Plant Line has been abolished. H. L. Chipman, who has heretofore held that position, is appointed Superintendent, with office at Halifax & with full charge of all operations, reporting to the President and Manager.

At a recent meeting of directors of the Star Line Co., in place of electing a manager, J. Manchester was elected President, T. P. Taylor Vice-President, & R. Orchard Secretary-Treasurer. The resignation of R. C. Elkin as a director was accepted, & Capt. C. C. Taylor was elected in his place.

The Halifax Board of Trade has asked the Minister of Marine that a whistling buoy be immediately placed 5 miles s. w. of Pennant, at the entrance to Halifax harbor, & that the bombs now discharged every 20 minutes on Sambro Island during foggy weather be discharged every 5 minutes. The Government will also be asked to place a lightship off Sambro Island, equipped with a powerful steam whistle.

Arrangements have been made by the Imperial & Dominion Governments with Pickford & Black, of Halifax, for increased service between Halifax, St. John, N.B., the British West Indies & British Guiana, for 5 years. The vessels are to be of not less than 1,000 tons burden, & accommodation is to be provided for at least 40 cabin passengers. They are prohibited from calling at any U.S. port. The Imperial & Canadian Governments will each pay an annual subsidy of \$65,000. At present the steamers make 13 trips, receiving \$5,000 a trip, and this service is to be doubled. There will be 26 trips, & the governments are to pay \$5,000 subsidy each trip, the Dominion Government paying the same amount as at present, and the Imperial Government a like amount, thus giving a double service. The Taymouth & Duart Castle, the present steamers on the route, are to have their speed increased, have new boilers, & to be thoroughly overhauled, fitted with increased passenger accommodation, & one or two other boats will be secured. The boats will have a speed of about 12 knots. They will run on regular scheduled time; the date of arrival & departure at & from each place will be rigidly adhered to, as far as practicable, and the service will be most complete in every respect.

Ontario & The Great Lakes.

E. C. Walker, Walkerville, & others have been incorporated as the Lake Erie Navigation Co., capital \$40,000.

The Calvin Co's. new str. *India* had a trial trip at Kingston, July 27, & afterwards cleared for Cleveland, to load coal for Fort William, whence she will go to Serpent River, Wis., to load iron ore for Deseronto.

Capt. Noonan, of the str. *James Swift*, has decided to build another steamer for the Rideau route, at Kingston. Work will be begun in Oct., & she will be ready for business next spring. The two boats will make four round trips each week.

Lieut. Stewart, who is in charge of the hydrographic survey on the south shore of Manitoulin Island, reports that the work has been greatly hampered by unfavorable weather, & that this season is the worst for hydrographic work that he remembers.

The new schooner *John Smeaton*, owned by the Bessemer Co., sailed from Duluth July 21, with her maiden cargo. She carried 7,372 gross tons of iron ore & a draft of 18 ft. 1 in., forward & aft. This is the largest cargo ever carried by a lake boat, breaking the record made by the *Manila* by 145 tons.

Steamboat travel on the Ottawa River is decidedly cheap, in consequence of the rate war between the Ottawa River Navigation Co. & the smaller companies. A trip from Ottawa to Thurso & return, 60 miles, may be made for 5c. The str. *Princess Louise*, owned by a rival concern, charges 25c. for the return trip from Ottawa to Thurso.

At a recent meeting of the New York Legislature's Committee to investigate the decline of the commerce of the port of New York, G. E. Macy, representing P. D. Armour, Chicago, said that his firm exported grain via Montreal & Philadelphia. Montreal is now the cheapest route from Chicago & the Northwest. The Montreal competition had a tendency to lower rates. Last year there was a pool at Buffalo & rates were cut to meet Montreal's rate, but this year there is no competition here. If the New York elevating rates were lowered, there would be no trouble at that port. Mr. Macy said that recently, on a shipment of 500,000 bus. of grain to Montreal, he saved five-eighths of a cent a bushel by using that route. He said the Montreal people usually watch the Buffalo rate very closely & frequently make a cut of ½c. a bushel in order to get the business.

Capt. Symes of the str. *Seguin*, which was driven ashore near Ashtabula in the recent gale on Lake Erie, displayed rare judgment in everything pertaining to the accident to his vessel. When he found he could neither weather the gale nor get her into port, he put her on to a sand beach with her head pointing directly to the shore. With the storm over & his vessel apparently not injured in the least, he found that she rested on a sand bar aft but was entirely free forward. Then he secured the assistance of a steam lighter. The *Seguin's* boiler was blown off to lighten her aft, and some water let into a forward compartment (she is a small steel vessel). In addition to the water taken in forward, quite a large quantity of coal was also taken aboard from the steam lighter. The coal was readily transferred to the stranded vessel, as the lighter is equipped with a derrick for this purpose, & it was of sufficient weight, with the water, to put the vessel down forward. When sufficiently weighted at the head, the *Seguin* was released aft, & she was afloat a few hours after the job was begun.—Marine Review.

B. C. Dry Dock Charges.

The Boards of Trade of Victoria & Vancouver have protested against a recent reduction of charges for the use of Esquimalt dry dock made by the Dominion Government, on the ground that it is unfair to private concerns. The News Advertiser gives the following statement showing dock charges in the competing ports of San Francisco & Tacoma, the dock charges at Hong Kong on the other side of the Pacific, the charges on the Atlantic coast & the present charges at Esquimalt. A 2,000-ton vessel is taken as an illustration, the first day & one lay day being shown:

San Francisco—2,000 ton vessel, gross tonnage, 1st day 40c. a ton, \$800; lay day 20c. a ton, \$400—\$1,200.

Tacoma—1st day 30c. a ton, \$600; lay day \$400—\$1,000.

Hong Kong—Empresses, \$850 1st 2 days, after that \$250.

Esquimalt—Empresses, \$520 1st 2 days, after that \$120.

Quebec (Government dock)—1st day \$350; lay, 4½c. a ton, \$90—\$440.

Halifax—1st day, 20c a ton, \$400; lay, 12½c. a ton, \$250—\$650.

Kingston—1st day, \$250; lay, 7c. a ton, \$140—\$390.

Esquimalt—Old rate: 1st day \$350; lay, 4½c. a ton, \$90—\$440.

Esquimalt—Cut rate: 1st day, \$200; lay, \$50—\$250.

From this it will be seen that the old rate charged at Esquimalt dry dock was considerably less than half the rate charged at San Francisco & Tacoma, less than in Halifax & the same as in Quebec.

British Columbia Shipping.

The F. & N. Ry. Co.'s str. City of Nanaimo has been overhauled & greatly improved.

The C.P.N. Co. has put the str. Transfer on the Vancouver & Steveston run for the summer.

The C.P.R. str. Athenian reached Vancouver July 18 from the Orient, after her second trip across the Pacific.

The Upper Columbia River Navigation Co.'s str. Duchess has been a good deal impeded lately by logs in the river.

The Union Canneries, Ltd., has been incorporated under the B.C. Companies Act, capital \$5,000, head office, Vancouver, to acquire & operate the str. Lapwing.

The freight steamer Clansman has been completed for McKenzie Bros., Vancouver, to operate in connection with the str. Fingal & Staffa. She is about 100 ft. long over all.

The ferry service between New Westminster & South Westminster has been resumed by the str. Surrey, which has had her hull reconstructed & her machinery & fire pumps overhauled.

It is said the following lights will be erected this year:—Lighthouses on (1) Start Point, Laura Pass, Fitzhugh Sound; (2) Lawyer's Island, Chatham Sound, or Green Top Island, Chatham Sound; (3) Ballanac Islands; Pole Light on Turn Point, Seaforth Channel.

The str. Glenora, which was built in Tacoma for the Stikine River route, has been bought by New Westminster parties to ply between there & Chilliwack & other points. She is an up-to-date river boat, 126 ft. long, with a 28-ft. beam, & draught of 5 ft. She is fitted with powerful engines with a 6-ft. stroke, the steam being generated in 2 boilers, each of which gives a pressure of 175 lbs. The Glenora replaces the Gladys, which was burned at her wharf in the great fire.

The coal supply service between Union, Vancouver Island, & Vancouver is now being performed by the big barge transfer no. 1 & the tug Czar. They carry coal principally for the C.P.R., which has built large bunkers near the roundhouse on False Creek. The transfer carries 12 cars of coal across the Gulf each trip. The cars are run along the C.P.R. tracks, from the slip at the western end of the docks, to the roundhouse, dumped into the bunkers & brought back to go back on the barge again on the return trip.

Seal fishing in the north Pacific is picking up, according to reports from Japan. A few years ago the business became so bad that Canadian vessels were no longer fitted out for the seal trade, & the Japanese became prac-

tically the only sealers in the far northwest. This year their catches are said to be something wonderful, breaking all previous records for the country, & so it is likely that next season the Canadian fleets will again be in evidence. One Japanese vessel came to harbor recently with 840 skins, another with 375, while three others had about 600 between them. Recently it was rare for 200 to be caught during a season, but this number is now the rule rather than the exception.—Victoria Times.

The Canadian Pacific Navigation Co. has offered to have built & place upon the line between Victoria & Vancouver a steamer with all modern appliances, & first-class in every respect, which will be capable of making the trip between Victoria & Vancouver, either way, under ordinary circumstances, in 4 hours or under. This the Co. states would require a steamer costing not less than \$400,000, & the time required to procure such a vessel under existing circumstances would be 18 months, at least. The Co. cannot undertake this expense unless it receives financial assistance, & proposes that the city of Victoria give a bonus of \$25,000 a year for 10 years. It is proposed to build the steamer in Great Britain. She will be a side wheeler, somewhat similar to the English Channel boats.

Early on the morning of July 12 a fire broke out in the river steamer Nahleen, on Turples' ways at Victoria, & rapidly spreading to the adjacent str. Louise and the tug Badger, destroyed the three. The fire started in the engine-room of the Nahleen. She was 356 tons register, 143 ft. long & 23 feet beam. She was built in Victoria last year, being intended for the Stikine River route, but after making one trip was laid up for lack of business. She had recently been thoroughly overhauled, renovated & strengthened, & was to have started at once for Dawson via St. Michael, under her own steam, convoyed by the Amur. The intention was to run the Nahleen between Dawson & White Horse Rapids in conjunction with the boats of the Bennett Lake & Klondike Navigation Co. The Louise ran on the Stikine last year & was an old boat. The burned vessels were partially insured, the loss to the Klondike Mining, Trading & Transportation Co. over & above the insurance being estimated at \$15,000.

Dominion Notices to Mariners.

The Department of Marine has issued the following notices:—

No. 38, June 19, Quebec.—Change in buoyage between Lake St. Peter & Varennes.

No. 39, June 23, Ontario.—1. New buoy in western approach to Kingston. 2. Proposed change in position of Snake Island shoal light-

house. 3. Amended description of Corunna range light buildings. 4. Hand fog-horn at Port Arthur.

No. 41, June 21, Ontario.—Platform buoy south of Bear's Rump Island, Georgian Bay.

No. 42, June 23, Quebec.—1. Semaphore at St. Jean des Chaillons blown down. 2. Period of occultation St. Thomas bank gas buoy.

No. 43, July 1, Quebec.—List of ship channel buoys.

No. 44, July 3, New Brunswick.—Improvements in Green Head & Sand Point lights, St. John River.

No. 45, July 7, Quebec.—Upper Traverse pier

No. 46, July 12, Prince Edward Island.—Change in Cascumpeck harbor lights, Newfoundland, Channel head & Port-aux-Basques.

The S.S. Baltic Insurance Case.

As this case has been finally decided, it may be of interest to review it. The s.s. Baltic, originally the Frances Smith, was owned by the Great Northern Transit Co., of Collingwood. There were originally seven insurance companies which had issued policies on the Baltic; but one of these, the Guardian, paid the amount of its policy before action was brought, and another, the Alliance, made a settlement which was satisfactory to the plaintiff after judgment had been given in the Court of Appeal. The companies which continued the contest were the Commercial Union, the London Assurance, the Atlas, the Waterloo Mutual, the National of Ireland, & the Keystone. The Baltic had been running on the Upper Lakes for a number of years, & was always in commission until the close of the season of navigation in 1893, having been employed during the latter part of that season in running to Chicago during the World's Fair. By the following year the G. N. T. Co. had completed another steamer, the Majestic, to compete with the City of Collingwood, which had been built by the rival line. It was found, therefore, unnecessary to use the Baltic, nor did the traffic in subsequent years justify her being put into commission again, although, as was said by Judge MacLennan in the Court of Appeal, she was a vessel capable of being put in use as a passenger & freight steamer whenever required. These facts must have been well

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known to the insurance companies, for they appeared in the Inland Lloyds Vessels Register constantly referred to by companies. The agent for the Alliance was also Secretary of the Inland Lloyds. No application & no representations were ever made by the G. N. T. Co. to any of the insurance companies, nor did the latter attempt to prove this at the trial. Each of the policies contained the same description, namely, "On the hull of the s.s. Baltic, including engines, boilers, &c., on board said steamer whilst running on the inland lakes, rivers & canals during the season of navigation. To be laid up in a place of safety during the winter months from any extra hazardous building." It was never disputed that the Baltic was laid up in a place of safety, or that she was a boat running on the inland lakes, rivers & canals, & that when running she ran only during the season or navigation. The defendants, however, based their resistance to the claim of the plaintiff on the ground that the words "whilst running" contained a condition that the boat must be running. The defendants did not attempt to prove at the trial that there was any greater danger from fire when the boat was laid up than when she was running, nor did they ask the jury to find that it was material that the boat should be running all the time. The policy of the Commercial Union was issued as far back as May 1, 1893, when the Baltic was actually running, & the first policy of the London Assurance on this boat had been issued on Jan. 24, 1893, though the amount of its policy had been subsequently reduced. The policies of the other companies had also been in force for some time, & it is to be noted that the policy of the Atlas was issued on Feb. 1, 1895, at a period of the year when the Baltic was laid up, as would be necessary in the winter. In brief, the plaintiff contended that the defendant companies knew very well what they were insuring, & that it is not equitable that they should seek to insert into the policy by the words "whilst running," a hidden condition, which should have been properly inserted as a variation of the statutory conditions, if it was to bear the meaning which the defendants endeavored to force into it. As was said by one of the Judges of the Court of Appeal, the ship was "a valuable property, & insurable on some terms," & the policies were all time policies for one year, & the defendants had received full premiums for the year, so that this time limit ought not to be cut down by words of very dubious meaning. The meaning attributed by the plaintiff to the words of the policy is an equally satisfactory one, namely, that it was intended to stipulate not that the Baltic must run, but that whilst running she must run "on the inland lakes, rivers & canals," i.e., that she should not go out to the ocean, & that whilst running she must run "during the season of navigation," & not at other periods of the year.

The case was argued before the Supreme Court in March by B. B. Osler, Q.C., & W. M. Douglass for the G.N.T. Co., & by W. Nesbitt, for the insurance companies, & judgment was recently delivered by Judge Sedgwick, no other judgments being delivered, the other judges simply concurring. Judge Sedgwick gave his reasons for judgment as follows:

On Sep. 5, 1896, the steamer Baltic, owned by the Great Northern Transit Co., Ltd., the present respondents, was burned while in dock at Collingwood, Georgian Bay. At the time of the fire she was insured against fire to the amount of \$11,000, in 7 companies, all of them, except the Alliance Assurance Co., being the present appellants. The companies having disputed their liability, actions were brought, & one of these cases was tried before Armour, C.J., with a jury at Toronto in Sep., 1897. Judgment was there given in favor of plaintiffs, which judgment was sus-

tained upon appeal by an equally divided court, MacLennan and Moss, J.J., being of opinion that judgment should stand, the Chief Justice & Osler, J., dissenting. The appeal is from that judgment to this Court. It is an admitted fact that the last trip of the Baltic was made in the season of 1893. In Sep. of 1893 she was laid up at Collingwood, & from that date she never again went to sea. It also appeared that during 1894, 1895 & 1896 she never obtained a certificate of inspection provided by the Dominion Act, without which she could not have been run; that her planking, her frames and her engine bed were in such a condition that it would have been impossible for her to have been moved from her position by her own motive power; that her electric light plant & certain portions of her furniture had been removed, & that she was in such a condition that she could not in any sense be described as a running boat. Only two questions are raised; 1st, as to whether, at the time of the fire, the vessel insured came within the risk described in the policy; & 2nd, as to whether the provisions of the Ontario Fire Insurance Act in regard to conditions had been or should have been complied with.

The wording of the description of the risk in each of the policies is identical & is as follows: "On the hull of the s.s. Baltic, including engines, boilers & appurtenances thereto, anchors, chains, masts, spars, rigging, sails, cabin & office furniture, beds, bedding, linen, silverware & plateware, cutlery, china, glassware & earthenware, looking-glasses, mirrors, wheelbarrows, trucks, clocks & apparel on board said steamer whilst running on the inland lakes, rivers & canals during the season of navigation. To be laid up in a place of safety during winter months from any extra hazardous building. Ordinary outfit to be allowed in winter & spring. It is understood & agreed that the steamer insured under this policy has permission to carry merchandise, hazardous & non-hazardous, as freight from port to port, with one barrel of coal oil for steamer's use."

And the controversy mainly turns upon the interpretation to be given to the words "whilst running on the inland lakes, rivers & canals during the season of navigation." Three contentions have been put forward. The 1st (& it is that upon which the judgment of the trial Judge is based, & is followed by Mr. Justice MacLennan in the Court of Appeal) is that the clause was intended to confine the risk to fire whilst the vessel was inland, whether on the lakes, rivers or canals during the season of navigation, & not upon the ocean, the emphatic word being inland as distinguished from ocean. In other words, that the clause might read "whilst being (whether running or laid up) in the inland lakes, rivers & canals during the season of navigation, but not on the ocean or in any ocean port." Another interpretation is that the phrase "whilst running, etc.," applies to & qualifies not the s.s. Baltic itself, but only some of the property & articles intended to be included in the risk. The 3rd interpretation is that by the words in question the companies undertook to insure, not a vessel laid up during the season of navigation, but a vessel actively engaged or employed during that period upon the inland lakes, rivers or canals; that during the season of navigation she must be a vessel in use, or as they say, "in commission" (a term only applicable to national ships of war), with the necessary ship's papers & properly provided with master, crew & everything requisite for the ordinary prosecution of the business of a merchant vessel.

I am not able to agree with the view of the learned Chief Justice of the Queen's Bench Division. It is true that the word "inland" is an emphatic word confining the risk so far as locality is concerned to inland lakes, rivers & canals, so that, if a loss should occur while the vessel happened to be, say at Halifax, or

any other Atlantic port or on the high seas, she would not be covered. But there are, it seems to me, other equally emphatic words, & one of these words is "running." The learned Chief Justice's interpretation gives no effect to it. But not only that; it necessarily introduces into the clause an idea which is opposed to the idea conveyed by the word "running," namely, the idea that whether the ship was "running," that is, in active employment or use, or whether she was laid up either at anchor or in dock, or upon dry land, she was still within the words of the policy.

This, I think, is not interpreting the contract, but enlarging it, making a contract not contemplated by the parties. I have not been able to appreciate the second interpretation given to this clause to which I have referred. It is a clause qualifying either the word "Baltic" or the word "steamer." It contemplates not engines, anchors, office furniture, etc., running, but a steamer running—nothing more, nothing less. The 3rd interpretation is, I think, the correct one. It is an element of importance that this is a fire policy, not a marine policy. Two elements much more important in a fire policy than in a marine policy are those of locality & mode of use. The risk of a thing being burned depends not so much upon the thing itself as upon its location & the uses to which it is put. A wooden building used for the manufacture of dynamite in a crowded city surrounded by factories continually emitting sparks from their chimneys or smokestacks, may be absolutely uninsurable. The same structure removed for farming purposes to the open prairie might be insured at almost a nominal sum. Now this is not a "time" policy. A time policy is a phrase used only in marine insurance to distinguish it from a voyage policy. It in no material respect differs from a policy upon a building or upon anything else capable of insurance against fire. Neither is it a policy insuring the subject matter from one definite period to another. It is rather a policy insuring it during such periods within two defined points of time as she may happen to come within the description & terms of the risk. In the present case, she is insured, 1st, whilst running upon the inland lakes, rivers & canals during the season of navigation, & 2nd whilst she is laid up in a place of safety during winter months (removed) from any extra hazardous building. There may be within the year many periods, longer or shorter, in which she is not covered at all. She may, during the season of navigation, be running on the high seas. Whilst so occupied she is not insured. So likewise, during the winter months, she may be running either on the high seas or upon the unfrozen waters of the inland lakes, or, as at the City of Quebec, engaged as a ferry boat from one side of the St. Lawrence to the other. Still she is not insured. I do not know, & it is not material to determine, to what extent the element of locality influenced the insurance companies in making these policies. I do not know whether navigation upon salt water is carried on at a greater risk than on fresh water, or why the operations of this steamer were confined to the latter; but, admitting that the parties, in limiting the operations of the vessel to inland waters, had in view the prohibition of navigation in ocean waters, it is perfectly clear that they had also in contemplation two distinct classes of risk, namely, the risk of fire whilst she was in actual use during the season of navigation, & likewise the risk of fire whilst she was not in use, but laid up in a place of safety during the winter months. The mode of use in both cases was material to the risk. In the summer months no special provision was made for her safety. Then she would be running. She would have her master & crew; she would have her life-saving and fire-saving apparatus; she would be under constant supervision & the danger of fire would be reduced to a minimum. In the winter months, how-

one. She must be laid up. She may be laid up anywhere, whether in an inland port or an ocean port—but, wherever laid up, it must be in a place of safety, & removed from an extra unenclosed building. Looking at the whole clause, it seems to me that the words "running during the season of navigation" are mainly used in contrast with the words "laid up during the winter months." She is only covered by the clause whilst, during the season of navigation, she is running, & whilst, during the winter months, she is laid up in a place of safety. This it seems to me, is the true construction of the clause. It gives a natural & reasonable meaning to each of its words, & it does not necessitate, as the 1st interpretation does, the insertion of the additional stipulation to which I have referred in order to give effect to it. In the view I take is incorrect, & the 1st interpretation is the right one, if it is not necessary that during the season of navigation the vessel should be in actual use, if all that was contemplated by the parties was that during that season the vessel should exist in situ whether running or laid up, then she might be laid up anywhere, whether in a place of safety or not; she might be anchored or even left to run adrift upon the open lakes; she might be moored or hauled up high & dry in immediate proximity to any factory or building, no matter how dangerous such proximity might be. Surely as I view it, this consideration alone shows the untenable character of the ground upon which the judgment below is based.

One other point remains. It is contended that the stipulation contained in the words "whilst running, etc.," is a condition within the meaning of the Ontario Insurance Act; & inasmuch as it varies from or is in addition to the conditions by that Act made statutory, the policy should comply with sec. 115 of the Act, which provides that such variations or additions should be printed in conspicuous type & in ink of different color. So far as this point is concerned, I entirely agree with the view taken by the learned Chief Justice of the Court of Appeal & Mr. Justice Osler. The stipulation in question is in no sense a condition, but rather a description of the subject matter insured. It is & is descriptive of & has reference solely to the risk covered by the policy & not to the happening of an event which by the statutory conditions would render the policy void. The statute therefore does not apply. On the whole, I am of opinion that the appeal should be allowed & the action dismissed, all costs to follow in the usual course.

The Chief Justice & Gwynne, King & Girouard, J. J., concurred.

The G.N.T. Co. has since been refused special leave to appeal to the Judicial Committee of the Privy Council, though we do not know on what ground. In perusing Judge Sedgwick's judgment it will be noticed that nearly the whole of it deals with the construction of the clause under the policy "whilst running, etc.," while what appears to be one of the most important points in the case is

disposed of in the two concluding paragraphs. Plaintiff's counsel contended that the stipulations contained in the words "whilst running," if of sufficient force to override the fixed time limit of one year mentioned in the Act, must be a condition, & that, being a condition, it was a variation or addition of the statutory conditions & should, therefore, have been endorsed in accordance with the provisions of the Insurance Act. The Supreme Court disposes of this by saying that though these words have this very powerful effect they are nevertheless merely a description of the subject matter insured. Plaintiff's answer to this has always been that if these words have the force of a condition they must be treated as a condition. It would seem that if stipulations of this nature are binding when inserted as a description, it would be possible to get round the Insurance Act in a great many cases, & logically it would be possible to insert a stipulation as to incumbrances in a similar manner, & so the Baltic might have been described as "while unincumbered & while running, etc." The point has, however, in spite of full argument, received such scant attention both from the Supreme Court & from the Chief Justice of the Court of Appeal & Mr. Justice Osler, who took the same view, that it is a very great question whether the decision will carry much weight in this respect in future.

Dominion Supplementary Estimates.

The supplementary estimates recently submitted in the House of Commons contain a large number of items especially relating to the transportation & allied interests, which are extracted as follows:—

ADMINISTRATION OF JUSTICE.

Counsel & solicitor's fees before Privy Council, Madden vs. Nelson & Fort Sheppard Ry. Co.; intervention of Attorney-General of Canada \$ 2,000 00

INTERCOLONIAL RY.—CAPITAL ACCOUNT.

Increased siding accommodation \$90,000 00
Increased station accommodation 15,000 00
Sea wall & cribwork protection to banks on line of Cape Breton Ry. 10,000 00
Increased accommodation at Levis (revote \$34,000) 80,000 00
Elevator at St. John, N.B. (revote \$40,000) 114,000 00
Increased accommodation at St. John, N.B. (revote) 49,500 00
Indiantown Branch, to pay amount of award of W. Shanly of \$34,675.23 & interest from Dec. 1, 1886, to July 1, 1899, to Hon. J. Snowball 52,148 44
Changing drawbars of freight cars from link & pin coupler to master car builder's standard couplers 10,000 00
Improvements at Mulgrave 15,000 00
Providing larger & stronger turntables & strengthening some old ones to meet requirements of modern heavy engines, at various points 12,425 00
Improvements at Point Tupper 8,500 00
To improve water service for fire protection at Moncton 9,000 00
Improving telegraph service 13,000 00
New engine houses & enlarging others 40,000 00
One 1st class passenger coach 10,385 00
Extension to deep water at North Sydney (revote) 9,500 00
Rest houses at 9 engine stations 4,360 00
Appliances & apparatus in connection with the installation of gas car lighting system. 4,350 00

Refrigerator cars 30,000 00
Track scales at Pictou, Drummondville & North Sydney 2,700 00
Subway under tracks at Christie's Crossing, Amherst 4,200 00
Dredging at Pictou wharf 2,250 00
Increased accommodation at Halifax (revote) 20,000 00
Elevator at Halifax (revote) 77,000 00
Finishing upper flat, general offices, Moncton 2,000 00
Changing car couplers 13,000 00
McDonald & Moffatt, contractors for terminal wharf, Sydney, in settlement claim for extra work 300 00

PRINCE EDWARD ISLAND RAILWAY.

Towards construction of branch line from Charlottetown to Murray Harbour, including bridge over the Hillsborough River.... 250,000 00

CANALS—CAPITAL ACCOUNT.

Sault Ste. Marie—H. Ryan & Co., award on claims in connection with contract for the construction of canal & lift lock at Sault Ste. Marie, referred to W. Shanly, C.E., as arbitrator \$211,505 00
Dredging at lower entrance channel to canal. Trent—Towards rebuilding Cowan's bridge over Pigeon Creek in the Township of Emily 1,500 00
Rideau—Damages to L. Gemmill caused by cutting off water supply by construction of Tay Branch 2,750 00
W. Davis & Sons interest at 6% per annum on amounts due as per monthly estimates issued 10,371 28
Lachine—Deepening, etc., River St. Pierre.. " Enlargement (revote) 9,000 00
" Heney & Borthwick, extras in connection with contract for drainage works, reported in their favor by W. Shanly 8,932 86
Welland—Swing bridge across canal at 4th Con., Humberstone 37,000 00
Rainy River—Lock & dam 25,000 00
St. Andrew's Rapids—Red River, Man. 150,000 00

CANALS—INCOME.

Welland—To remove slides at Deep Cut—Revote 4,000 00
Lachine—Rebuilding portion of south wall of canal at Atwater Avenue 15,000 00
Chambly—Drainage works at St. Johns, Que. (revote \$2,300.00) 3,500 00
Chambly—Protection wall around head of Ste. Therese Island 1,000 00

MISCELLANEOUS.

Salary & expenses of experts to gather information & prepare uniform code of rules & regulations for railways 2,000 00
Witnesses in inquiries before Railway Committee of Privy Council into charges of discrimination in rates by railway companies. 2,000 00
Ottawa River—Survey in view of improvement to navigation 10,000 00

PUBLIC WORKS AND BUILDINGS CHARGEABLE TO CAPITAL.

Port Colborne—Harbor improvements 150,000 00
Montreal Harbor—Improvements below St. Mary's current 500,000 00
Montreal Harbor—Grain elevator & storage. River St. Lawrence—Ship channel, additional work 78,000 00
Enlarging Levis Graving dock 117,000 00
Halifax—Quarantine station on Lawler's Island 5,000 00
St. John—Quarantine station improvements. Toronto Post Office—Fitting up rooms rented at Union Station 1,000 00
Winnipeg Immigrant Buildings—Hospital revote of \$4,213.08, lapsed June 30, 1898. 7,000 00
Edmonton North—Immigrant building. 3,000 00
Southern Alberta District—Immigrant building 1,500 00
Immigrant building on Canadian Northern Ry. in Swan River district 2,500 00

HARBORS AND RIVERS—NOVA SCOTIA.

Yarmouth Bar—To complete breakwater. 1,000 00
Arcadia—Removal of obstructions, Chebogue River 1,000 00

BURN

E. B. EDDY'S

MATCHES

Q. & W. TIE PLATES



SAVES EXPENSE

MAINTENANCE

**STANDARD ON MAJORITY
U.S. RAILROADS**

SEE ROADMASTER'S CONVENTION TIE PLATE REPORT

F. E. CAME,

17 Place d'Armes
Hill,

Montreal

Cheggoggin—Extension to breakwater.....	600 00
Lockeport—Breakwater.....	3,000 00
Gunning Cove—Wharf.....	1,500 00
East Rugged Island—Wharf (revote).....	1,400 00
North River, St. Ann's—Wharf at Seymour Point (revote).....	1,000 00
Clifton—Wharf repairs.....	50 00
Black Rock, Victoria Co.—boat harbor.....	500 00
Meat Cove—Boat harbor.....	500 00
L'Ardoise Repairs to breakwater—to complete.....	1,000 00
Gabarus Bay—Breakwater.....	8,000 00
Porter's Lake—Dredging and breakwater at entrance of channel.....	9,000 00
Salmon River, Halifax Co.—Freight shed on wharf.....	500 00
Young's Landing—Wharf.....	1,000 00
Saw Pit—Wharf.....	1,000 00
Jordan Bay East—To complete repairs to breakwater.....	1,200 00
Newellton, Cape Island—Wharf.....	2,000 00
Shag Harbor—Wharf.....	2,000 00
Upper Woods Harbor—To complete wharf (revote \$600).....	1,000 00
Chebogog River Town Point Wharf—Repairs.....	1,000 00
Beaver River—Wharf repairs.....	1,000 00
Belliveau—Repairs to breakwater.....	2,000 00
Trout Cove—Breakwater new block.....	700 00
Meteghan—Breakwater repairs.....	2,000 00
Salmon River, Digby Co.—Wharf.....	2,400 00
Hunt's Point—Wharf.....	2,000 00
Port Mouton—Wharf.....	2,000 00
Port Mouton—Repairs to breakwater.....	500 00
West Berlin—Beach protection works.....	1,500 00
Red Head, Roseway—Breakwater.....	2,000 00
Parker's Cove—Extension of wharf.....	3,000 00
Harborville—Harbor improvement.....	2,500 00
Chipman's Brook—Breakwater repairs.....	1,000 00
Wolfville—Harbor improvement.....	4,000 00
Mill Creek—Extension of wharf.....	2,000 00
Hall's Harbor—To restore destroyed portion of breakwater (revote).....	2,500 00
Cheverie—Wharf repairs.....	1,000 00
Summersville—Wharf repairs.....	600 00
Parrsboro—Dredging.....	5,000 00
Spencer's Island—Wharf repairs.....	1,000 00
Eatonville—Wharf repairs.....	1,000 00
Brule—Wharf repairs.....	1,200 00
Tatamagouche—Wharf repairs.....	350 00
Merigomish Big Island—Wharf (revote).....	950 00
Harbor—Extension of wharf (revote).....	5,000 00
Malignant Cove—Breakwater.....	5,000 00
St. Mary's River—Dredging (revote).....	5,000 00
Bridgewater—Dredging.....	5,000 00
Upper Port Latour—Wharf to complete.....	300 00
Brooklyn—Wharf.....	2,500 00
River John—Wharf.....	2,000 00
Cribbon's Point—Repairs to breakwater.....	1,000 00
East Chezzetcook—Wharf.....	3,000 00
Margaree Island—Wharf.....	2,000 00
Whycocomagh—Wharf to complete.....	500 00

PRINCE EDWARD ISLAND.

Pier or breakwater at Rocky Point, Lot 15 ..	1,500 00
West Point Pier—Extension.....	4,000 00
Canoe Cove—Breakwater.....	10,000 00
North Cardigan—Repairs to pier.....	300 00
Souris—Reconstruction of breakwater at Knight's Point, balance due contractors ..	137 50

NEW BRUNSWICK.

Dalhousie—Ballast wharf.....	1,000 00
St. Nicholas River—Wharf.....	1,500 00
La Tete-St. George—New wharf.....	500 00
L'Etang—Extension to wharf.....	400 00
Campobello (Wilson's Beach)—Breakwater—Repairs and extension.....	10,000 00
Hopewell Cape—Wharf.....	6,000 00
Repairs to wharf.....	500 00
St. John River and Bellisle Bay—New wharfs Cape Tormentine—Repairs to breakwater (revote \$2,500).....	7,500 00
Main River—Wharf.....	3,800 00
Burnt Church—Wharf (revote).....	3,500 00
Bay du Vin—Wharf repairs.....	1,100 00
Shippegan—Wharf.....	5,000 00
Campbellton—Repairs to ballast wharf, further amount required to complete (revote).....	1,000 00
Mispec—Repairs to breakwater.....	250 00
Edgett's Landing—Repairs to wharf.....	500 00
Black Brook—Wharf.....	2,500 00

QUEBEC.

New Carlisle—Repairs to wharf.....	2,000 00
Carleton—Extension of landing pier.....	8,000 00
Newport—Breakwater.....	3,000 00
Perce—Wharf, North Cove.....	4,000 00
Riviere au Renard—Pier.....	4,000 00
Bic—Addition & improvement to wharf.....	1,500 00
Rimouski—Wharf—Repairs & shed.....	2,500 00
Pointe aux Esquimaux—Wharf (revote).....	1,000 00
Chicoutimi—To increase the height of wharf.....	5,000 00
Cacouna—Extension to wharf—To complete.....	800 00
Les Eboulements—Repairs to wharf—To complete.....	800 00
Cap a L'Aigle—Addition to wharf & general repairs, including revote of lapsed amount, \$1,125.00.....	1,125 00
St. Irene—Completion of wharf to shore, including revote of balance \$18,187.50, \$7,600.....	1,200 00
Kamouraska—Construction of an L (revote).....	1,000 00
Riviere Ouelle (St. Denis)—Wharf repairs.....	700 00
St. Andre de Kamouraska wharf.....	1,000 00
Ste. Anne de la Pocatiere—Wharf repairs.....	1,500 00
L'Islet—Wharf (revote).....	1,500 00
Ile aux Grues, north shore—Construction of wharf & purchase of land.....	1,000 00

St. Jerome (Lake St. John)—Wharf.....	5,000 00
St. Gedeon.....	3,000 00
Baie de Honfleur (Lake St. John)—Wharf.....	500 00
Cap Sante wharf.....	4,000 00
Les Ecureuils—wharf repairs.....	900 00
Knowlton Landing—Repairs.....	75 00
Magog—Repairs to wharf.....	500 00
Lanoraie—Repairs to wharf & construction of ice breaker.....	5,000 00
Sabrevois—Wharf.....	5,500 00
Cote Ste. Catherine—Wharf.....	3,200 00
Longueuil—Reconstruction of upper face of the pier & general repairs, &c.—To complete (revote).....	2,500 00
Verdun—Wharf.....	2,400 00
Pointe Clair wharf—Shed.....	600 00
St. Timothee—Repairs to wharf.....	800 00
Riviere du Lievre—Lock & dam, extraordinary repairs.....	1,600 00
Lake Temiskamingue, Baie des Peres—Dredging.....	2,000 00
Beauport—Wharf.....	4,000 00
Ste. Anne de Bellevue—Extension to wharf.....	2,500 00
Coteau Landing—Dredging (revote \$2,500.00).....	6,000 00
St. Roche des Aulnaies—Wharf repairs (revote).....	3,400 00

ONTARIO.

Portsmouth—Repairs to wharf.....	2,000 00
Kingston graving dock—Repairs, shop & stores.....	2,000 00
Scugog River—Dredging channel.....	5,900 00
Otonabee River—Improvement of navigation Keene (head of Indian River)—New wharf.....	2,500 00
Indian River—Dredging a cut across the Devil's Elbow & also a shoal at Sandy's Landing.....	600 00
Toronto Harbor—Diversion of Don & dredging in the harbor.....	2,000 00
Port Dover—U.S. & Ontario Steam Navigation Co. for dredging carried out by them for further improvement of the harbor, as per agreement.....	50,000 00
Rondeau Harbor—Dredging bar at entrance & basin, & to complete repairs to piers (revote \$2,500.00).....	25,000 00
Point Pelee Island—Wharf.....	10,500 00
Bayfield—Closing gap in pile work on north side of harbor with cribwork, etc. (revote of lapsed amount)—To complete.....	5,000 00
Kincardine Harbor—Dredging.....	5,300 00
Hawkestone—New wharf.....	6,000 00
Port Findlay—Wharf.....	2,000 00
Providence Bay—Wharf.....	4,000 00
Sheguindah—Landing pier.....	5,000 00
Dawson's Point—Wharf—Lake Temiskamingue.....	3,300 00
	1,000 00

MANITOBA.

Lake Manitoba—Opening of additional outlets to prevent overflow of lake, & maintenance of same at proper level for navigation purposes (revote).....	5,000 00
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BRITISH COLUMBIA.

Columbia River—Protection of bank at Revelstoke, Government of B. C. contributing like amount—Revote.....	10,500 00
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DREDGING.

New plant—Maritime Provinces.....	50,000 00
British Columbia.....	25,000 00

SLIDES AND BOOMS.

Riviere Coulonge, Ottawa District—Final settlement of claims for past & prospective damages to riparian properties by back water, due to construction of dam at High Falls (revote of amount lapsed June 30, 1897).....	800 00
St. Maurice District—Improvement to booms between Pointe Marchessault & Pointe-a-Bernard, in the St. Maurice River.....	4,500 00

TELEGRAPHS.

Land & Cable Line—Gulf of St. Lawrence & the Maritime Provinces—Cheticamp & Meat Cove telegraph line.....	5,200 00
Telegraph line between Mabou & Margaree—Repoling (revote).....	1,000 00
Anticosti Island—Removal of line wire between Beauséjour & English Bay.....	1,000 00
To connect Nicola Lake, B.C., with C.P.R. telegraph system (revote).....	2,550 00
For change of route of part of Comox line from woods to new roadway between Qualicum River & Union Bay, B.C.....	1,200 00

MAIL SUBSIDIES & STEAMSHIP SUBVENTIONS.

Balance due for services between Port Mulgrave, Cheticamp, etc., during 1898 (partial revote).....	250 00
Balance due for services between Quebec & Gaspe, April to June 30, 1898 (revote).....	2,000 00
Steam communication during 1899, from opening to closing of navigation between Gaspe Basin & Dalhousie, & continuation of service after close of navigation at Dalhousie to Dec. 31, 1899, between New Carlisle & Gaspe Basin.....	1,000 00
Steam communication during 1899, from opening to closing of navigation between Pictou & Cheticamp.....	2,000 00
Steam communication from April 1, 1899, to Mar. 31, 1900, daily between Port Mulgrave, Archat & Canso; 3 times a week between Port Mulgrave & Guysboro', & from opening of	

navigation in 1899 to Nov. 30, 1899; twice a week between Port Mulgrave & Port Hood, such trips to be extended once a week to Margaree & Cheticamp.....	8,000 00
Steam communication from July 1, 1899, to June 30, 1900, between Quebec & Gaspe Basin, touching at intermediate ports.....	8,000 00
Steam communication between Halifax, N.S., and the island of Porto Rico.....	8,000 00
Steam communication between Murray Bay & River Ouelle.....	5,000 00

OCEAN AND RIVER SERVICE.

Additional amount required for maintenance of Dominion steamers, owing to addition of new steamer.....	15,000 00
Revote, being part of construction cost to pay fifth instalment on new steamer, & to pay further amount required to complete construction.....	1,000 00
Removal of old piers in Bear River, Digby Co., N.S.....	1,000 00

LIGHTHOUSE AND COAST SERVICE.

Further amount required for construction of permanent pier & lighthouse at the Traverse, to replace lightship.....	20,000 00
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MISCELLANEOUS.

Wharf at Lake Minnewanka, Rocky Mountains Park.....	600 00
Expenses of Elevator & Warehouse Commission.....	1,000 00

PUBLIC WORKS CAPITAL.

Telegraph lines in British Columbia & Yukon District, from Bennett to Dawson & branch to Atlin City.....	147,500 00
Quesnelle to Atlin, British Columbia, via Stikine River & Teslin Lake, about 900 miles of telegraph lines.....	2,000 00

ELECTRIC RAILWAYS.

The Lines in Western Canada.

British Columbia Electric Ry.—Earnings & expenses for May:

GROSS EARNINGS.	1898.	1899.	Increase or Decrease.
Railway—Vancouver branch	\$6,212	\$7,050	\$ 838+
Victoria "	7,974	7,463	511—
Westminster "	6,820	7,113	293+
Lighting—Vancouver "	5,811	6,726	915+
Victoria "	3,029	4,088	1,059+
Total gross earnings .	\$47,740	\$53,441	\$5,701
Working expenses	\$18,830	\$18,849	\$19+
Net profits	\$11,916	\$13,591	\$1,675

Gross earnings April 1 to May 31.....	\$59,427	\$62,148	\$2,721+
Net profit April 1 to May 31.....	\$21,270	\$24,187	\$2,917+
+ Increase. — Decrease.			

At the annual meeting in London, Eng., June 19, the report published in our last issue was unanimously adopted. The chairman R. M. Horne-Payne, who presided, referred with satisfaction to the fact that the first dividend was being paid, & that the Co. had had a very satisfactory year. The preference shares had been sold at a very good price, at 10% premium. With the proceeds the extensions & improvements announced had been gone on with. The smaller items such as could be bought have already been completed. The terminal buildings at New Westminster & Vancouver have been built, & are now used, the sites being in very central positions. In Vancouver connection has been made with the main line of the C.P.R. Water-power installation at Victoria has been completed, & all the difficulties have now practically been mastered. On this point the Chairman said: "Although there is at present a somewhat larger use of water than was estimated for, we are now fairly deriving the benefit from the plant which we anticipated, and we are considering the best steps to be taken for limiting the consumption of water. Under our lease we have the right to use 4,000,000 gals. of water daily for a certain minimum rental from the Goldstream Falls, but we are not at present quite able to carry our load with the 4,000,000 gals. The directors are, therefore, taking expert advice as to the installation of a storage battery, the immediate effect of which will be to enable us to work not only below the mini-

...have a substantial balance of ...
...the Chairman said: "There ...
...amongst our share-
holders that the dividend should only have
been ... & that we should only have distrib-
uted £8,000, the earnings having amounted,
after paying the preference dividend, to £15,-
... but which appears to be a very sub-
stantial & fine profit in any other undertak-
ing. It is not so satisfactory in an electrical en-
terprise, because of the fact that electrical
machinery needs renewing so early. After 10
years in a well-placed plant requires to be renew-
ed & replaced, & we have to see that, as the
time comes round for renewing our machin-
ery, we have saved sufficient from the profits
to replace that machinery. For this reason
we have to transfer a larger percentage of
our earnings to the reserve fund for the pur-
pose of renewals than is necessary, probably,
in any other class of enterprise. We have
adopted a system, upon the advice of some of
the most competent & experienced men in
electrical matters in the City, which will, we
think, satisfactorily provide for the main-
tenance of capital year by year; and if the
resolution which will be submitted is adopted,
the reserve fund will be increased to £12,000.
By the adoption of this system the Co. will
have at all times a sufficient capital in hand
to account for any depreciation which may
take place in the value of the plant, etc., from
year to year."

In regard to the construction of the pro-
posed Sapperton branch, the Chairman said:
"We have not done that because our organ-
ization was not large enough, but we hope to
take it up before long."

The resident director in British Columbia,
F. S. Barnard, in seconding a resolution for
the adoption of the report, testified to the effi-
ciency of the local management. On the sub-
ject of operating expenses, he said: "The
cost of labour is very much higher in B.C.
than in the Eastern States, & the cost of ma-
terial & fuel is very much higher; & it is very
satisfactory to learn that we are providing
light in Vancouver & Victoria at a rate on an
average with that of the Eastern States, that
we are carrying passengers at rates quite as
low as in the larger Eastern cities, & that
both our railway fares & lights are supplied
at less cost, probably, than that at which sim-
ilar undertakings here supply the people of
London."

The Co. is spending about \$400,000 this
year in extending & improving its local lines.
Extensive work is being done on the inter-
urban line to fit the road for the heavy traffic
that the trade between Vancouver & New
Westminster involves. The officials have un-
der consideration a scheme for enabling the
trip to be covered in 30 minutes instead of 45.
The Denman St. extensions alone figure up
about \$40,000. In addition the Co. is having
a car-barn & power-house built; several
switches are being improved by the laying of
a heavier type of rail, & at the same time the
Co. is bestowing a great boon upon cyclists

by filling in between its rails with cinders.
Two large open motor cars have been added
to the equipment. The wages of the track-
men have been voluntarily raised from \$1.75
to \$2 a day.

Nelson, B.C.—The British Electric Traction
Co. having completed arrangements with the
City Council, construction work is to be pro-
ceeded with at once. At the date of our last
advices, June 30, the route had not been de-
finitely announced, but it was expected a line
would be built between the Government
wharf & the C.P.R. station, by way of Baker
Street, & between Baker St. & the rink at the
top of Stanley St., with a probable extension
to the mountain station of the N. & F.S. Ry.
The greatest difficulty the Co. will have to en-
counter will be the heavy gradients. It is ex-
pected 2 miles of line will be built at once
within the city limits, & probably a mile out-
side. Rails, fastenings & other material have
been ordered. (June, pg. 188.)

Winnipeg Electric St. Ry.—A line is to
be built on Sherbrook St. this year. A short
line of second track has been built recently on
Portage Avenue, between Main St. & Notre
Dame Avenue, so as to make the Portage
Avenue & Belt lines independent of each other.
Six motor cars have been added to the equip-
ment.

Ontario Electric Railways.

Barrie.—It is said that the Royal Electric
Co. has made application to the town council
for a franchise for an electric railway between
Barrie & Allandale, a distance of about a
mile, with the privilege of extending.

Berlin & Waterloo St. Railway.—W. H.
Breithaupt, on behalf of this Co., has made a
proposition to Berlin town council to extend
the line to Galt via German Mills, Doon &
Blair, if the town of Berlin will guarantee
\$100,000 of bonds.

Cornwall Electric St. Ry.—The Ontario
Divisional Court has dismissed the appeal of
this Co. from the judgment of Chief Justice
Armour, authorizing foreclosure of a mortgage
made by the Co. to J. T. Kirkpatrick & D. B.
McLennan in June, 1896, securing debenture-
holders of the railway to the amount of \$100,-
000. A reasonable time is, however, allowed
in which to meet the liability.

**Hamilton, Ancaster & Brantford Electric
Co.**—A meeting of shareholders called for
June 21 was postponed pending definite
information as to New York capital which it is
said will be put into the enterprise.

**Hamilton, Grimsby & Beamsville Electric
Ry.**—Government Engineer McCallum is to
give instructions as to the repairs necessary
to be done on the line in accordance with
Judge Street's decision in the action of Salt-
fleet township against the Co.

**Kingston, Portsmouth & Cataraqui Elec-
tric St. Ry.**—Ontario Park is to be divided,
one part for recreation with free admission,
the other for baseball, lacrosse, horse races,
etc. A race track will be made & a grand
stand erected.

London St. Ry.—The earnings for June
were only \$1,042.17 & the operating expenses
\$4,666.62, a deficit of \$3,624.45. In June, 1898,
the earnings were \$9,790.86 & the expenses
\$4,177.94, a profit of \$4,177.94. The strike
still continues, the details of which, including
the calling out of the military, have been fully
given in the daily papers.

London to Goderich.—A proposal has been
made to connect these points by an electric
line about 66 miles long, running through Lu-
can, Crediton & Bayfield.

**The Metropolitan Electric Ry.'s extension
to Newmarket** has been completed.

The Niagara Falls Park & River Ry. Co.
recently sued the Town of Niagara Falls to
recover \$120.42 for taxes for 1898 levied upon
a part of the Co.'s roadbed, & paid under
protest. The part in question is upon the 66-ft.
strip of reserve running along the bank of the
Niagara river, & is vested in the commis-
sioners for the Queen Victoria Niagara Falls
Park, or in the Crown, & the Junior Judge
of the York County Court held it is not liable
to the defendants for municipal taxes. On
appeal by defendants to the Divisional Court,
it was held that in every aspect of the case
the assessment as made in the first instance,
& confirmed by the Court of Revision & the
Judge of the County Court of Welland, was
right, & should not have been disturbed by the
County Court of York in this action. The
taxes paid under protest were well paid, &
should be retained by the municipality. The
appeal was allowed with costs, & the action
dismissed with costs.

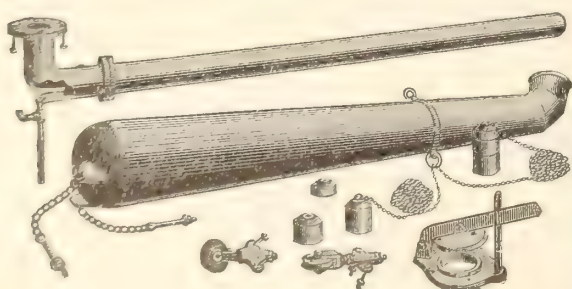
Ottawa Electric Ry. Co.—It is rumored the
Co. will soon take the preliminary steps to
secure entrance to Aylmer. Park property
will, it is said, be secured at the summer re-
sort, a large hotel will be erected, & various
attractions will be provided. Right of way
from Ottawa, it is understood, will be secured
over the Pontiac & Pacific Jct. Ry. It is likely
that, should an understanding be arrived at
between the two companies, the construction
work on the railway & interprovincial bridge
will be hastened to completion.

The City Council has given the Co. power to
run on Sunday on the same terms as hereto-
fore existing between the City & the Co., on
condition that the Co. pays the City in addi-
tion to the sum heretofore paid per mile, a
proportionate amount for each Sunday & is-
sues tickets for use on Sundays only at the
reduced rate of 28 for \$1, or 7 for 25c., &
children's tickets at 40 for \$1 & 10 for 25c.
The Sunday service was inaugurated July 23,
when the cars were largely patronized.

Preston & Berlin.—The Berlin town coun-
cil has extended the franchise for the electric
railway between these points till Jan. 15 next.
The Co. has the power to enter the town from
the south via King St., & to build to a point
near the Market Square.

St. Thomas Street Ry. Co.—At the annual
meeting, July 11, the following were re-elec-
ted: President, J. H. Still; Sec.-Treas., Col.
Stacey; other directors, C. D. Hunt, J. Far-
ley, M. A. Gilbert.

Improved Halladay Outlet Pipe, Spout and Fixtures



Outlet Valves,
Tanks, Windmills,
Steel Towers,
Pumps and General
Water Supply
Material.

The ONTARIO WIND ENGINE
and PUMP CO., (Limited)
TORONTO, ONT.

Spokane Falls & Northern System. Nelson & Ft. Sheppard R'y Co. Red Mountain R'y Co.

THE DIRECT AND ONLY ALL RAIL ROUTE
BETWEEN THE

KOOTENAI DISTRICT

And all British Columbia Points, Pacific Coast
Points, Puget Sound Points, Eastern Canada and
the United States.

Connects at Spokane with Great Northern Rail-
way, Northern Pacific Railway, O.R.R. & Nav. Co.
Maps furnished. Tickets sold and information
given by local and connecting line ticket agents.

C. G. DIXON, G.P. & T.A., Spokane, Wash

Toronto Railway.—The gross earnings are:

	1899.	1898.	Increase.
Jan.	\$95,090.12	\$86,502.36	\$8,587.76
Feb.	91,860.30	82,402.19	9,458.11
Mar.	103,234.88	92,318.42	10,916.46
April.	95,212.37	86,898.83	8,313.54
May.	104,806.62	92,670.35	12,136.27
June.	109,063.18	94,119.32	14,943.86
	\$599,867.47	\$534,911.47	\$64,956.00

Toronto Suburban St. Ry. Co.—The Town Council of Toronto Jct. is negotiating with the Co. for the relinquishment of its franchise on Dundas St., between Keele St. & Humber-side Av., in order that the privilege to run cars over that route may be granted to the Toronto Ry. Co.

Quebec Electric Railways.

Canadian Electric Light Co.—At the annual meeting in Quebec, June 27, the directors' report stated that \$200,000 capital had been subscribed, that the Chaudiere Falls water power would be acquired immediately, that the directors were in negotiation with the council of the town of Levis for furnishing light & power, that R. Girouard, of Cumberland, Me., had been secured as Manager, & that A. R. Henry, M. E., of Quebec, would probably be appointed electrical engineer. The directors have plans under consideration for the development of the water power of the Chaudiere Falls, according to which a minimum of 5000 h.p. is obtainable. Arrangements are said to have been made with the Chaudiere Valley Ry. Co. to construct & operate electric railways in the counties of Levis, Bellechasse, Dorchester and Lotbiniere, obtaining power from the Canadian Electric Light Co. The following were elected: President, J. Breaky; Vice-President, Hon. L. P. Pelletier; other directors H. M. Price, G. Lemoyne, J. King, R. Audette, R. Wilson-Smith, H. S. Holt and H. T. Machin.

Hull Electric Co.—The following directors have been elected: A. Fraser, D. McLaren, W. J. Conroy, J. B. Fraser, R. H. Conroy and T. Viau. The Co.'s equipment in the power house at Deschenes is now said to be among the best in Canada, enabling the road to give an excellent service. The traffic this year has been satisfactory and considerably exceeds that of the corresponding periods of previous years.

Montreal Mountain.—A proposition is before the Westmount town council for the construction of an electric railway up the Montreal Mountain.

Montreal St. Ry.—The gross earnings are:

	1898-9.	1897-8.	Increase.
Oct.	\$133,419.69	\$116,093.09	\$17,326.60
Nov.	125,126.10	110,608.98	14,517.12
Dec.	127,678.00	113,029.33	14,648.67
Jan.	125,276.04	110,155.96	15,120.08
Feb.	113,838.02	102,425.99	11,412.03
Mar.	123,754.11	114,476.98	9,277.13
April.	130,405.96	110,619.27	19,786.69
May.	145,466.38	123,308.08	22,158.30
June.	156,858.34	132,964.61	23,893.73
	\$1,181,822.64	\$1,033,772.29	\$148,050.35

It is said the Co. will build three large car barns on St. Denis St.

The City Council has refused an application from the Co. to be allowed to build a line up Beaver Hall Hill, because the Co. will not build up Cote des Neiges Hill, and will not put down tracks on Frontenac & Amherst sts.

The Co. has adopted a life-saving fender, which has been approved by the City Surveyor.

It is proposed by the City Council to have cars stop at the near side of streets, instead of at the far side as at present, to prohibit cyclists crossing streets, except at their intersections, & to make bicycle riding on the devil-strip an offence punishable by imprisonment without the option of a fine.

In the House of Commons recently the Postmaster General said the privilege of letter carriers to ride on the Montreal street cars had been taken away owing to a difficulty be-

tween the Government & the Ry. Co. as to the price paid for the privilege. Until last year \$2,400 a year was given the Co. for allowing the letter carriers to ride on the cars, but when the contract terminated last winter the Co. refused to renew it at the old figure & asked \$800 a month. The department did not deem it in the public interest to pay this amount & an arrangement had been made with the Co. for special tickets for letter carriers at a low rate. Under this system there was a slight saving on the old contract price of \$2,400 a year.

West India Electric Co.

The U.S. Consul at Kingston, Jamaica, reports as follows: "For some years there has been a mule railway in Kingston, but an electric road covering the lines of the old cars, & other thoroughfares as well, has just been completed. This line has about 25 miles of track in & around Kingston, divided into three districts, viz., the lines north of the city, those east of the city, & those in the city. It is a private enterprise, started by Canadian capital, & is called the West India Electric Co. The government license is for a period of 30 years, & renewable for further periods at the pleasure of the Governor. The Co. pays 4% of its gross earnings to the government, & assumes the maintenance of the roads & streets occupied by it to the extent of 18 ins. on each side of the tracks. The rates of fare are 4c. for each passenger from any point within a district to another point in the same district by most direct route; that is, the fare is practically 4c. for each section of the line, & from the end of the line to the east, through the city to the end of the line north, would be 3 fares, or 12c. In addition, the Co. reserves 3 front benches on each car, on which a 1st class fare—6c.—is charged. The tickets are sold as follows: Seven 4c. tickets for 24c., five 6c. tickets for 24c., & ten children's tickets, for under 12 years, for 24c. Passengers are allowed to stand. There are no restrictions as to number of passengers carried, & the same complaints of overcrowding are heard. Cars run every 15 minutes in the city. In addition to regular motors, the Co. runs market cars before 9 a.m. & after 5 p.m. for country people who carry produce. These are trailers, & the fare on them is 3c."

The Kingston, Ja., Gleaner recently published a long description of this line from which the following is extracted: The license for a system of electrical trolley tramways in Kingston was granted to the W.I.E. Co. on Mar. 10, 1898. The Co. started construction on May 2, beginning with the erection of poles to carry the trolley wires. On June 23 track-laying was commenced on the Constant Spring line. It was the original intention to work the line by electrical power generated by steam. But it was suggested that possibly water power could be used as the prime motor, & Mr. Holgate was sent to Jamaica in Jan., 1898, to inquire into the feasibility of this. Shortly after his arrival he was joined by N. L. Cooper, hydraulic expert, & together they investigated the question & recommended the use of the waters of the Rio Cobre for the development of the necessary power. Property rights were at once secured, & the work upon the plans commenced. It is conceded that whenever water power can be obtained at a reasonable capital outlay, it is superior to steam power, inasmuch as its greater reliability and consistency give it a decided advantage, while from a financial point of view its advantages over steam are very great, especially in a country situated like Jamaica, where the cost of importing coal is a most serious consideration.

The question of the hydraulic development was by no means a simple one. In ordinary

cases of this kind the dam is built with probably a short head race & a power house situated close to the dam. This description would apply to 99 out of every 100 applications of water-power. But in the valley of the Rio Cobre, though there is a succession of rapids, there is no place where a dam of this character could be built to be of commercial utility, without raising the water to such a height as would flood enormous districts of cultivated land & render the highways at times impassable. To overcome this difficulty a scheme was evolved by which the available fall of the river was utilized without in any way interfering with private or public property. The dam has been built across the river immediately opposite the mouth of the long tunnel on the railway near Bog Walk station. For such an immense development of power this dam seems very insignificant. It is only 9 ft. high, but it can, if necessary, be raised 3 ft. higher by the placing of flash boards between steel posts built in the concrete dam for the purpose. On the left bank of the river, at the dam, a skimming basin has been formed, into which the waters of the river pour, entering thence into the steel conduit on their way to the power house. This steel conduit, or pipe, forms the head race for the power house. It is 10 ft. in diameter at the dam & its entrance is protected by a double screen which effectually prevents the entrance of weeds & debris with the water. The distance from the dam to the power house is 6,200 ft. & along the whole of the distance extends this huge pipe 8 ft. in diameter. It is entirely built of steel & for the greater part of its length is embedded in rock or compact earth, well protected from the river even in its highest stage during the May and Oct. floods. At places the pipe is supported on concrete piers, & every possible precaution has been taken to make it of the most substantial construction. It is said to be the largest pipe in the world. It weighs 1,742,894 lbs. of solid steel, held together by 259,102 rivets. The pipe arrived in Jamaica in the shape of curved plates, was transported to Bog Walk by railway, & taken to the site by teams. The plates were assembled, placed in position, erected, & riveted entirely by native workmen, under the supervision of M. Peppard. The capacity of the pipe is 2,205 galls. of water per second. This flows into the power house by passing through 2 pairs of twin horizontal turbine wheels, each pair being enclosed in steel casings. The water, after passing through the wheels, flows back to the river into the tail race through draught tubes. The turbine wheels work on horizontal shafts at a speed of 400 revolutions a minute. These shafts are coupled direct to the shafts of the electric generators, which therefore revolve at the same speed. At present there are two generators, each of which is capable of developing 500 h.p. There are also 2 smaller water wheels, each developing 25 h.p., which are used to drive the direct current generators, whose purpose is to excite the larger generators connected with the turbine wheels. The generators are of the latest type, known as the three-phase alternators, & develop current at the comparatively low pressure of about 500 volts. If these generators were near the point where the current is consumed it would not be necessary to raise the voltage or pressure, but, owing to the distance—the 22 miles between Bog Walk to Kingston—it is a commercial necessity & raise the pressure so that as little loss as possible may be sustained in the transmission of the current. The means used at the power house for effecting this object are what are technically known as step-up transformers. The current goes into them at a pressure of about 500 volts, & comes out to enter the transmission wire at a pressure of about 14,000. The poles carrying these wires are all made of steel, & are set 2 chains apart along the highway. The wires are of almost pure

...served to the cross arms on porcelain insulators. When the lines reach Kingston, they are connected to the Tramway Company's station in Orange St., & are led through a similar set of transformations to those at the power house at Bog Walk, but with an opposite effect. The current enters them at the high pressure of the transmission line, & comes off them at the low pressure of about 350 volts. Passing through & being controlled by the apparatus on the switch-board, the power enters the rotary converters, by whose action the high-pressure alternating current is converted into a direct current flowing in one continuous stream. From the rotary converters the current passes to the feeder cable on the system of tramways throughout the city, from the feeders, thence to the overhead trolley wires, & thence to the cars & motors.

The system of tramways in Kingston needs very little description, as it is already familiar to everyone. But this may be said for it—that in the point of substantial construction, improved appliances & general adaptability to its purpose, there is nothing of the kind to excel it, or even equal it, in America or elsewhere. The Co. has throughout prosecuted its work in the most liberal spirit. Expense has not been spared where necessary, with the result that to-day we see the practical completion of an admirably constructed & useful system of tramways.

Mechanical Traction by Electricity.

G. C. Cunningham, formerly Manager of the Montreal St. Ry., & now Manager of the Birmingham, Eng., Tramway Co., recently read a paper on this subject before the Institution of Civil Engineers, in which he gives his preferences in power house equipment & summarizes the results obtained in the plants

under his management. It is pointed out that the financial superiority of electric traction all lies in the saving in power, & for this reason the power house is the point on an electric system to which the skill & intelligence of the engineer should be mainly devoted.

Horse traction—by which is meant the cost of horse-keep, wages of grooms, shoeing, veterinary expenses, but excluding drivers' wages—is $3\frac{1}{2}$ d. per car-mile in Glasgow & 5d. in Liverpool. Glasgow is level & the annual car mileage is 7,000,000; Liverpool is hilly & the annual car mileage 4,000,000. As opposed to these figures the cost for fuel, wages, oil & maintenance of the plant is placed at a little less than $\frac{1}{2}$ d. per car-mile for a level city & a little more than $\frac{1}{2}$ d. for a hilly city. Mr. Cunningham continues: "But in order to insure this low cost of working, every care must be taken in the power house. In choosing its site, it should be placed close to a plentiful supply of water, where all that is requisite for condensing purposes may be had at a nominal charge, or merely for the cost of pumping. A river, canal, pond or the sea, would afford what is needed. It should be conveniently situated for the supply of coal from railway line, canal, or wharf, so as to save the charges of handling fuel. One shilling a ton saved in cartage would amount to a very considerable sum in a year in a large traction station. But, needless to say, the most important matter is the type of engines, boilers & heat-savers to be used. The writer favors low-speed (70 revolutions) compound condensing engines, such as are built by numerous firms; boilers of the Lancashire or Galloway type, with Green's economizers. A plant of this character was constructed & worked under my charge on the Montreal Electric St. Ry., with the result that the cost of producing current was a little under one farthing per kilowatt-hour, & the cost per car-

mile less than a half-penny in the open months of the year, when coal could be obtained for 9s. a ton. The consumption of coal was 3.38 per kw. h., or 2.60 lb. per e. h.p.h., & this was maintained during months of working. The average for a whole year was only 2.75 lb. per e. h.p.h. It is not pretended that this is a phenomenally low rate of consumption. On board many of the large ocean-going steamers as low as 1.50 lb. of coal per h.p. has been reached with triple-expansion engines, but I believe that few electrical power houses have been able to show better results than those mentioned. Nor is the result to be attributed to a very large output; precisely similar results can be obtained by using similar appliances on a smaller scale. In the Montreal house there were six 800-h.p. engines, & the daily output of current averaged 43,000 units. But I have recently obtained similar results with a small cable plant on the Birmingham cable system. In 1897 this plant consisted of a pair of single-cylinder engines running at 53 revolutions of 287 maximum horse-power, with Galloway boilers, & no special heat-saving appliances. It was necessary to increase the engine power to meet increased traffic. I put in a pair of superposed compound condensing engines of 400 h.p., running at the same speed as before, & obtained condensing water from a well in conjunction with a tank & cooling tower. The result was that the consumption of fuel was reduced from about 325 tons a month, or 8.9 lb. a car-mile, to 6.5 lb. a car-mile; & the introduction of Green's economizers has further reduced the consumption to 4.7 lb. per car-mile, or to about 3 lb. per h.p.h. On the Birmingham small cable system, the saving does not amount in money to a large sum, but on a great electric system running, say, 7,000,000 car-miles in the year, 4 lb. of coal saved per car-mile, at 9s. a ton, amounts to £5,625 a year, & it is this

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consideration that gives emphasis to the plea for an economical power-house plant.

"To return to the previous line of argument. Note what a large saving is effected when a cost of $\frac{1}{2}$ d. a car-mile for power is substituted for 5d.; on a car-mileage of 7,000,000 it means no less than £131,250 a year! & indicates the source whence the increase of net earnings may be obtained to pay for the heavy cost of electrical installation. The whole cost of working a large electric system, including working charges of all kinds, should be under 5d. a car-mile, but this can only be obtained with a carefully constructed power house, where the works-cost of the current is cut down to a minimum.

"The limits to which this note had to be confined prevent the introduction of any more elaborate figures or statistics than those given, but enough has been said to indicate that, in my judgment, it is to the power house that the chief attention should be directed in order to insure the financial success of an electric system. Other parts of the system claim attention, but it is on this that success or failure mainly turns. More money can be lost on the one item of power than would pay all the other working charges, & whether the high potential system with transformers, or the multiple unit system be adopted, the successful working ultimately depends upon having engines & boilers that will do their work with a low consumption of fuel."

The Hamilton Consolidations.

When the Cataract Power Co., through J. Paterson, began to try & secure control of the Hamilton St. Ry. stock, a number of shareholders formed a syndicate to protect their interests, being afraid that if the Cataract Co. got a majority of the shares without them they might have to accept less than par for their stock. Enough combined to prevent the Cataract Co. getting control, & forced it to pay them a shade over par for their stock. For some of the other stock bought previously the Cataract Co. paid as high as 110. Before there was any talk of the Cataract Co. endeavoring to get control, some of the holders of the stock held it at 60 or 70. J. Paterson recently stated it was too early to say just what changes would be made, but in time the system would be greatly improved.

The acquiring of the street railway franchise is only one of a number of enterprises that the capitalists of the Cataract Co. are going to carry out. The syndicate has completed arrangements for the control of the Hamilton & Dundas Ry. & also has control of the Hamilton Radial Ry. The Radial Ry. will in the near future be extended to Oakville. Considerable money will also be spent in beautifying the Beach, the plan being to build a big hotel.

It is said the Cataract Co. will not negotiate for the Hamilton, Grimsby & Beamsville Ry., it being the intention to build a fast electric line parallel with the G.T.R. to Niagara Falls. This line is wanted for the nickel steel plant which will be established if the government can be induced to put a duty on nickel.

Plans have been completed for lines from Hamilton to Guelph & Waterloo. The York St. line will be used to the cemetery, from where it will run along the high level road to a point beyond the old canal. Then the line will be carried over on a big bridge, & will run to Rock Chapel. It will be double track to Rock Chapel, from where the Waterloo & Guelph lines will diverge. The Guelph line will run through Freeleton, Aberfoyle & Morris-ton. The other line will run through Greensville, Galt & Preston to Waterloo & Berlin. It may be that a spur will be built from the Guelph line to Watertown. It is expected that the grading of these lines will be commenced this year, but as it is impossible to

get rails until next year, the construction cannot be completed until then. It is proposed to make the run from Hamilton to Guelph in 45 minutes, & from Waterloo in an hour.

The Cataract people have been asked to take over the proposed Hamilton, Ancaster & Brantford Electric Ry., but nothing definite has been decided on.—Hamilton Spectator.

Moncton, N.B., St. Ry.—It is said negotiations for the transfer of this property are progressing favorably.

Passenger Traffic.—The Dominion Statistician states that the number of passengers carried by the electric railways of Canada last year reached the 100,000,000 mark.

Lewiston & Youngstown Frontier R.R. Co.—F. G. Lott has succeeded W. A. Heller as Superintendent. He was formerly with the Buffalo & Niagara Falls Electric Light & Power Co. in a similar capacity.

The International Traction Co. hopes to have connection made between its Falls St. tracks at Niagara Falls, N.Y., & the upper steel arch bridge at Niagara Falls before Aug. 1. Plans have been submitted to the Commissioners of the New York State Reservation covering the proposed track on the river way from Falls to Niagara St., & as soon as the Commissioners approve the plans the work of track-laying will commence. The Suspension bridge between Queenston, Ont., & Lewiston, N.Y., having been completed, an electric car service across it will be started almost at once.

Niagara Gorge R.R.—The Niagara Falls & Lewiston Electric R.R. Co., which built & for 4 years operated the electric railway through the Niagara gorge along the N.Y. bank, has passed out of existence & been succeeded by the Niagara Gorge Railroad Co. as the result of a sale of the road by the sheriff of Niagara County. The purchaser was H. P. Bissell, of Buffalo, the chief promoter of the new company, & the only one of the old company remaining in the new one. The capital of the new company is \$1,000,000, whereas the old company was capitalized at \$1,400,000. During May & June large forces of men were employed in the reconstruction of the road-bed, removing fallen rock, & putting in new trestles & bridges. New retaining walls were built at several points. The roadbed was re-ballasted & the overhead construction repaired. The incorporators of the new company are: Gen. F. V. Greene & A. D. Andrews, New York; H. P. Bissell, J. H. Metcalf, J. T. Jones, W. C. Cornwell, C. M. Bushnell, E. W. Eames, J. A. Kennedy, G. A. Ricker, A. C. Coffey, H. H. Hewitt, G. C. Riley, G. V. Turner & B. L. Jones, Buffalo. The board of directors includes all of the incorporators mentioned excepting Messrs. Kennedy, Ricker, Coffey & Riley. The officers of the Co. are: President, Gen. F. V. Greene; Vice-President, H. P. Bissell; Secretary, H. H. Hewitt; Treasurer, B. L. Jones; General Manager, G. Morgan; Chief Engineer, G. A. Ricker. W. A. Heller, who recently resigned the superintendency of the Lewiston & Youngstown Electric Ry., has been appointed Superintendent. The line commenced running under the new management on July 1.

Great North-Western Telegraph Co.

The improvements to the Co.'s building, at the corner of St. Sacramento and St. Francois Xavier Sts., Montreal, which have been going on for the past 10 or 12 months, are completed. The building, which was constructed by the Montreal Telegraph Co. in 1873, is of Ohio sandstone, 5 storeys, covering an area of 7,200 sq. ft., was considered one of the most substantial & imposing business structures in Montreal, until recent years, the advent of

the sky-scrappers with their modern conveniences & elegant interior appointments having put the building in the shade, in this respect. All this, however, has been changed. About a year ago the management believing that there was something to be gained thereby, resolved to remodel and refit the structure in a manner that would put it abreast of the times. A glance at the tenant list, & from the increased activity about the place, gives the impression that the expectations have been realized. The work has been done most thoroughly. Necessarily the progress has been slow, owing to the fact that the Co.'s business could not be interfered with, & care had to be taken that this was adhered to. Entirely new systems of drainage, plumbing, lighting & heating of the latest approved kind have been introduced throughout. An electric passenger elevator of the most recent design has been installed, much to the joy of the toilers on the upper flats. The main entrance is in inlaid mosaic & marble wainscoting, the interior fitting being quartered antique oak, chipped plate being used in the partition work. The transformation has not only brought the building up to date, providing for all requirements of the G. N. W. T. Co. which have been put in more conveniently than ever before, but also provided room for a number of tenants, including some of the great steamship lines. The telegraph receiving office is on the main floor, also the offices & board room of the Montreal Telegraph Co., the rest of the space being rented as offices. On the 2nd floor, east side, is the main operating room, pronounced to be one of the finest for that purpose in America. The basement, not before utilized to any extent, has been transformed into airy, light offices. A stock broker occupies the St. Sacramento st. front, & the G. N. W. stores are at the rear.

Dominion Telegraph Company.

At the 30th annual meeting at Toronto, July 5, the following statement was presented:

ASSETS.	
Capital expenditure	\$1,281,819 47
Toronto Grey & Bruce Ry. Co. 1083 bonds, & interest thereon	1,506 24
Cash in bank & on hand	30,142 23
	\$1,313,557 94
LIABILITIES.	
Capital stock paid up	\$1,000,000 00
Dividends unclaimed	912 70
Dividend 92, payable July 15, 1899	15,000 00
	\$1,015,912 70
Balance at credit of profit & loss	297,645 24
	\$1,313,557 94

The directors reported the payment to the Co. by the lessees—the Western Union Telegraph Co.—of the guaranteed interest of 5 per annum on the capital stock of the Co., up to & including June 30, 1899, the proceeds of which have been promptly distributed quarterly to the shareholders.

The following were re-elected: President, T. Swinward; Vice-President, Sir Frank Smith; other directors, Genl. T. T. Eckert, C. A. Tinker, A. G. Ramsay, H. Pellatt, H. MacKenzie, T. F. Clark, T. R. Wood.

C.P.R. Company's Telegraph.

The Co. has established communication between Rossland & Spokane, Wash.

J. Kent, Superintendent of the Eastern Division, is acting manager during C. R. Hosmer's absence in England.

The Acton Burrows Co., Toronto, are getting out large enamelled iron signs, lettered on both sides, with flange, for this department. They will be different from those heretofore used & will be very striking, plain & easily read.

A building for commercial telegraph purposes is to be built by the Co. on Hastings

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Medical Examination fee.....	1 50
Total minimum cost.....	\$4 50

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Cost to take \$2,000 Mort. Benefit..	\$6 00
" " \$3,000 " " "	7 00
" " \$4,000 " " "	9 00
" " \$5,000 " " "	10 00
Sick benefits, when required, cost extra.	

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- Social and Fraternal Privileges** of the Court Room.
Free Medical Attendance by Court Physician where not dispensed with by Court by-law; also trained nurses in certain cases.
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 4.—**A Total and Permanent Disability Benefit** of one-half of face value of policy, with exemption from further payment of premiums or Court Dues.
 5.—**An Old Age Benefit** consisting of exemption from payment of premiums and Court dues after age 70.
 6.—**An Old Age Disability Benefit** of one-tenth of face value of policy payable yearly for ten years, on being declared totally and permanently disabled by infirmities of age after the seventieth birthday.
 7.—**An Old Age Pension** payable during disability, which may be taken as a substitute for the Old Age Disability Benefit.
 8.—**A Burial Benefit** of \$100 at death of a Pensioner.
 9.—**A Funeral Benefit** of \$50 at death of a member enrolled in Sick and Funeral Benefit Department.

The Mortuary Benefit of \$500, \$1,000, \$2,000, \$3,000, \$4,000 or \$5,000.

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Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300 00	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	12,058 86	2,967 93	2 61	11.00
1883	2,210	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	39,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	21,604	181,846 79	283,967 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.40
1892	43,024	344,748 82	580,597 85	13 49	6.25
1893	54,484	392,185 93	838,857 89	15 76	5.47
1894	70,655	511,162 30	1,187,225 11	16 94	5.47
1895	86,521	685,000 18	1,560,733 46	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.50
1897	124,685	992,225 60	2,558,832 78	20 52	5.56
1898	141,000	1,176,125 14	3,186,370 36	22 12	5.67

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St., Vancouver. It will be 3 storeys high, with stone front. The ground floor will be devoted to general business, the floor of which will be laid in blocked marble; the 1st floor will be for offices & the 2nd, or top floor, will be devoted to the operating & kindred departments. Every modern idea will be taken advantage of & utilized in the erection of the building & its laying out for business purposes. Work on construction will begin shortly. It is the intention to open an office in the Hotel Vancouver, & in one or two other sections of the city, in addition to the headquarters and the office in the new terminal building.

General Telegraph Matters.

It is said D. C. Corbin, who recently secured a charter from the Dominion Parliament, will build a telegraph line to Greenwood, B.C., at once.

The telegraph line between Kalispell, Montana, & Fort Steele, B.C., has been extended from Fort Steele to Cranbrook where it connects with the C.P.R. system.

A magistrate at Dundas, Ont., recently fined some telegraph linemen \$20 & costs & awarded \$30 damages for trees having been cut owing to their interfering with the wires. The case has been appealed.

A contract for the construction of a telegraph line between Kamloops & Nicola, B.C., has been given by the Dominion Department of Public Works to J. H. Latremouille. The Dominion supplementary estimates for 1899-90 contain \$2,550, a revote for this work.

Work is nearly completed on the Dominion Government telegraph line between Cape Beale & Alberni, B.C. This line will take the place of the present one, & be of great value to Alberni, as the new route follows the canal from Cape Beale to Alberni, & will be much easier to keep in repair during winter.

At the recent bi-annual Convention of Railway Telegraphers at Peoria, Ill., F. J. Reynolds, of Medicine Hat, Assa., was selected to represent the Canadian membership. The organization is in a highly satisfactory condition, the membership having doubled during the last year, being especially numerous in Canada. There were over 20 Canadian delegates.

The Dominion Government telegraph line to the Yukon was completed on June 29 to Lake Labarge, 128 miles from its starting point at Lake Bennett & 173 miles from Skagway. It is expected to have it completed to Dawson by Oct. 15. The Dominion supplementary estimates for 1899-90 provide \$147,500 for the line from Bennett to Dawson, with a branch to Atlin City, & \$225,000 for a line from the end of the present Government line at Quesnelle, B.C., via Stikine River & Teslin Lake to Atlin, which will give a through line to Dawson entirely through Canadian territory.

A U.S. syndicate is said to have secured a controlling interest in the North American Telegraph Co., which has been in existence for 20 years, the controlling stock having been held by the Rathbun Co., of Deseronto, & the Folger Brothers, of Kingston, Ont. The Co. has over 1,000 miles of poles, & from 3,000 to 4,000 miles of wires. The Co. owns & operates the telephone & telegraph wires in Prince Edward, Hastings, Frontenac, & several other counties in Eastern Ontario. It is proposed by the new owners to extend the system. W. Bampfield, of Montreal, has been appointed General Manager, with headquarters at Kingston, succeeding R. C. Carter, who has held the position of Manager since the Co.'s organization. It is said those who sold their stock realized well, & are quite pleased to let it go. Messrs. Folger & Rathbun are said to be still interested.

The Canadian, British Columbian & Dawson City Telegraph Co. has forwarded to the Dominion Government through Lord Strathcona a statement of claims for compensation on account of the Government having virtually repudiated the concession to the Co. for the building of a telegraph line to the Yukon & having proceeded with it as a Government work. We are informed that unless the Government awards liberal compensation the whole question of the abrogation of the charter & of the breaking of faith with English capitalists will be ventilated in the Imperial House of Commons. One of the trustees for the debenture holders, Mr. Clough, is M.P. for Portsmouth, & he has pointed out to Lord Strathcona the damaging effect which would result to Canadian credit should the question have to be raised in the Imperial Parliament. The directors of the Co. very forcibly say that while the breaking of engagements with foreign powers may sometimes be looked for, the same treatment is not expected from British Colonial Governments.

Nova Scotia Telephone Co.

At the annual meeting in Halifax, June 15, the following statement was submitted, for the year ended Jan. 31, 1899 :

ASSETS.

Exchanges and plant.....	\$278,997	29
Stores.....	5,518	83
Stock in other companies.....	19,752	00
Real estate, building, etc.....	15,699	21
Amounts due Company.....	1,964	53
Due by agencies, including Halifax	8,124	02
Cash on hand & in bank.....	2,000	17
	\$332,749	02

LIABILITIES.

Capital stock.....	\$200,000 00
Bonds.....	20,000 00
Bills payable.....	10,453 43
Sundry amounts due.....	14,966 50
Depreciation acct.....	3,000 00
Dividend no. 17, payable Mar. 1, 1899.....	6,000 00
Accident reserve acct.....	8,902 50
Insurance reserve acct.....	9,000 00
Contingent acct. & sinking fund acct.....	36,830 99
Profit & loss acct.....	23,592 63
	\$334,740 00

PROFIT AND LOSS, JAN. 31, 1899.

Feb. 1, Balance	\$ 21,939 91	
Jan. 31, Net earnings	16,652 72	\$ 88,592 63
Jan. 31, Dividend 16, paid Sep. 1, '98 " 17, payable Mar.	\$6,000 00	
" 1999.....	6,000 00	
Jan. 31, Transferred to sinking fund	<u>3,000 00</u>	
		\$ 15,000 00
Balance forward		\$ 23,592 63

The directors were unanimously re-elected as follows : President, B. W. Chipman ; Vice-President, R. Uniacke ; Secretary, C. E. Harris ; other directors, C. F. Fraser, Dr. A. C. Cogswell, Dr. L. Borden, M.P., Dr. A. Haley, M.P., C. F. Sise.

The Co.'s long distance lines are not being extended to any great extent this year, owing to the extremely high price of copper wire. Metallic circuits are being installed in Halifax as fast as possible & steps are being taken to install the most modern system of switch boards there.

The Bell Telephone Company.

The Co. has bought Pare & Pare's telephone system at Granby, Que.

Conduits for underground wires are being laid in Main & some other principal streets in Winnipeg.

The people of Portage La Prairie want the Co. to establish long distance service with Winnipeg.

The Ottawa City Solicitor has given an opinion in regard to the conditions that sur-

round the use of the streets by the Bell Co. He says the charter of the Co. authorizes it to construct its lines in the public highways, provided the rights of travelers are not interfered with and "provided that in cities, towns & incorporated villages the location of the line or lines & the opening up of the streets for the erection of poles or for carrying wires underground shall be done under the direction & supervision of the engineer or such officer as the council may appoint & in such manner as the council may direct, & that the surface of the street shall in all cases be restored to its former condition by & at the expense of the company." From this he draws the conclusion that the Co. has the right to place its wires underground on any of the streets of the city & to open up the streets for that purpose, but in so doing must not interfere with the public right of travelling on or using such highways, & must locate its underground lines in such portion of the street as the council may direct & must carry on the work of opening up the streets and placing its wires underground also in such manner as the council may direct under the supervision & direction of the City Engineer.

B. C. Telephone Lines.

The Vernon & Nelson Telephone Co. has secured connection with the Inland Telephone Co. at Cascade City B.C., the latter Co. having built a line from Bossburg, Wash., to Cascade. Formerly the V. & N. Co. worked with the Spokane & B. C. Co. The Inland Co. has two metallic lines between Spokane, Wash., & Rossland, B.C., & direct connection with Republic, & throughout all the Western States. A person in Greenwood can now speak to Portland, Vancouver, San Francisco, or even Los Angeles.

The Columbia Telephone Co. is building a line from Cascade, B.C., to Camp McKinney, passing through Grand Forks, Columbia, Niagara, Summit, Eholt, Greenwood, Anacanda, Boundary Falls, Midway & Rock Creek. At the eastern end connection is made with the Spokane & B. Columbia Telephone Co. now operating to Spokane & Republic, Wash., & Rossland, B.C. To complete necessary connections the Columbia Company will also build a line from Trail to Rossland & thence to International Boundary. The intention is to establish exchanges at Rossland, Trail, Grand Forks, Greenwood, Camp McKinney & Cascade City, B.C.

General Telephone Matters.

The American Bell Telephone Co. has declared its regular quarterly dividend of 3% & 1½% extra, payable July 15.

The Callender Telephone Exchange Co. has had its capital stock increased from \$100,000 to \$450,000 under the Dominion Companies Act.

The Victoria Telephone Co. held its first meeting at Woodville, Ont., recently, & elected these officers: President, J. G. Eyres; Vice-President, J. G. Campbell; Treasurer, C. E. Weeks; Secretary, Wm. A. Robinson. The directors have, it is said, decided to build lines to Beaverton, Orillia, Midland, Barrie, Lindsay, Peterboro, and other places as soon as possible.

At the annual meeting of the New Brunswick Telephone Co. in Fredericton, June 13, the following were elected: President, Hon. A. G. Blair; Vice-President, J. L. Black; Managing Director, F. P. Thompson; other directors, A. A. Stockton, C. Fawcett, W. T. Whitehead; Sec.-Treas., W. E. Smith. It was decided to put in a metallic circuit between Fredericton & St. John & to extend the trunk line from Fredericton to Chatham & the north shore.

The County of Ont., Standard, speaking of an examination recently held by the County Judge, there, says: "The Dundas Telephone Co. was organized nearly 6 years ago, & quickly spread over nearly the whole of Dundas Co., extending into several adjoining counties. The organizers were enthusiastic, & the people were excited over the prospects of participation in the telephone business. But the tide came quickly, & the whole concern collapsed like a bubble, in Aug., 1895. Since that time the members of the Co. have been before the courts to settle who shall finally bear the liabilities of the concern, amounting to away up in the thousands of dollars. The result has been more than one law suit without final issue. The present examination has been on for over a year, & it is not considered likely that this will bring the matter near a completion. The costs are heavy & the whole affair is a significant object lesson."

A correspondent asks: "In telephonic communication is it the machine & not the actual voice that is heard? Or is it not the voice itself that is heard through the medium of the machine?" In telephonic communication, the sound waves produced by the voice of the speaker cause the diaphragm of the transmitter to vibrate. These vibrations have the same period as the waves of the voice. The vibrations of the diaphragm cause the electric current through the line to vary in the same periods. The variation of the electric current sets the diaphragm of the receiver into vibration, and this vibration is received by the ear of the listener as sound. The voice is not transmitted. A current of electricity is transmitted through the line. A voice could not be heard from Chicago to New York. It is, however, very wonderful that the vibrations of the diaphragm of the receiver reproduce the qualities of the voice of the person speaking so perfectly that the person can be recognized by the reproduced tones.

The Wire & Cable Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$500,000 & headquarters in Montreal, the incorporators being C.

F. Sise, R. Mackay, C. Cassils, R. Archer, H. Paton, L. B. McFarlane & C. P. Sclater, all of Montreal, nearly all of whom are connected with the Bell Telephone Co. The primary object of the Co. is to manufacture & deal in apparatus, etc., for telephone, telegraph, light, power, railway, cable, hydraulic or compressed air companies, but it is given very extensive powers to engage in other branches of business.

Among the Express Companies.

The U.S. Ex. Co. has located a soliciting agent in Toronto.

The Western Ex. Co. has reopened its summer route to Mackinac Island.

The Canadian Ex. Co. has opened offices at Edwards, Ont., Jonquiere, Que., & Whitebread, Ont.

The Canadian & Dominion Co's have both recently placed large orders for enameled iron signs for their general as well as their money order business with the Acton Burrows Co., Toronto.

In the Dominion Ex. Co. R. Helme has succeeded A. Devitt as Route Agent, with headquarters at Nelson, B.C. F. H. McKay has been appointed Route Agent at London, Ont., succeeding Mr. Helme.

The following changes have been made in the Canadian Ex. Co.: W. T. Anderson, Superintendent of Money Order Department, is appointed Assistant Treasurer, vice A. Maxwell assigned to other duties. W. H. Bryce, Assistant Auditor of Money Order Department, is appointed Superintendent of the same, vice W. T. Anderson transferred.

The White Pass & Yukon Ex. Co., Ltd., has been incorporated under the B. C. Companies Act, with a capital of \$100,000 and head office at Victoria. The Directors are A. C. Flumerfelt, W. Wilson, H. M. Hills, & J. H. Greer. The primary object of the Co. is to do an express business over the White Pass & Yukon Ry., but it has very general powers to extend in any direction.

Since June 19, the Canadian Ex. Co. has been running a special train 6 days a week between Niagara Falls & Montreal, which it calls its special fruit flyer. Niagara Falls is left at 1.30 p.m., 12 stops are made at fruit points and Toronto is reached at 8 p.m. After a stop of 10 minutes the train leaves for Montreal arriving there between 5 and 6 on the following morning, so that early delivery of the fruit is made. During the strawberry season the Dominion Ex. Co. ran a special train between Toronto & Montreal, leaving Toronto in the evening & reaching Montreal early the following morning before the passenger train. The putting on of these special trains has been caused by the impossibility of handling the largely increased fruit shipments on the regular passenger trains without delaying the latter, and shows how largely the fruit traffic has grown.

Assistant Secretary Spaulding of the U.S. Treasury, has made a ruling on the application of I. M. Clarke, of Port Huron, Mich., representing the American Ex. Co., for the privilege of consolidating consignments of goods intended for transportation to Canada, for the purpose of making a single entry & giving a single bond on all such shipments made within one week. Such a practice, if allowed, would greatly reduce the expense to the express companies, but the Department believes that it would be detrimental to the interests of the Government. Mr. Spaulding is willing, however, to make a concession from the letter of the regulations heretofore in force, & has forwarded the following instructions to the Collector: "After inquiry into the practice at other ports on the frontier, and careful consideration of the matter, the Department declines to authorize the consolidation in one entry of consignments covering a period of several days, as proposed by the applicant, but perceives no objection to the inclusion in one entry & bond, for immediate transportation & exportation to Canada via a common port, of all merchandise arriving on the same date & train, or other conveyance, consigned to one party, but destined for two or more places in Canada."—Express Gazette.

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Agent for Canada,

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Accident Insurance Travelers' Insurance Co.....Montreal.	Foghorns Rice Lewis & Son.....Toronto.	Shipbuilders' Supplies Rice Lewis & Son.....Toronto.
Aerated Waters E. L. Drewry.....Winnipeg.	Forgings Rhodes, Curry & Co.....Amherst, N.S.	Ship Carpenters' Tools Rice Lewis & Son.....Toronto.
Air Brakes & Fittings Westinghouse Mfg. Co.....Hamilton, Ont.	Gas & Gasoline Engines Northey Manufacturing Co.....Toronto.	Ships Polson Iron Works.....Toronto.
Ales E. L. Drewry.....Winnipeg.	General Supplies The Hudson's Bay Company.....	Shovels Rice Lewis & Son.....Toronto. The Hudson's Bay Company.....
Aluminum Rice Lewis & Son.....Toronto.	Grease Eureka Min. Wool & Asbestos Co....Toronto	Signal House Numbers Acton Burrows Co.....Toronto.
Anchors Rice Lewis & Son.....Toronto.	Groceries The Hudson's Bay Company.....	Signals Noah L. Piper & Sons.....Toronto.
Asbestos Eureka Min. Wool & Asbestos Co....Toronto.	Half Tones Acton Burrows Co.....Toronto.	Signs Acton Burrows Co.....Toronto.
Axles Rhodes, Curry & Co.....Amherst, N.S.	Hardware Rice Lewis & Son.....Toronto. The Hudson's Bay Company.....	Snow Ploughs Rhodes, Curry & Co.....Amherst, N.S.
Babbitt Rice Lewis & Son.....Toronto.	Headlights Noah L. Piper & Sons.....Toronto.	Speed Indicators Rice Lewis & Son.....Toronto.
Badges John Martin, Sons & Co.....Montreal.	Hose Rice Lewis & Son.....Toronto.	Spikes Rice Lewis & Son.....Toronto.
Beams Rice Lewis & Son.....Toronto.	Illustrations Acton Burrows Co.....Toronto.	Springs Rhodes, Curry & Co.....Amherst, N.S.
Bellows Rice Lewis & Son.....Toronto.	Iron Rice Lewis & Son.....Toronto.	Station Name Signs Acton Burrows Co.....Toronto.
Bells Rice Lewis & Son.....Toronto.	Iron Signs Acton Burrows Co.....Toronto.	Steamboats Polson Iron Works.....Toronto.
Belting Eureka Min. Wool & Asbestos Co....Toronto. Rice Lewis & Son.....Toronto.	Japans McCaskill, Dougall & Co.....Montreal.	Steamboat Signs Acton Burrows Co.....Toronto.
Blankets and Bedding The Hudson's Bay Company.....	Lager Beer, &c. E. L. Drewry.....Winnipeg.	Steam Whistles Rice Lewis & Son.....Toronto.
Block & Tackle Rice Lewis & Son.....Toronto.	Lamps Rice Lewis & Son.....Toronto. Noah L. Piper & Sons.....Toronto. The Hudson's Bay Company.....	Steel W. G. Blyth.....Toronto. Rice Lewis & Son.....Toronto.
Blocks Rice Lewis & Son.....Toronto.	Lanterns Rice Lewis & Son.....Toronto.	Switch Targets Acton Burrows Co.....Toronto.
Boat Fittings & Hardware Rice Lewis & Son.....Toronto.	Launches Polson Iron Works.....Toronto.	Tanks and Tank Fixtures Ontario Wind Engine & Pump Co....Toronto.
Boiler Covering Eureka Min. Wool & Asbestos Co....Toronto. Mica Boiler Covering Co.....Toronto.	Life Insurance Independent Order of Foresters.....Toronto. Travelers' Insurance Co.....Montreal.	Telegraph Office Signs Acton Burrows Co.....Toronto.
Boilers Polson Iron Works.....Toronto.	Linoleum and Floor Coverings The Hudson's Bay Company.....	Telegraph Spoons Rice Lewis & Son.....Toronto.
Boiler Tubes Rice Lewis & Son.....Toronto.	Locomotives Baldwin Locomotive Works.....Philadelphia.	Telephone Office Signs Acton Burrows Co.....Toronto.
Bolts Rice Lewis & Son.....Toronto.	Lubricators Rice Lewis & Son.....Toronto.	Tie Plates F. E. Came.....Montreal.
Bridge Numbers Acton Burrows Co.....Toronto.	Matches E. B. Eddy Co.....Hull, Que. The Hudson's Bay Company.....	Tobacco and Cigars The Hudson's Bay Company.....
Buckets Rice Lewis & Son.....Toronto.	Milepost Numbers Acton Burrows Co.....Toronto.	Toilet Paper Rice Lewis & Son.....Toronto. The Hudson's Bay Company.....
Bunting Rice Lewis & Son.....Toronto. The Hudson's Bay Company.....	Mohair The Hudson's Bay Company.....	Tools Rice Lewis & Son.....Toronto.
Carpets The Hudson's Bay Company.....	Numbers Acton Burrows Co.....Toronto.	Track Jacks Duff Manufacturing Co.....Allegheny, Pa. A. O. Norton.....Coaticook, Que.
Cars Rhodes, Curry & Co.....Amherst, N.S.	Oakum Rice Lewis & Son.....Toronto. The Hudson's Bay Company.....	Track Tools Rice Lewis & Son.....Toronto.
Car Wheels Rhodes, Curry & Co.....Amherst, N.S.	Oils Eureka Min. Wool & Asbestos Co....Toronto. Galena Oil Co.....Franklin, Pa.	Trucks Rice Lewis & Son.....Toronto.
Castings Rhodes, Curry & Co.....Amherst, N.S.	Office Signs Acton Burrows Co.....Toronto.	Typewriters Creelman Bros. Typewriter Co.....Toronto.
Chains Rice Lewis & Son.....Toronto.	Packing Eureka Min. Wool & Asbestos Co....Toronto.	Uniforms John Martin, Sons & Co.....Montreal.
Cross Arms, Top Pins & Side Blocks The Firstbrook Box Co.....Toronto.	Pipe Rice Lewis & Son.....Toronto.	Uniform Caps W. H. Coddington.....Hamilton, Ont. John Martin, Sons & Co.....Montreal.
Curtains The Hudson's Bay Company.....	Pipe Covering Eureka Min. Wool & Asbestos Co....Toronto. Mica Boiler Covering Co.....Toronto.	Valves Rice Lewis & Son.....Toronto.
Cuts Acton Burrows Co.....Toronto.	Plushes The Hudson's Bay Company.....	Varnishes McCaskill, Dougall & Co.....Montreal.
Door Signs Acton Burrows Co.....Toronto.	Porter E. L. Drewry.....Winnipeg.	Vessels Polson Iron Works.....Toronto.
Dry Goods The Hudson's Bay Company.....	Portland Cement Rice Lewis & Son.....Toronto.	Waste Eureka Min. Wool & Asbestos Co....Toronto. Rice Lewis & Son.....Toronto. Noah L. Piper & Sons.....Toronto.
Electric Car Route Signs Acton Burrows Co.....Toronto.	Printing The Hunter, Rose Co.....Toronto. Mail Job Printing Co.....Toronto.	Water Meters Westinghouse Mfg. Co.....Hamilton, Ont.
Electric Car Trucks Baldwin Locomotive Works.....Philadelphia	Pumps Ontario Wind Engine & Pump Co....Toronto. Rice Lewis & Son.....Toronto.	Water Supply Material Ontario Wind Engine & Pump Co....Toronto.
Enameled Iron Signs Acton Burrows Co.....Toronto. Rice Lewis & Son.....Toronto.	Rails Rice Lewis & Son.....Toronto.	Wheelbarrows Rice Lewis & Son.....Toronto.
Engines, Stationary & Marine Polson Iron Works.....Toronto.	Rivets Rice Lewis & Son.....Toronto.	Windmills Ontario Wind Engine & Pump Co....Toronto.
Engraving Acton Burrows Co.....Toronto. Toronto Engraving Co.....Toronto.	Rope Rice Lewis & Son.....Toronto. The Hudson's Bay Company.....	Window Blinds The Hudson's Bay Company.....
Express Office Signs Acton Burrows Co.....Toronto.	Semaphore Arms Acton Burrows Co.....Toronto.	Wines and Liquors The Hudson's Bay Company.....
Ferry Signs Acton Burrows Co.....Toronto.	Shaffing Rice Lewis & Son.....Toronto.	Wire & Wire Rope Rice Lewis & Son.....Toronto.
Flags Rice Lewis & Son.....Toronto. The Hudson's Bay Company.....		Yachts Polson Iron Works.....Toronto.

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RAILWAY FINANCE. MEETINGS, &c.

Boston & Maine.—A combination on the part of the B. & M. & C.P.R. would not be the most unlikely & unnatural thing in the U.S.—Leonard's Railway News.

In a recent interview Senator Chandler, of New Hampshire, said he felt convinced that the B. & M. system would be acquired either by the New York Central, or by the C.P.R. Among other things he said: "The C.P.R. has greater need of those lines than the N.Y.C. will have after it obtains access to Boston through Albany. The C.P.R. must have access to more important seaports than those of Canada. It must have access to the ocean through New England, and it not only needs that access at Portland, but also at Boston. The C.P.R. managers have of late largely dominated the B. & M., & doubtless will soon make a move towards the possession of the latter's lines. The C.P.R. will not, indeed, dare much longer hereafter run the risk of seeing the B. & M. go into the hands of the N.Y.C. We may therefore expect to see for a little while a lively competition between the C.P.R. & the N.Y.C. for the acquisition of the B. & M., & shortly the surrender of the latter to the ownership & control of one of the great combinations. It is impossible now to tell exactly which, but the C.P.R. has the most at stake, and will make the highest bid, therefore quite likely will be the winner."

C.P.R. officials say there is nothing in the rumors above mentioned.

L. Tuttle, formerly Passenger Traffic Manager of the C.P.R., is now President of the B. & M., & T. A. Mackinnon, formerly Manager of transportation on the C.P.R., is Vice-President & General Manager.

Calgary & Edmonton.—Net earnings for June, \$12,424.66, against \$5,434.20 in June, 1898.

Canadian Northern Ry. Notice is given that a mortgage deed, dated Feb. 1, 1899, made by the Co. to the Hon. T. Greenway & Hon. R. Watson, trustees & mortgagees, securing a bond issue named by the Co., has been deposited in the office of the Secretary of State. In a speech at Morden recently, Premier Greenway stated that the Government had not been called on to pay a cent under its guarantee of this Co.'s bonds. On Aug. 1 the Co. paid over between \$38,000 & \$39,000 as interest thereon.

C.P.R. Land Grants.—R. B. Angus, G. M. Clark, & J. Turnbull, trustees under the mortgage dated Sept. 1, 1881, securing the payment of 5% land grant bonds, desire to receive proposals for the sale to them of such bonds up to the amount of \$225,000 par value, funds for that purpose being in their hands from sales of lands. The mortgage provides that the trustees may purchase bonds at the

lowest price offered, not exceeding 10% premium on the par value & accrued interest.

Chicago & G.T.—At a special meeting of directors at the G.T.R. general offices Montreal, Aug. 1, there were present, C. M. Hays, President; C. Percy, Secretary; Messrs. Dixon & Howe, of Chicago; Skinner, of Valparaiso, Ind.; Middaugh & Spicer, of Detroit, & Reeve, of Montreal, directors.

Dominion Atlantic.—Earnings for 6 months to June 30, \$255,766, against \$234,972 for corresponding period.

A G.T.R. Suit.—Matthews Bros. & Co., Toronto, are suing for \$8,000 damages for the

the gross receipts for the year ended June 30, 1899, were \$3,738,331, & the working expenses \$3,675,686, including \$211,000 rental for the Drummond County line. This leaves a surplus of \$62,645.

Kaslo & Lardo-Duncan.—The annual meeting will be held at Kaslo, B.C., Sept. 5.

Manitoba & Southeastern Ry. Notice is given that a mortgage deed dated Feb. 1, 1899, made by the Co. to Hon. T. Greenway & Hon. R. Watson, trustees & mortgagees, securing a bond issue named by the Co., has been deposited in the office of the Secretary of State.

Montana Railways Assessment.

The Montana State Board of Equalization has raised the railway assessment nearly \$3,000,000, fixing it at \$16,651,821, as compared with \$13,793,581 for last year. This assessment includes only tracks, roadway & rolling stock, while the assessment upon yards, depots & other realty & improvements will bring the total taxable valuation of the several roads up to \$26,000,000. The most notable increase was on the line of the Great Northern, which was assessed at \$6,250 a mile, or \$1,550 more than last year. The Northern Pacific's assessment was raised from \$5,200 to \$6,500, an increase of \$1,300 a mile. The Burlington's assessment was raised from \$3,500 to \$5,000, & the Oregon Short Line was increased from \$6,000 to \$7,000. For the first time in its history the board assessed the Pullman Palace Car Co. Each car of the Co. in the State, except those on the Northern Pacific, was assessed at \$4,000. As the N. P. Co. claims to own one-half interest in its sleepers, the Pullman Co. was assessed \$2,000 for each car operated by that line in Montana.

New Brunswick Ry.—At the annual meeting at the C.P.R. offices, St. John, N.B., Aug. 3, the following were elected:—President, R. Meighen, Montreal; Vice-President, J. K. Todd, New York; other directors, Lord Strathcona, J. Turnbull, J. Hardisty, Montreal; J. S. Kennedy, S. Thorne, D. W. James, New York; E. R. Burpee, J. McMillan & H. H. McLean, St. John; Sec.-Treas., A. Seely, St. John; Land Agent, W. T. Whitehead, Fredericton.

Pembroke Southern. At the annual meeting Aug. 8, the following were elected:—President, T. Murray; Vice President, R. W. Kenning; Sec.-Treas., J. A. Thibodo; other directors, S. R. Poulin, I. Martin, R. W. Gordon, F. E. Fortin, W. Russell.

Port Arthur, Duluth & Western.—The official referee at Osgoode Hall, Toronto, has accepted the tender of E. Jarvis, of Toronto, in the neighborhood of \$500,000 for this line. The referee refused to give any information regarding the other tenders, as did Mr. Jarvis regarding who his clients were, but we have no doubt he was writing for the Ontario &



D. B. HANNA,
Superintendent Canadian Northern Ry. & Manitoba & Southeastern Ry.

destruction of their lumber mill & picture frame factory, which they claim was set on fire by a spark from an engine.

The Great Northern Ry. Co. (U. S. A.), has declared its now usual quarterly dividend at the rate of 7% per annum, payable Aug. 1.

The gross earnings for the year ended June 30 were \$24,997,013, an increase of \$2,434,812 over corresponding period.

The usual quarterly dividend, at the rate of 6% per annum, is announced on the St. Paul, Minneapolis & Manitoba, 6% guaranteed shares, payable Aug. 1.

Intercolonial. The Minister of Railways recently stated in the House of Commons that

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TORONTO, CANADA, AUGUST, 1899.

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PRESIDENT, J. W. Loud, Montreal; 1st VICE-PRES.,
W. B. Bulling, Jr., Montreal; 2nd VICE-PRES., W.
Macmillan, Buffalo, N.Y.; SEC. TREAS., J. Earls, Tor-
onto.

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W. Macmillan, G. A. Browne, W. B. Bulling, Jr., F. J.
Watson, J. Hardwell, W. P. Hinton, W. Woollatt; J.
Earls, Chairman.

INSPECTION COMMITTEE.—J. E. Dalrymple, G. Collins,
G. Cassidy, F. Conway, J. N. Sutherland, F. F. Backus,
J. Hardwell, C. A. Jaques; J. Earls, Chairman.

CAR SERVICE COMMITTEE.—J. B. Morford, J. H.
Walsh, M. C. Sturtevant, G. S. Cantlie, W. P. Hinton,
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Manager.

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Toronto.

Canadian Roadmasters' Association.

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PRESIDENT, J. Leslie, Ottawa, Ont.; SECRETARY-TREAS-
URER, J. Drinkwater, Winchester, Ont.

EXECUTIVE COMMITTEE.—The above & J. Shanks,
Montreal; W. Wallace, Ottawa; M. Keefe, Ottawa; J.
R. Brennan, Ottawa.

OFFICIAL ORGAN.—THE RAILWAY & SHIPPING WORLD,
Toronto.

NEXT ANNUAL MEETING at Toronto, Sep. 20, 1899.

Canadian Ticket Agents' Association.

PRESIDENT, W. E. Rispin, Chatham, Ont.; 1st VICE-
PRESIDENT, S. O. Perry, St. Thomas, Ont.; 2nd VICE-
PRESIDENT, G. Duncan, Quebec; 3rd VICE-PRESIDENT,
W. H. C. McKay, St. John, N.B.; SEC. TREAS., E. de la
Hooke, London, Ont.; AUDITOR, S. H. Palmer, St.
Thomas, Ont.

EXECUTIVE COMMITTEE, J. A. Macdonald, Arnprior,
Ont.; W. H. Harper, Chatham, Ont.; C. E. Morgan,
Hamilton, Ont.; T. Long, Port Hope, Ont.; A. Calder,
Winnipeg.

NEXT ANNUAL MEETING at Winnipeg, Oct. 10, 1899.

Canadian Marine Engineers' Association.

HONORARY PRESIDENT, O. P. St. John, Toronto;
PRES., H. Parker, Toronto; 1st VICE-PRES., A. J. Wood-
ward, Toronto; 2nd VICE-PRES., D. F. Campbell, Tor-
onto.

COUNCIL, T. W. Good, W. Harwood, R. Binch, Tor-
onto; P. J. Carr, Port Dalhousie; J. E. Kane, King-
ston.

TREASURER, H. Brownley, Toronto; SECRETARY, S.
A. Mills, Toronto; GUARD, H. Bowler, Toronto; AUDI-
TORS, D. L. Foley, Toronto; E. J. O'Dell, Owen Sound.

Rainy River Ry. Co. The sale was merely a
legal formality to perfect title.

P. E. I. Ry. Losses.—The Jacques Cartier
Bank, which recently suspended payment
temporarily, lost heavily, in the seventies, in
the Prince Edward Island Ry. enterprise, &
had to suspend payment in consequence.

Qu'Appelle, Long Lake & Saskatchewan.
—With reference to this Co.'s 1st mortgage
sterling bonds, it is announced that the Gov-
ernment subsidy for the 6 months ended June
30, together with the net earnings for the 6
months ended May 31, will permit of a distri-
bution of £1 % in respect of interest due Aug.
1, which is the same as last year.

Net loss in operating for June \$952.97,
against net loss of \$6,689.33 for June, 1898.

Quebec & Lake St. John.—The Railway
Share Trust & Agency Co., of London, Eng.,
states that as soon as the legal formalities
have been complied with, probably some time
during August, a meeting of the bondholders
will be held in connection with the Co.'s de-
fault in interest on its bonds.

Rutland & Noyan.—The 1st annual meet-
ing will be held at Noyan Jct., Que., Sep. 6.

St. Lawrence & Adirondack.—The annual
meeting will be held in Montreal, Sep. 6.

Tilsonburg, Lake Erie & Pacific.—The an-
nual meeting will be held at Tilsonburg Sep. 12.

Grand Trunk.—On Aug. 11 the Directors
declared a dividend for the ½ year on the 1st
preference stock, at the rate of 2% per annum,
increasing it from 1½%, & carrying forward
£2,000. The increase caused quite an ad-
vance in the stock, & cables reported a good
deal of excitement in London. On the day of
the declaration the 1st preference opened at
83¼, advanced to 83¾, then to 84 3-16, &
wound up at 84½ at the close. The 2nd pre-
ferred opened at 54¾, & advanced to 56¼,
& the 3rd preferred shares went from 22¾ to
23¼.

C.P.R. Earnings & Expenses.

Gross earnings, working expenses, net
profit and increases or decreases over 1898,
from Jan. 1, 1899.

	Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan.	\$1,864,570.36	\$1,247,036.50	\$617,533.86	\$101,906.27+
Feb.	1,753,382.82	1,153,681.34	599,701.48	176,034.12+
Mar.	2,109,667.58	1,280,772.01	828,895.57	75,662.06+
Apr.	2,196,312.40	1,276,008.91	920,303.49	203,212.80+
May	2,402,151.29	1,369,392.68	1,032,758.61	106,006.30+
June	2,362,278.67	1,339,218.47	1,023,060.20	205,664.83+

\$12,688,363.12 \$7,666,109.91 \$5,022,253.21 \$868,576.38+
+ Increase.

Approximate earnings for July, \$2,367,000,
as against \$2,024,000 in July, 1898; increase,
\$343,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—
Approximate earnings for July, \$238,438; in-
crease over July, 1898, \$64,513.

Net earnings for May, \$744,113, against
\$60,513 for corresponding period, making for
5 months to May 31, \$282,903, against \$185-
847 for corresponding period.

MINERAL RANGE, HANCOCK & CALUMET.—
Approximate earnings for July, \$48,503;
increase over July, 1898, \$13,447.

**MINNEAPOLIS, ST. PAUL & SAULT STE.
MARIE.**—Approximate earnings for July,
\$387,324; increase over July, 1898, \$96,581.

Net earnings, for 10 months, to April 30,
\$2,232,088, against \$2,218,427, for correspond-
ing period.

Canadian Pacific Railway Land Sales.

	Acres.		Amount.	
	1899	1898	1899	1898
Jan.	14,718	22,044	\$46,411.35	\$72,924.83
Feb.	13,747	20,650	43,371.00	66,399.00
Mar.	24,045	33,421	74,430.00	109,010.00
April	36,626	43,145	116,835.00	140,276.00
May	39,573	43,148	125,862.00	137,835.00
June	54,225	49,203	169,234	160,200
July	47,402	39,512	149,546	123,010
	230,336	251,123	\$715,689.35	\$809,654.83

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings sup-
plied from the Montreal office, includes the
G.T. of Canada, the Chicago & G.T., & the
Detroit, Grand Haven & Milwaukee Rys.:

	1899	1898	Decrease	Increase
Jan.	\$1,956,281	\$1,916,332	.....	\$ 39,949
Feb.	1,824,434	1,674,453	.....	149,981
Mar.	2,186,359	2,048,970	.....	137,389
April	1,942,543	1,918,477	.....	24,066
May	2,039,239	1,940,980	.....	98,259
June	2,062,137	1,880,402	.....	181,735
July	2,105,493	1,860,884	.....	244,519
	\$14,116,396	\$13,240,498	.....	\$875,898

The following figures are issued from the
London, Eng., office:

GRAND TRUNK RAILWAY.

Revenue statement for May, 1899:

	1899	1898	Increase	Decrease
Gross receipts	£344,300	£322,932	£21,368	.....
Working expenses	208,600	197,744	10,856	.....
Net profit	£135,700	£125,188	£10,512	.....

Aggregate for 5 months, from Jan. 1 to
May 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts	£1,633,200	£1,560,938	£72,262	.....
Working expenses	1,102,500	1,075,699	26,801	.....
Net profit	£530,700	£485,239	£45,461	.....

CHICAGO & GRAND TRUNK RAILWAY.

Revenue statement for May, 1899:

	1899	1898	Increase	Decrease
Gross receipts	£59,300	£61,679	.....	£2,379
Working expenses	50,500	46,669	£3,831	.....
Net profit	£8,800	£15,010	.....	£6,210

Aggregate for 5 months, from Jan. 1 to
May 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts	£339,000	£317,010	£21,990	.....
Working expenses	285,300	251,764	33,536	.....
Net profit	£53,700	£65,246	.....	£11,546

DETROIT, GRAND HAVEN & MILWAUKEE RY.

Revenue statement for May, 1899.

	1899	1898	Increase	Decrease
Gross receipts	£15,400	£14,219	£1,181	.....
Working expenses	14,000	10,753	£3,247	.....
Net profit	£1,400	£3,466	.....	£2,066

Aggregate for 5 months, from Jan. 1 to
May 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts	£71,800	£73,653	.....	£1,853
Working expenses	63,500	59,643	£3,857	.....
Net profit	£8,300	£14,010	.....	£5,710

DETAILS OF G.T.R. RECEIPTS JAN. 1 TO JUNE 30.

	1899.	1898.
Passengers, number	2,857,987	3,007,710
" amount	£ 488,782	£ 439,421
Immigrants, number	5,310	7,659
" amount	£ 3,414	£ 3,505
Mails, express, &c.	94,007	91,909
Freight, tons	4,841,475	4,509,053
" amount	£1,329,052	£1,280,338
Miscellaneous receipts	65,544	49,172
Total receipts	£1,980,799	£1,870,605
Increase	£110,194	.....

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, Jan. 1 to June 30.

	1899.	1898.	In-crease.	De-crease.
Grand Trunk	£1,980,799	£1,870,605	£110,194	.....
Chicago & G.T.	397,436	380,786	16,650	.....
D. & G. H. & M.	86,776	86,886	.....	£2,890
Total	£2,468,011	£2,338,277	£129,734	.....

Railroad construction in the Lardeau-Dun-
can country, the Boundary district & the
Crow's Nest Pass is stimulating the general
prosperity prevailing throughout the Kootenay
districts. The opening up of the Crow's
Nest coal fields, & the establishment of coke
manufacture are other factors in the progress
of that section. All this activity in mining &
railroad undertakings is giving an enormous
impetus to trade generally, & is creating an
ever growing demand for the products of
British Columbia farmers.—Inland Sentinel.

RAILWAY APPOINTMENTS, Etc.

Canadian Pacific.—S. P. Howard, who has been with the Co. 16½ years & has heretofore been City Freight Agent at Montreal, has been appointed Assistant General Freight Agent, with office in Board of Trade Building, Montreal. For the present he will also discharge the duties of City Freight Agent.

W. Shanks, Roadmaster at Carleton Jct., having resigned, has been succeeded on division 4, between Brockville & Chalk River, Ont., by J. Jelly, heretofore Roadmaster of the Sault branch at Algoma. Mr. Jelly has been succeeded on the Sault branch by W. Kelly, who has been Roadmaster from Cartier to North Bay for a number of years. W. S. Smith, Section Foreman at Nairn Centre, has been appointed Roadmaster from Cartier to North Bay, succeeding Mr. Kelly.

Central Vermont.—W. T. Sutphen has been appointed Chief Dispatcher, Northern Division.

J. M. Morrison has been appointed Resident Engineer. Office at St. Albans, Vt.

Duluth, South Shore & Atlantic.—C. E. Lyttle, heretofore Superintendent, has been appointed General Superintendent, & has also been given a similar position on the Mineral Range, Hancock & Calumet line.

Grand Trunk.—J. E. Dalrymple, heretofore Division Freight Agent at Hamilton, has been appointed Division Freight Agent, with headquarters at Detroit, Mich., vice Sumner Hopkins, Commercial Agent, Detroit, resigned, & has been given charge of traffic as follows: Eastbound—From Detroit & Port Huron, from connecting roads at Detroit & Port Huron, or from points south of Toledo forwarded via Durand. Westbound—From points East of Niagara frontier destined to points west of Detroit & St. Clair Rivers. J. H. Hanna, heretofore Division Freight Agent at Stratford, has been appointed Division Freight Agent at Hamilton. C. E. Dewey has been appointed Division Freight Agent at Stratford. Mr. Dewey has recently been Chief Clerk to Mr. Dalrymple at Hamilton.

A joint circular signed by General Traffic Manager Reeve, of the G.T.R., & General Traffic Manager Todd, of the West Shore R. R., announces that J. E. Dalrymple has been appointed Manager of the Grand Trunk Dispatch, vice Sumner Hopkins, resigned.

First Assistant General Passenger & Ticket Agent Bell, at Chicago, has appointed E. H. Hughes, heretofore Assistant General Passenger Agent there, as Western Passenger Agent, with headquarters there.

H. G. Elliott, heretofore in charge of the excursion department, has been appointed Chief Clerk of the General Passenger Department, succeeding G. W. Vaux, appointed Assistant General Passenger & Ticket Agent. Mr. Elliott was for many years City Ticket Agent of the Central Vermont in Montreal. G. A. Morency succeeds Mr. Elliott.

G. A. Mitchell, heretofore Master of Bridges & Buildings on the Northern Division, has been appointed to a similar position on the Middle Division, with headquarters at Toronto, vice J. Wilson, who has been Acting Master of Bridges & Buildings since J. A. Sheedy's resignation & who has been assigned to other duties. Mr. Mitchell is succeeded at Allandale by E. Brown as Acting Master of Bridges & Buildings. Mr. Brown has been Bridge Inspector at Lindsay.

Lake Erie & Detroit River.—T. Marshall has been appointed Assistant General Freight & Passenger Agent, & K. R. Cameron, Trainmaster; both with offices at Walkerville.

H. W. Foster, M.P., of London, Eng., Chairman of the Kootenay Valley Ry. & Navigation Co., is visiting British Columbia.

Mainly About People.

Mrs. McNicoll, wife of the Assistant General Manager of the C.P.R., has gone to Europe.

J. J. Wallace, General Freight Agent I.C. R., Moncton, N.B., has been confined to his house by illness.

Mrs. C. R. Hosmer, wife of the Manager of the C.P.R. Co.'s Telegraph, is staying at the Algonquin, St. Andrews, N.B.

D. D. Mann is accompanied on his trip to China by E. F. Fauquier, the railway contractor, & by A. M. Burns, who goes as Secretary.

Mrs. Osborne & her four children, who still reside in Montreal, are paying a month's visit to General Superintendent Osborne, of the C. P.R., at Winnipeg.

President Shaughnessy returned to Montreal July 25 from the west, after attending a meeting of the Western Traffic Association & visiting his father at Milwaukee.

E. W. Kelk, agent of the Hamilton & Dundas Ry., is said to have received an appointment on the Newfoundland Ry., to take charge of the express & telegraph business.

E. M. Taussig, Freight Superintendent of the Terminus R.R. Association at St. Louis, Mo., was married recently at Kingston, Ont., to Miss Maggie Turnbull, of that city.

Capt. A. N. McGray, former commander of the Dominion Atlantic Ry. steamer Prince Edward & Prince George, is now first officer on John Drexel's steam yacht Sultana.

General Passenger Agent McPherson & General Freight Agent MacInnes have been making their first trip over the Western & Pacific divisions, to which they were recently appointed.

J. A. Cameron, Superintendent of the C.P. R. at Fort William, Ont., has gone to California on account of ill health, accompanied by his family. W. A. Brown is acting Superintendent in his absence.

Major Percy Girouard, formerly of the C.P.R. Engineering Service, & now Director General of the Egyptian Government Railways, arrived in Montreal July 29, on a visit to his father, Judge Girouard.

On leaving Kamloops, B. C., recently, where he had been station agent, to become C.P.R. Car Service & Fuel Agent at Vancouver, W. O. Miller was tendered a steamboat excursion on the Thompson River, & was given a farewell dinner by the Masonic Lodge.

Manager Whyte, of the C.P.R. Western Lines, has recently gone over all the Co.'s lines in British Columbia accompanied by Land Commissioner Hamilton, General Superintendent Marpole, of the Pacific Division, & Commissioner Chipman, of the Hudson's Bay Co.

On Aug. 1 President Shaughnessy started from Montreal for an inspection of the C.P.R. lines to St. John & other points. He was accompanied by D. McNicoll, Assistant General Manager; G. M. Bosworth, General Freight Agent; R. Kerr, Passenger Traffic Manager, & T. Tait, Manager of Eastern lines.

When Assistant General Manager McNicoll, of the C.P.R., returned recently from an inspection trip over the Atlantic division, he found at his residence at Westmount a handsome grandfather's clock with chimes, as a present from the officials of the Passenger Department, from which he was recently promoted.

E. G. Russell, formerly of the I.C.R. train despatcher's office, Truro, N.S., and later Superintendent of the Rome, Watertown & Ogdensburg Ry. until last April, when he went into the service of the Delaware, Lackawana & Western Ry., as Superintendent of

the Morris & Essex division, has been appointed General Superintendent of the D.L. & W., with headquarters at Scranton, Pa.

M. C. Laven, who died in San Francisco Aug. 6, aged 53, was once Superintendent of the Dominion Telegraph Co. for Western Ontario, but for a number of years past has been Auditor of the Pacific Postal Telegraph Co. He was a brother of J. G. Laven, of Hamilton, who until recently was Canadian Passenger Agent of the Michigan Central Ry. Deceased, who was one of the best known citizens of Hamilton in the 70's, left there in 1878 & went to Chicago as Manager of the Western Union Telegraph Co., subsequently going to San Francisco in its interest. There he left the Western Union to become Superintendent of the Postal Telegraph Co., which post he filled for a number of years until appointed Auditor. Appendicitis was the cause of death.

Before leaving Montreal recently to assume his duties as First Assistant General Passenger & Ticket Agent of the G.T.R. system, G. T. Bell was presented by the staff with a handsome tea service. Mr. Bell was born in Montreal in 1861, & commenced his railway career at London, Ont., in 1878, with the Great Western Ry. He was subsequently with that Co. at Hamilton until its fusion with the G.T.R. in 1882, when he removed to Toronto as chief clerk to the Assistant General Passenger Agent, & in 1884 was transferred to Montreal, becoming shortly thereafter chief clerk to the former General Passenger Agent, W. Edgar. Upon the latter's death, in 1892, he was made Assistant General Passenger Agent. In 1896, under the present management, he was advanced to the position of Assistant General Passenger & Ticket Agent.

D. Blythe Hanna, whose portrait appears on pg. 225, was born Dec. 20, 1858, at Thornliebank, Scotland, & his railway service is as follows: 1874 to 1879, Clerk & ticket agent with the Glasgow, Barrhead & Kilmarnock Ry. of Scotland, at Kinnishead, Pollokshaws & Barrhead stations; 1879 to 1882, Cashier Stobcross station, Glasgow, Caledonian Ry. of Scotland; 1882 to 1884, Clerk in Auditors' office & Travelling Auditor G.T.R., Montreal; 1884 to 1886, Clerk General Auditor's office, New York, West Shore & Buffalo Ry., at New York, N.Y.; 1886 to 1892, Chief Accountant Manitoba & North Western Ry. Co., at Winnipeg; 1892 to 1896, Treasurer & Land Commissioner, in addition to the duties of Chief Accountant with the same Co.; 1896 to date, Superintendent of the Canadian Northern Ry. (previously called the Lake Manitoba Ry. & Canal Co.), & the Manitoba & South Eastern Ry.

Canadian Railway Appeal Cases.

Two Canadian cases came before the Judicial Committee of the Privy Council in London, Eng., July 22.

MADDEN & ANOTHER & THE ATTORNEY-GENERAL for British Columbia (intervenant) v. The Nelson & Fort Sheppard Ry. Co. & the Attorney-General for Canada (intervenant). This was an appeal from a judgment of the Supreme Court of British Columbia of Aug. 18, 1897, reversing a decision of Judge Forin in the County Court for Kootenay. The action was brought to recover \$110, the value of 2 horses belonging to the appellants, R. & A. Madden, livery-stable keepers at Nelson, which having strayed on to the respondent company's railway, were injured by a passing train. The company were liable only if they were under an obligation to fence their railway under the Cattle Protection Act of B.C. It was admitted that the railway was not fenced in accordance with the provisions of that statute. The question raised on the appeal was whether the Cattle Protection Act, 1891, was intra vires the Provincial Legislature to

The Nelson & Fort Sheppard Ry. Co. was incorporated by an Act of the Legislature of B.C., but by petition prayed that the railway be declared to be a work for the general advantage of Canada, & the Co. a body corporate within the jurisdiction of the Parliament of Canada. Accordingly the railway was so declared by statute, & it was provided that the Railway Act of Canada should apply instead of the B.C. Railway Act. In 1891 the Legislature of B.C. passed the Cattle Protection Act, which, after reciting that railway companies incorporated under the authority of the Parliament of Canada or approved so for the general advantage of Canada, did not recognize any obligation to fence their lines against cattle, & that it was just that, in the absence of proper fences, the companies should be held responsible for cattle injured or killed, proceeded to make enactments with that view. In the present case the County Court Judge decided that the Cattle Protection Act applied, & that the Co. were liable to appellants for the loss of their horses. The Supreme Court, on appeal, reversed that decision, holding that Provincial legislation, so far as it purported to extend the liability of the Co. beyond that imposed upon them by the Canadian Railway Act, was ultra vires. From that judgment the present appeal was instituted, & the Attorney-General for British Columbia & the Attorney-General for Canada were permitted to intervene in the interests of the Province & the Dominion respectively.

The Lord Chancellor, in delivering the judgment of the Board, said their Lordships were of opinion that the judgment of the Supreme Court ought to be affirmed. The course of the argument had been rather to suggest that there was no express direction of the statute to create any erection or construction of the works of the railway & thus to avoid

the objection of its being ultra vires. But their Lordships were not disposed to yield to that suggestion, even if it were true to say that that was only an indirect mode of causing the construction to be made, because it was a very familiar principle that one could not do indirectly what one was prohibited from doing directly. It was an understatement of the difficulties in the way of the appellants to speak of it as an indirect operation of the statute to enact that the companies should erect fences & provide against the particular class of accident which had happened in the present case, because the Provincial Legislature which passed the enactment seemed to have been under the impression that they were proceeding directly, & the preamble of the statute pointed out what they were intending to do. The Provincial Legislature pointed out by that preamble that the Dominion Parliament had neglected proper precautions, & that they were going to supplement the provisions which in their view ought to have been made, & they thereupon proceeded to do that which they recited & which the Dominion Parliament had omitted to do. It would be impossible, in their Lordships' opinion, to maintain the authority of the Dominion Parliament if such a proceeding were allowed. The law seemed to have been laid down with sufficient precision in the Bon Secours case, where it was decided that, although any direction of the Provincial Parliament to create new works on the railway & make a new drain, & to alter its construction, would be beyond the jurisdiction of the Provincial Parliament, they were not exempted from the municipal law, as it then existed, that all landowners, including railway companies, should clean out their ditches so as to prevent a nuisance. In the present case there was the actual provision that there should be a liability on the railway company unless they created such & such

works upon their line. That was manifestly & clearly beyond the jurisdiction of the Provincial Legislature. For those reasons their Lordships would advise her Majesty that the appeal should be dismissed.

It was intimated by counsel that as the railway company had not entered an appearance, & the case had been argued as between the Province & the Dominion—the respective Attorney-Generals intervening—no costs would be asked for.

ESQUIMALT & NANAIMO RY. CO. v. HOBBS. This was a petition by the Esquimalt & Nanaimo Ry. Co. for special leave to appeal from a judgment of the Supreme Court of Canada of May 30, 1899, to decide whether, as petitioner contends, the mines & minerals under the land should be reserved to it. Their Lordships granted the petition, intimating that the petitioner must pay the costs if it was so decided after hearing the appeal.

Recent Dominion Legislation.

Among the acts passed at the recent session of Parliament, & assented to Aug 11, are the following:—

Respecting the Ontario & Rainy River Ry. Co.

Respecting the Temiscouata Ry. Co.

Respecting the Manitoba & South Eastern Ry. Co.

To incorporate the Niagara, St. Catharines & Toronto Ry. Co.

Respecting the Edmonton District Ry. Co., & to change its name to the Edmonton, Yukon & Pacific Ry. Co.

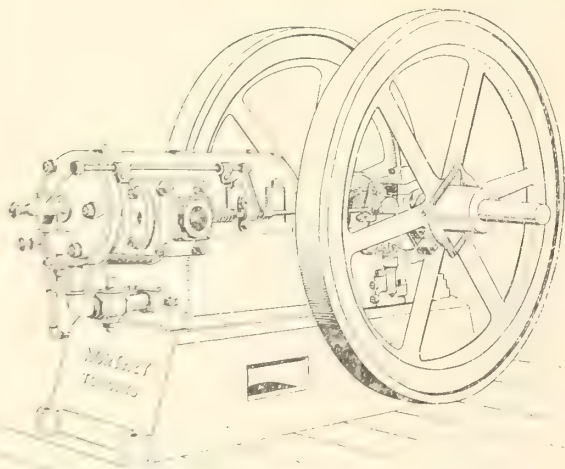
To incorporate the Algoma Central Ry. Co.

To incorporate the Belleville Prince Edward Bridge Co.

Respecting the Montreal Island Belt Line

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In Connection with Pumping Machinery for Tank Duty.



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Ry. Co., & to change its name to the Montreal Terminal Ry. Co.

Respecting the Buffalo & Fort Erie Bridge Co.

To incorporate the Zenith Mining & Ry. Co. To amalgamate the Ottawa, Arnprior & Parry Sound Ry. Co. & Canada Atlantic Ry. Co. under the name of the Canada Atlantic Ry. Co.

Respecting the Great Northern Ry. Co., & to change its name to the Great Northern Ry. of Canada.

To incorporate the Yale-Kootenay Telegraph Co.

To provide for the establishment of direct submarine telegraphic communication between Canada & Australasia.

To encourage the construction of Dry Docks.

To amend the Act respecting the Sale of Railway Passenger Tickets.

To authorize the acquisition by the Dominion of the Drummond County Ry.

To confirm an agreement entered into by Her Majesty with the G.T.R. Co. for the purpose of securing the extension of the Intercolonial Ry. system to Montreal.

Further to amend the Act respecting the Protection of Navigable Waters.

To amend the Act passed at the present Session of Parliament intitled: "An Act respecting the jurisdiction of the Exchequer Court as to Railway Debts."

To authorize the construction of a branch railway from Charlottetown to Murray Harbor, as a public work.

Further to amend the Railway Act.

Respecting the safety of Ships.

Respecting the Quebec Harbor Commissioners.

Respecting the Harbor Commissioners of Montreal.

To authorize the granting of subsidies in aid of the construction of the lines of railway therein mentioned.

A list of acts assented to earlier in the session was given in our June issue, pg. 177.

American Railway Earnings.

The Financial Chronicle's reports of gross earnings for the first half of 1899 makes a very favorable exhibit, compared as they are with a half year of great prosperity. The largest share of the gain in railroad revenues of the half year has been due to the increased manufacturing output & general business activity. This was already marked even before 1898, but in that year, as in the two previous years, the large crops & their free movement to meet the excellent foreign demand for them, continued to be the determining factor in larger railroad revenues. In the first months of this year the movement of grain was more restricted than in 1898; although the totals have held up pretty well to the figures of previous years.

In June, however, there was a material expansion in this traffic, which accounts for the fact that the gain in gross revenues in that month, \$5,988,000, or over 14% for the roads whose returns were at hand when the figures were compiled, is about twice as large as for any other month this year. The better comparison made by the grain deliveries of June, however, is partly due to the fact that a year ago the movement of cereals was severely contracted as a result of the collapse of the Leiter speculation. That attempt to corner wheat had caused an unprecedented rush of grain to market. With the 1898 grain shipments so largely swelled on this account it is in the nature of things that a large decrease is shown in comparing this year's totals with those of last year. The receipts of grain at the seaboard in the 6 months of 1899 are reported as 184,584,000 bus., against 298,010,000 in the same period last year.

The deliveries of wheat, corn & small grains at the chief western markets reverse these comparisons, for a small gain is shown instead of a loss. The receipts are given as 298,010,000 bus. this year against 283,152,000 in the 6 months to June 3, 1898. The improvement has been due, however, to the free movement of spring wheat; other grains show a loss, corn receipts falling off nearly 7,500,000 bus. for instance, & all the markets outside of the spring wheat district reporting smaller deliveries of grains.

With the activity in industrial affairs contributing so heavily to railroad revenues, it is to be expected that the gains will be shared in pretty generally by roads in different parts of the country. This in fact is shown; no particular group makes a decidedly favorable showing as compared with any other, though the granger lines & the Southern roads, which have been benefited by the activity in the iron industry along their lines, make perhaps the largest gains. It is significant that practically every company reporting its gross earnings for the 6 months reports a higher total than in any of the previous 5 years. Since railroad revenues began to improve in 1895 the railroads whose figures are included in the reports have made an aggregate gain of fully \$120,000,000. The list of companies reporting gains for the half year in excess of \$500,000 show that railroads in every section gained by the heavier tonnage of the year. The companies which report gains of \$500,000 or over in the 6 months are the Chicago, Milwaukee & St. Paul, \$2,220,900; Southern, \$1,090,208; Canadian Pacific, \$1,082,065; Great Northern, \$937,456; Louisville & Nashville, \$895,040; Lake Shore & Michigan Southern, \$714,860; Mexican Central, \$650,499; Grand Trunk system, \$631,381; Wabash, \$606,783; N.Y. Central, \$790,887; Northern Pacific, \$555,004; Denver & Rio Grande, \$537,900. Those lines for which the June figures are not yet obtainable but which report a gain in excess of \$500,000, include the Pennsylvania, \$2,311,800; the Reading Railroad & Coal Companies, \$1,865,105; Lehigh Valley, \$1,537,756; Southern Pacific, \$926,107; Chicago & Northwestern, \$865,297; Jersey Central, \$827,055; St. Paul & Omaha, \$625,376; & Union Pacific, \$578,127.—Railroad Gazette.

A Water Diversion Case.

In the Trial Court of the High Court of Justice of Ontario, July 31, Judge MacMahon gave judgment in Ross vs. C. P. R. Co., an action tried without a jury at Rat Portage & Toronto. The plaintiffs, W. Ross & M. Brown, are owners of mill location 227 P. in the municipality of Rat Portage. They alleged that they & their predecessors in title were entitled to enjoy the free & uninterrupted flow of the waters of the Lake of the Woods into & upon the lands for all purposes, including the development & maintenance of water-power for their mill, & that the defendant, without any right or title, took possession of the lands to the south of the mill location & used them for the purposes of its railway, & constructed a bridge over the arm of the lake extending into the lands of the plaintiffs; & they claimed damages for defendant's wrongful acts. Held, that even if there was a natural watercourse across the river, & even if riparian rights existed as to the location in question prior to 1878, they were absolutely destroyed by the Dominion Government in that year, when it took possession of the ravine for the use of the railway & built the breakwater, & the rip-rap foundation for the bridge or trestle, & any damage resulting from the construction of the railway would be recoverable only by the Province against the Dominion, such damages, if any, having been caused more than three years prior to the railway being transferred by the Dominion to

defendant in 1881. Even had the plaintiffs a valid claim for damages arising out of the embankment being placed across the ravine, their action is too late, not having been brought within six months after the damages were sustained, & besides, their remedy must be by arbitration.

Freight Traffic Matters.

During June 1,665,250 lbs. of ore were shipped over the Kaslo & Slocan Ry., destined for Kaslo, B.C., Everett, Wash., & Omaha, Neb.

The Fitchburg Ry. Co.'s new elevator at Boston, with a storage capacity of 1,000,000 bus., is open & prepared to receive Canadian grain for storage.

In the middle of July the White Pass & Yukon Ry. announced a reduction in freight charges between Skagway & Bennett, of from 5c. to 3c. per 100 lbs.

The Crow's Nest Pass Coal Co. is already providing a lot of freight for the C.P.R., its shipments last month having been 10,000 tons of coal & 2,000 tons of coke.

The Canada Atlantic is carrying about 200 cars of grain a day from Depot Harbor. Up to the end of July over 5,000,000 bus. of grain had been received at Depot Harbor since spring.

The Dauphin district, tributary to the Canadian Northern Ry., has shipped 653,000 bus. of wheat of the '98 crop, a pretty good record for a district which has only been shipping for two seasons.

The British Columbia Government has approved of a freight tariff issued by the B. C. Yukon Ry. Co., for the portion of the White Pass & Yukon line, between White Pass Summit & Lake Bennett.

Freight traffic officials of the C.P.R. have been conferring with representatives of the English syndicate, which is about to erect a mammoth lumber mill at Tobique, N.B., as to the shipment of its output, which will be made either from St. Andrews or St. John, N.B.

This year's enormous harvest in Manitoba will provide a tremendous amount of freight, principally for the C.P.R., & also for the Northern Pacific. Estimates of the wheat yield range from 40,000,000 to 50,000,000 bushels, & it is said 8,000 extra laborers will be required for the harvest work.

A Chicago despatch of Aug. 10, said:—"A sensation was caused at the meeting here yesterday of executive officers of western railways by the announcement that the G.T.R., in connection with the Burlington Road & the Maine Steamship Line, has established a rate of 80c. per 100 lbs. on 1st-class freight from New York to Kansas City. This is the same as the rate from Chicago to Kansas City by the Burlington & other direct lines."

On Aug 1, eastbound freight rates from Chicago were advanced from 1½ to 5c. per 100 lbs. The latter advance is on provisions & the smaller on grain & grain products. The export & domestic provision rates are on the basis of 25c., Chicago to New York. Export corn & wheat rates went up from 9 to 11c., & export oat rates from 11½ to 14c. The domestic rate on all kinds of grain (except corn) & grain products is 17c., instead of 13c. Domestic rates on corn were put up from 11 to 13c.

Parliament has voted \$2,000 to pay expenses of witnesses before the Railway Committee of the Privy Council to give evidence regarding the alleged discriminating of Canadian railways in favor of the Standard Oil Co. Last autumn the Railway Committee cited the representatives of the C.P.R. & G.T.R. to appear & answer charges that they had been giving discriminatory rates to the Standard Oil Co. & against the smaller Canadian &

U.S. concerns. The Railway Committee will probably meet in Sept. to hear evidence in the case.

The C.P.R. has introduced a barge for live stock shipping in Montreal harbor. It is similar to the one introduced by the G.T.R. 2 or 3 years ago. Two large scows have been parked together, after the style of a catamaran, & fittings like stock fittings on a steamer, are erected for about 400 cattle, & an upper deck for sheep. The newest feature is that the Company has situated a stock-yard in the harbor just above the coal shoots in the east end, having about 300 ft. frontage, where large numbers of live-stock may be kept until wanted. Then the barge is brought into use, & the stock may be taken quickly to any steamer desired, thus avoiding the detention of cars on the docks.

Contracts which have been signed by the G.T.R., promise to give Portland, Me., a big shipping business, the schedule as it stands at present providing for a foreign steamer every

day in cold weather. The contracts include the following: Weekly boats to Liverpool, Allan & Dominion Line; to London, Thompson Line; fortnightly boats to Glasgow, Donaldson Line; to Glasgow, Allan Line; to Bristol, Elder-Dempster Line; to Hamburg, Hamburg-American Line; to Antwerp, Leland Line, & to Manchester, Manchester Line. The fortnightly boat to Antwerp & the boat to Manchester are entirely new to Portland. Other lines not mentioned here may sign contracts later.

The General Traffic Manager of the G.T.R. says:—"It is a fact that nearly every railway in the country is short of cars, & that makes it appear so extraordinary that the roads running east of Chicago should continue the unreasonably low rates that they have had in effect for the past four years. Further, it is doubtful whether the low tariffs have been strictly maintained by some of the lines. We have ceased sending empty cars west beyond the Canadian divisions for some time, as I am

glad to say that the business throughout Ontario & Quebec is keeping our rolling stock fairly well engaged."

The Board of Trade & Town Council of Meaford, Ont., have been in correspondence with the Botsford-Jenks Co., of Port Huron, Mich., with a view to erecting a 500,000 bus. grain elevator at Meaford. Having visited Meaford, the Port Huron people offered to build an elevator to handle not less than 10,000 bus. an hour & to have storage capacity for 500,000, with power & equipment sufficient for a house of 1,000,000 bus. capacity, should the business warrant an enlargement to that size, on condition that a site on the east side of the harbor, 300 ft. square, with harbor frontage, be given free; that there be no taxes levied on the house (except for schools) for 2 years; that the town guarantee to have the harbor dredged to sufficient depth & channel width & provide railway service to the elevator, & that the town pay the Co. a bonus of \$25,000 when the elevator is ready to receive & handle

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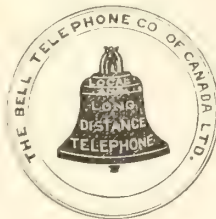
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SINGLE EXPANSION AND COMPOUND LOCOMOTIVES.

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Adapted to every variety of service, and built accurately to gauges and templates after standard designs or to railroad companies' drawings. Like parts of different engines of same class perfectly interchangeable.

*Electric Locomotives and Electric Car Trucks with
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grain. The proposition was favorably received, & a committee was appointed to negotiate with the Government for the dredging & with the G.T.R. for the railway facilities asked for.

At a recent meeting of the Eastern Association of Officers in Charge of Car Service, of which the G.T.R. & Central Vermont Ry. are members, & of which W. H. Rosevear, of the G.T.R., is Vice-President, it was announced that about all the members of that Association had agreed to report to one another the receipt as well as the delivery of cars. This is one of the subjects the Association has been hammering at for several years, & it seems that its work has not been in vain. The new plan now only waits for the members to carry it into effect. Once fairly started by any considerable number of roads it will likely demonstrate its superior usefulness, & other roads will recognize its value & join in the agreement. The small amount of labor entailed will certainly repay the effort by vastly reducing the number of errors & avoiding much unnecessary correspondence.—Equipment Register.

Electrical Lighting of Cars.

It has long been only a question of time when electricity should invade the field of pas-

senger cars.—Railroad Car Journal.

Railway Equipment Notes.

Additional machinery is being placed in the Canadian Northern Ry. shops at Dauphin, Man.

Three locomotives are being built in the M. C.R. shops at St. Thomas, Ont. The shops are overcrowded with work & the men have been placed on a 10 hour a day schedule, which has not been in force since 1893. Additional hands are also being employed.

The Canadian Northern Ry. has recently purchased 100 box cars & 50 platform cars, all of 40,000 lbs. capacity, for its cordwood & sand business. The Co. has also purchased 2 additional locomotives, cylinders 16x24. These purchases are in addition to those mentioned in our June issue, pg. 169.

Following are the general dimensions of the 2 locomotives mentioned in our last issue as being built for the P.E.I. Ry..

GAUGE.....	3 ft. 6 in.
DRIVING WHEELS.....	48 in. in diameter
CYLINDERS.....	15 in. diameter, 20 in. stroke
FUEL.....	bituminous coal
WEIGHT OF ENGINE.....	65,000 lbs. in working order
TANK CAPACITY.....	1,800 Imperial gallons
DRIVING WHEEL, —base.....	7 ft. 9 in.
TOTAL WHEEL—base.....	38 ft. 6 in.

Passenger Traffic Matters.

The Kingston & Pembroke Ry. has had to put on an extra train to accommodate increased travel.

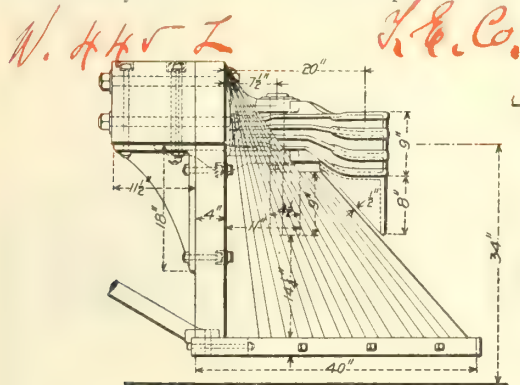
The latest record in landing passengers at Dawson, Yukon, is 10½ days from Ottawa & 6 from Vancouver.

Excursion & passenger traffic is very large over the Canada Atlantic Ry., especially on the Parry Sound end where the beautiful islands of the Georgian Bay are attracting tourists from every part of Canada and the U.S.

It is probable that the C.P.R. will soon inaugurate a 2-hours service between Ottawa & Montreal, & of course the Canada Atlantic will also reduce its time half an hour. The C.P.R. short line roadbed is in excellent shape for fast running.

The British Columbia-Yukon Ry. Co., under which title the White Pass & Yukon Ry. operates on the Canadian side of the line, has issued a passenger tariff between White Pass Summit & Lake Bennett, which has been approved by the B.C. Government.

The C.P.R. time table shows that the Imperial Limited, the through daily transcontinental passenger train, runs from Montreal to Vancouver, 2,906 miles, in 102 hours 45 minutes actual time, 99 hours 45 minutes apparent time; and on the eastbound trip the train



burden of the cost, which the other two roads were unwilling to share.

The first week of August, the great Canadian tourist season, is reported by Toronto railway & hotel officials to have brought forth a great influx of U.S. visitors. The registrations at the various hotels were very heavy, & almost wholly of a transient character. The objective point of the majority of the visitors was Muskoka. The traffic to the north is the heaviest in the history of railroads. Every Muskoka hotel is filled to overflowing, & the influx still continues. Up to Aug. 8 the G.T.R. had carried 13,448 passengers to Muskoka this year, an increase of 6,311 over the corresponding period of last year.

The Charlottetown Board of Trade has petitioned General Manager Pottinger for a reduction of passenger fares on the P.E.I. Ry. from 3c. a mile & for a 2nd class return fare. The petition alleges that owing to the great amount of curvature on the line, the distances to be travelled by rail are much greater than by highway, that the line did not cost anything like as much as the I.C.R. on which similar rates prevail & that the loss in operating the road is largely attributable to the rates charged. The cost of the P.E.I. Ry. is given at \$17,850 a mile & of the I.C.R. at \$50,275. Between Georgetown & Charlottetown the railway distance is 46 miles, the highway 30 miles.

Hamilton Incline Ry.—The new owners of the East End incline railway have started out on a vigorous policy & propose to make the railway & grounds attractive to the public. If business warrants it, the road will in all likelihood be kept open all the year round.

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches; and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$5 to \$8 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

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L. A. HAMILTON, Land Commissioner,
F. T. CRIFFIN, Asst. Land Commissioner,
WINNIPEG.



The following leading railroads of Canada are using Page fencing in quantities from 1 to 300 miles: Canadian Pacific; Grand Trunk; Intercolonial; Lake Erie & Detroit River; United Counties; Canada Atlantic; St. Lawrence & Adirondack; Michigan Central; Manitoba & Northwestern; East Richelieu Valley; Toronto, Hamilton & Buffalo; Thousand Islands; Crow's Nest Pass, and Pembroke Southern.

This fence is made to wear. The horizontal wires of special steel & coiled.

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Waiting Room	Ladies' Toilet	Private Office	Dining Room
General Waiting Room	Men's Toilet	Freight Office	Lunch Room
Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

The following are carried in stock, size 10 x 2 1/2:—

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Railway numbers for bridges, mile posts, signal houses, etc.; single figures on plates 8 1/2 in. high.

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28 Broad Street, Victoria, B.C., D. H. Macdowall, Resident Agent.

C. P. Betterments, &c.

Power to Build Branch Lines.—In the House of Commons recently J. G. Rutherford, M.P. for Macdonald, Man., asked whether the C. P. R. has the power by simply depositing plans to build branch lines from points on the main line to any point within the Dominion. The Minister of Railways replied that the question was one involving a legal interpretation, & in the absence of any judicial determination he hardly thought it well to give any decisive opinion.

Windsor St. Station, Montreal.—Work on the enlargement of this building shows marked progress. All the old buildings along Osborne street have been torn down, & the rubbish has been largely removed or utilized. The foundations have been begun, & the walls will soon rise, a large gang of men being engaged upon the work. The station arrangements for passenger accommodation will be greatly improved, the waiting rooms and arriving sheds both being on the plans for extensive enlargement. The illustrations on this page show the Windsor St. & Osborne St. fronts of the present building & also the building as it will be when the extension which has been decided on has been completed. A pretty full description of the general lay out of the building was given in our May issue, pg. 138. (July, pg. 207.)

Kaladar to Marble Lake. The Railroad Gazette, New York, recently published the following:—

"It is proposed to build a branch from Kalabar (B. C.) Station to the marble quarries on Marble Lake, via

Flinton, Harlowe & Cloyne, giving access also to the gold, iron & mica mines in those regions."

There is no such place as Kalabar in B.C., but there is a Kaladar station on the Ontario & Quebec division of the C.P.R., 190 miles west of Montreal, & Flinton, Harlowe & Cloyne are points tributary to it in the counties of Addington & Frontenac. C. P. R. officials deny any knowledge of the alleged proposal & we do not think there is anything in it.

Norwood to Apsley. A delegation will go to Montreal shortly to urge on the C.P.R. management the construction of a branch in Peterboro' County, Ont., from Norwood to Apsley. The route was gone over recently in the interest of the Co. by H. W. D. Armstrong, C.E. (May, pg. 139.)

Woodstock, Ont.—The handsome new station has been completed & is now occupied for business.

Owen Sound Branch.—It is not probable that the reduction of the grades will be gone on with this year. (June, pg. 172.)

Fort William to Winnipeg. The sidings between these points are being extended to 4,000 ft. long, double their present length, & are so arranged that they will form part of the second track which will soon have to be built. East of Rat Portage the work will be done direct by the Co., west of Rat Portage J. Sinnot has the contract for. (May, pg. 130.)

Rat Portage.—Considerable work is being done at this division point & lake port. The wooden station is being replaced by a modern stone & brick building, & a 20 stall stone round-house is also being erected. Work on both

buildings is well under way & it is expected the roofs will be on by the middle of Oct. The round-house will be provided with sufficient machinery to perform what light & specific repairs are necessary to the engines running out of Rat Portage. The freight shed will be removed to a more convenient location, & warehouse sites will be staked out so as to permit of the business men establishing themselves at convenient points to enable them to handle their goods without cartage. The freight & terminal yards will be rearranged & their capacity more than doubled. (May, pg. 130.)

Winnipeg Station & Hotel. Surveyors have been at work on the site. It is said two more tracks will be laid across Main St.,



WINDSOR STREET STATION AND GENERAL OFFICES C.P.R., MONTREAL.



WINDSOR STREET STATION AND GENERAL OFFICES C.P.R., MONTREAL, SHOWING ADDITION TO BE BUILT.

—Collected in 1898, as a subway is talked of. (June, pg. 176.)

Snowflake Branch.—E. C. Egan has the contract for building this branch from the first siding on the Pembina Mountain branch, 118 miles southeast of Winnipeg, to Snowflake, a distance of 10.3 miles. The character of the country is swampy & the line will be completed in time to take out this year's crop. (June, pg. 176.)

Deterioration to Waskada.—It is said a contract for this branch in Manitoba, some 23 miles, has been let to E. C. Egan & that it will be built this year. (July, pg. 208.)

Pipestone Branch.—Track has been laid this season from Reston, 18 miles west to Antler, which is 40 miles from Menteith Jct. It is expected that 50 miles more will be built on this extension this year, into the Moose Mountain district. G. H. Strevel has the contract. The Dominion Parliament has voted a subsidy of \$3,200 a mile for a line from Antler to Moose Mountain, but the Government declined to name the C.P.R. in the resolution, leaving itself free to deal with the Northern Pacific if it should feel so inclined. In the course of the discussion the Premier said the C.P.R. Co. had not applied for a subsidy for this line. (July, pg. 208.)

North Star Mine Branch.—Work was started July 20th on this line, which leaves the Crow's Nest Pass Ry. 2 miles east of Cranbrook, & will be 20 miles long. The North

Star Mining Co. will contribute \$50,000 towards the cost, which amount will be refunded by a rebate of 33 1/3% of the charges on all freight going over the line until the \$50,000 is fully repaid, when the C.P.R. will own the branch. (July, pg. 208.)

Vancouver to Steveston.—W. Whyte, manager of the Co.'s western lines, recently drove over the route from Vancouver to Steveston to see what the business prospects for a line are. He subsequently stated he could not say whether the Co. would seriously consider an extension to Steveston.

Arrowhead to Kootenay Lake.—A strike of good ore was made recently 1 1/2 miles from Duncan City. After the men had stopped work several blasts were fired, with the result that they uncovered some fine looking gold ore. J. McVeigh, one of the contractors, located a claim, & A. L. Dolan another. Since then there have been 8 claims located on the lead, which is about 20 in. wide. Samples of the rock were sent to Nelson & high assays are said to have been obtained.

Columbia & Western Ry.—Rapid progress is being made with the extension of this line from West Robson to Midway, & work is also being pushed on the branch lines described in our May issue, pg. 139. (July, pg. 208.)

A correspondent writing from Grand Forks, B.C., says:—"After many months of surveying & the expenditure of much money, the

C.P.R. engineers have discovered a feasible route for a railway over the divide between the Kettle & Okanagan River valleys & to the south of Camp McKinney. Strange as it may seem, it is said the crossing of this divide at the point indicated has offered the greatest difficulty to engineering skill met with west of the Columbia River, & this was owing not so much to the elevation attained as to the sudden drop off from the summit to the valley of the Okanagan, necessitating a circuitous route or zig-zagging down the mountain. Even this seemed difficult to attain, until lines were run to the north of what is known as Camp McCuddy; but, as apparently engineering skill has triumphed over nature, it may be inferred that the C.P.R. will now take this route over which to build its main line from Midway to Penticton. Should such be the case, branch roads will be run to tap the main & western tributary of the Kettle River, & a junction formed at some point near to & yet east of Rock Creek."

Minneapolis, St. Paul & Sault St. Marie.—Winston Bros. & Halverson have the contract for grading the branch from Rapid River, Mich., near Gladstone, to run northwest 30 miles into Alger County. The maximum grade is 35 ft., & the maximum curvature 4 degrees. There will be ordinary pile & trestle bridges. There are about 200 men & 20 teams at work. The road will tap an agricultural & hardwood timber country.—Official Railroad Gazette.

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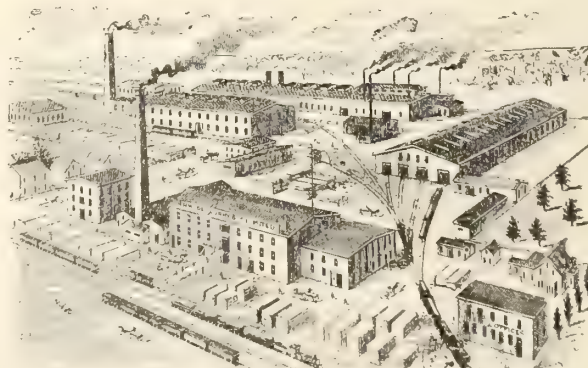
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The two round-houses which are being built at Sarnia & Port Huron are making good progress & will be completed early in Sept. Each will contain stalls for 36 engines.

In regard to the new round-house for Fort Erie, Ont., we were officially informed on Aug. 2 that the plans & location had not been definitely decided upon, nor had it been decided when work would be commenced, but that the erection of the building might be looked upon as a certainty.

The Co. has steam shovels at work in Komoka pit, where a mile of gravel is being removed every day. Another will be put on this work at St. Regis pit on the south side of the St. Lawrence river to provide ballast for the track between St. Anne's & Vaudreuil. Seven work trains, employing over 600 men, are thus given employment, which will continue for some time.

The galvanized iron sheeting for the completion of the Victoria Jubilee bridge has arrived, & is about to be placed in position. This structure has been finished, to all appearances, for some time past, & in use for trains, but the contractors have been waiting for galvanized iron sheeting to prevent the horses from seeing the trains while crossing on the roadways set apart for vehicular traffic. The road for foot passengers, which is on a level with the vehicle roadways, will be opened for traffic when the sheeting is completed.

Good progress is being made on the double tracking of the line between St. Anne's & Vaudreuil & between Murray Hill & Trenton. Between St. Anne's & Vaudreuil a steam shovel, 2 work trains & 75 men are employed. Between Murray Hill & Trenton there are 2 steam shovels, 3 work trains & 100 men. Some 175,000 cubic yards of earth have to be moved between the last two points, where the grades are being improved, so as to do away with the pusher engine & save at least \$10,000 a year. When double track is laid on the two sections above mentioned the only single track remaining on the Montreal-Toronto line will be between Port Hope & Port Union, 46 miles.

Improved stations are to be built at St. Anne's & Vaudreuil. They will be of limestone & pressed brick & will cost \$14,000 to \$15,000 each. Work is expected to be gone on with at once. General Manager Hays has notified the Mayor of St. Hyacinthe that the Co. cannot now undertake the construction of an improved station there, but hopes that something will be done in that respect before long. Mr. Hays suggests that perhaps the town may be prepared to make some proposals as has been done in other places of placing the assessment on a fixed basis, say for 25 years, so that the Co. would know how it stood. He is prepared to consider any offer made by the town in this respect.

Surveys, Construction, Betterment, &c.

The Alberta Ry. & Coal Co. is said to be considering the standardising of its line from Lethbridge to the International Boundary, which would of course involve the standardising of its allied line the Great Falls & Canada from the Boundary to Great Falls, Mont. All the work done & all the ties put in the line during the past five years have been such as to prepare it for widening. This has been done without any aid being solicited from the Dominion, but now that Parliament has subsidised the Alberta Southern, which is projected to run from Anthracite to the International Boundary west of range 27, it is likely the A. R. & C. Co. will ask for aid to standardise its line to the extent of the difference between the small subsidy already given to it for a narrow gauge line & that granted for standard gauge ones.

Algoma Central.—We are officially informed that 50 miles are to be built this year, 40 on the main line from Sault Ste. Marie towards Missanabie & 10 on the Michipicoten branch. Work on this branch has commenced at the Lake Superior end. About 50 men are employed & the force will be increased as fast as men can be secured. The southern terminus of the branch will be at Sand Beach, on Michipicoten Bay, about a mile east of Gros Cap & 3 miles west of the mouth of the Michipicoten River. Here, in a nice harbor, will be built a commercial dock, 50 x 700 ft., & 2 ore docks, each 100 x 800 ft. The central ore dock will accommodate 4 of the larger lake vessels & the other one 2 vessels. Work on the docks has been commenced. A large boarding house has been erected & additions will be built as needed. Temporary stables have been erected. A month ago Sand Beach was an unbroken wilderness. Now it presents a scene of great activity & enterprise. H. E. Talbot, of Dayton, Ohio, is Superintendent of Construction & E. V. Clergue, Superintendent of the line. The latter says it is expected to complete the docks & the railway as far as the Lake Superior Power Co's mine by the middle of Oct., when the shipment of ore can be commenced. (July, pg. 209.)

Atlantic & Lake Superior.—E. Berryman, C.E., arrived in Montreal Aug 4, having completed an exploration survey between Port Daniel & Gaspé Basin. The railway will reach Gaspé Basin by the valley of York River, following that stream for about 20 miles. The length of the projected railway from Paspebiac, where the rails now end, to Gaspé will be about 90 miles. Mr. Berryman says that many surprises are in store for those who visit the Gaspé peninsula for the first time, as the timber resources of that district are a revelation to even those who are familiar with the Lake St. John & St. Maurice regions. It is, he adds, a province all to itself, & with a trunk line built down through the peninsula & 2 or 3 short feeders stretching out north & south an era of remarkable development will undoubtedly set in. He added that now that the subsidies for the railway have been voted, work on both ends will be commenced at once & that he will at once locate a section westward from Gaspé. He speaks highly of the quality of the soil along the St. John & York rivers, & expresses the opinion that with a railway & a market at their back, room will be created for a large and thriving agricultural population. (May, pg. 132.)

Bay of Quinte.—Parliament having revoked \$3,200 a mile for 10 miles to enable this Co. to connect its line with iron or other mines or other mineral or wood lands in the counties of Peterboro, Northumberland, Hastings, Lennox & Addington, Frontenac or Leeds, Ont., it is said that if iron is found in paying quantity & of good quality there is a probability that the road will be extended at an early date.

The Canada Atlantic is filling up a large gully at its Rideau yards, Ottawa. It is a 2 month's job for a steam shovel & 2 trains, which are hauling the earth from Eastman's springs.

Heavy steel will soon be laid from Ottawa to Bearbrook, 20 miles, which will complete the heavy rails to Coteau & will permit of faster running time.

Canadian Northern.—Doubts are expressed in Winnipeg as to whether the 25 mile branch from Dauphin into the Gilbert Plains district, for the construction of which arrangements were made with the Manitoba Government, will be built this year. When in Winnipeg recently D. D. Mann said it would depend upon whether rails could be obtained. (June, pg. 175; July, pg. 209.)

Grading beyond Cowan, the terminus of last year's construction, is going ahead, although perhaps not with the same rapidity as

the Co. may wish, owing to heavy rains. Track laying is being proceeded with & up to Aug. 15 10 miles had been laid beyond Cowan. If the conditions continue favorable the Swan River should be reached early in Sep., & it is expected that Red Deer Lake will be reached before snow flies. Nothing definite has been decided as to the point at which the Saskatchewan River will be crossed. Surveys to decide this are being made. (July, pg. 206.)

Repair shops are being erected at Dauphin.

Central of New Brunswick.—The Dominion Parliament having voted a subsidy for an extension of 30 miles from the Newcastle coal fields to Gibson, there is a prospect of work being gone on with this year, though no definite information is obtainable. A preliminary survey has been made. (May, pg. 133.)

Coast Ry. of Nova Scotia.—We are officially informed that the grading to Barrington, on the 20 miles extension from East Pubnico to Barrington, is practically all completed & will be finished by the end of Aug. Seven miles of track have been laid from East Pubnico to Upper Wood's Harbor, & ballasting has commenced. An extra engine has recently been bought for facilitating construction work. The contract for fencing has been let, & the work is being done. Contracts for the bridges were let some time ago & the shipment of the superstructures is daily expected. Work is being pushed on the station buildings. It is expected to open the road to Barrington Passage by Oct. 1, & it is likely some work will be done beyond Barrington this season. (July, pg. 209.)

Great Northern of Canada.—Work on the extension from Shawenegan westward, is advancing rapidly. The work of the sub-contractors, who have charge of 5 or 10 mile sections along the line, is far advanced. Work on the bridge over the Ottawa River at Hawkesbury, which is the most important structure on the whole line, has been started, & although there are 7 spans of 204 ft. each, the 8 piers will be ready to receive the steel superstructure before cold weather sets in. For some time past, men have been at work preparing the stone for this bridge, & already 800 of the 2,700 yards of stone required, have been cut & put in position. Besides the stone works, about 2,000 yards of concrete will be used in the construction of this bridge. It will not be necessary to go down very far to secure rock bottom, but the water where one of the piers is to be constructed is about 15 ft. deep, & in 2 or 3 instances caissons will have to be built. The section from St. Jerome to Hawkesbury, the last portion given under contract, which is 35 miles long, & takes in 2 important bridges near Lachute, is also very far advanced. Stone is being rapidly quarried for these structures, & will be completed this season. The grading of the portion between Shawenegan & Montcalm, a distance of 53 miles, is far advanced also, & fully 9-10 of it is completed. About 11,500 tons of rails will be required & 9,000 tons have already reached Canada. The laying of them is progressing rapidly, the first having being put down east of Joliette. As fast as the rails are down the ballasting is begun by 4 ballast trains, a steam shovel & many laborers. The station buildings & the fencing are also being attended to. The Joliette station is to be commenced immediately. Right of way has been procured east of Montcalm, & probably for $\frac{2}{3}$ of the remaining distance west of St. Jerome. From all indications trains will be running from the St. Maurice to the Ottawa before March, although the contractors have until May to complete the work. Had it been possible to secure the superstructures for the bridges in time, the line would have been complete before the end of 1899. (July, pg. 209.)

Under power conferred on them at the re-

Quebec Harbor.—The Dominion Parliament the Quebec Harbor Commissioners have decided to guarantee interest on bonds for \$200,000 for the purpose of all covered by this Co. at 5%.

Great Northwest Central.—The promise of *Vancouverian*. Springiness of the C.P.R. (and possibly could be extended this year is *likely*. The line now runs from *Vancouver* to *Brantford*, on the main line of the C.P.R., to *Manitoba* 50 miles. *Construction* of the line to *L. D. McArthur* & *Manitoba* is extension 25 miles further. *Construction* to *Parkinson*, south of the *Assiniboine* River. Work has already been commenced. The engineering for the construction is being done by *G. H. Webster*, Engineer of the *Manitoba & Northwestern Ry.* (June, pg. 188.)

Winnipeg advises say that construction has been started on a line from *McGregor*, on the main line of the C.P.R., 22 miles west of *Portage la Prairie*, to a point near *Forrest*, or *Vancor*, on the *Great Northwest Central*. It is expected this line will be completed next year. It will run between the main line of the C.P.R. & the *Manitoba & Northwestern Ry.*, & will occupy the ground over which the *Northern Pacific* intended to build a branch from *Portage la Prairie*. In view of this construction it is hardly likely that the *Northern Pacific* will extend its branch very far beyond *Portage la Prairie*.

Intercolonial.—After many delays work is said to be progressing rapidly on the elevator at *Halifax*. On July 29 the *Chronicle* stated the roof was on the main building & the greater portion of the frame of the cupola was in position, the lower part of it being covered in. The conveyer was also all covered in & the engine beds were nearing completion.

The crib work for the wharf at the deep water terminus at *St. John, N.B.*, is being placed in position. When all is completed there will be a mass of birch timber $\frac{1}{4}$ of a mile long, 60 ft. deep & 50 ft. wide.

James Bay. The Dominion Parliament having voted subsidies towards the construction of 5 miles from the main line of the *Ottawa, Arnprior & Parry Sound Ry.* to the town of *Parry Sound*, & for 20 miles from *Parry Sound* northerly towards *Sudbury*, negotiations are in progress for going on with the work. It is understood a by-law will be submitted to the rate payers of *Parry Sound* to grant a cash bonus of \$12,000, exemption from taxation for 21 years, & such water frontage as the town holds. (June, pg. 175.)

Kingston & Pembroke.—The Dominion Parliament having voted a subsidy towards the construction of 5 miles of branches from the main line to the iron mine at *Bluff Point*, & to the *Martelle* mine, *Renfrew County*, it is said the work will be done at once & that one will be moving to *Kingston* en route to the furnaces before navigation closes.

Manitoba & Southeastern.—Considerable work has been done lately in improving the roadbed of the completed portion, between *St. Boniface* & *St. Anne*, & it is now in good condition. Construction is in progress toward the *International Boundary* & it is hoped to have the line finished to that point before the close of the season. (July, pg. 209.)

Michigan Central.—A local paper says that should the proposed running arrangement be made between the *L.E. & D.R. Ry.* & the *M.C.R.*, whereby the former will run over the *Canada Southern* from *Ridgetown* to *St. Thomas*, the *M.C.R.* will likely be double tracked from *Dutton* to *Ridgetown*.

Midland of Nova Scotia.—Grading is reported to be completed 45 miles from *Windsor, N.S.*, towards *Truro*. It is expected the remaining 15 miles will be completed by *Sep. 1*. Track laying is progressing rapidly. (July, pg. 209.)

Northern Pacific.—The Railway Committee of the *Privy Council* having granted this Co.'s subsidiary, the *Portage & Northwestern Ry.*, permission to cross the *C.P.R.* & *M. & N.W. Ry.* tracks near *Portage la Prairie*, a contract has been let to *A. Guthrie*, of *St. Paul, Minn.*, for the construction of 20 miles of line from *Portage la Prairie* northwesterly & a spur to *Lake Manitoba*. (June, pg. 176.)

Speaking at *Rapid City* recently *Premier Greenway* said: "When the *N. P. R.* asked the Government for a bonus to build west from *Portage la Prairie*, the Government had asked for some concessions, one of which was that there must be a reduction in rates charged in distributing lumber. The Co. refused this & would rather build the road for nothing if the Government would legislate & secure the crossing of the *C.P.R.* track. This was done & the crossing secured at *Ottawa* at the instance of the *Greenway* Government, & this is how matters stand."

The remains of the *Manitoba Hotel* in *Winnipeg* have all been pulled down & the rebuilding of the Co.'s offices is being proceeded with rapidly. It is expected they will be ready for occupancy by *Sep. 1*.

The survey party working on the proposed *Waskada* branch in southwest *Manitoba* has been withdrawn, & it is understood this field will be left to the *C.P.R.*

Ottawa & Rainy River.—Since the Dominion Parliament voted the subsidy for this line the management has been very active. Warehouses have been established for the supply of material for construction at *Finmark*, on the *C.P.R.*, 30 miles from *Stanley*, & at *Kashaboie Portage* & *Baril Portage*, about 65 miles & 90 miles, respectively, from *Stanley*. Tugs have been put on *Lac-des-Mille Lacs* & *Kushaboie Lake*; scows have been built & supplies are being delivered to the above points. Contracts for grading beyond the 20 miles already under construction by *E. F. Fauquier* have been let as follows: *John O'Neal* & *J. R. Turnbull*, 6 miles each; *A. R. Mann*, 4 miles; *McGillivray* & *Leeson*, 20 miles, & 10 miles in 2 contracts; *L. Madigan*, 5 miles; *H. Mann*, 5 miles, in the order named going west; & all these are to be finished at dates to permit the track to be laid over the 1st 80 miles by next June. The first 20 miles from *Stanley* is graded practically now, & track-laying will be begun on it as soon as the rails arrive, which will be within a few days. Forty miles of ties are delivered ready for track-laying. The bridging has been let to *J. R. Turnbull*, late *Assistant-Manager* *Crow's Nest Pass Ry.* construction, & the timber is being furnished by *J. Conmee*, *M.L.A.* Owing to the impossibility of obtaining a steel bridge for the crossing of the *Kaministiquia River* in time to permit of proceeding with track-laying, a temporary crossing of the river has been obtained by making the false work for the steel structure strong enough to carry trains. This structure when finished will consist of two steel spans of 125 ft. each. The contractors to whom the aforementioned works are let have their outfits en route to the work, & some part has already arrived. Arrangements have been made with *A. Calder*, of *Winnipeg*, to supply the labor, & men are already arriving in considerable numbers on the work. (July, pg. 209.)

Ottawa & Gatineau Valley.—The proposed extension from the present terminus at *Gracefield*, 60 miles from *Ottawa*, to *Maniwaki*, 28 miles, is not likely to be built this year, but it is expected that about 15 miles will be finished, which will carry the line from *Gracefield* to *Blue Sea Lake*. (June, pg. 176.)

The Ottawa & New York Ry. expects to complete the bridge over the south channel of the *St. Lawrence* at *Cornwall* in *October*, which will enable it to provide a through service between *Ottawa* & *New York*. The structure is one of the largest in *Canada* & when completed will cost in the neighborhood of \$750,000. It would have been completed

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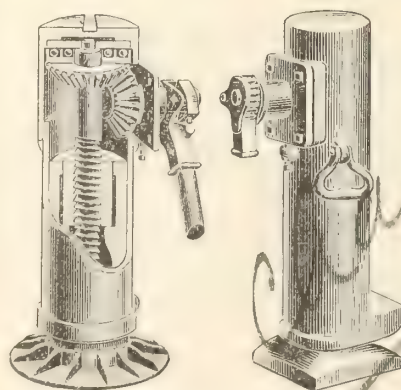
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months ago but for the accident in Aug. last when one of the piers collapsed, resulting in the death of several workmen & seriously impeding the progress of the work. Operations had to be entirely gone over & to do the work thoroughly a great deal of time & expense has been necessitated. The bridge over the north channel is completed & work is being proceeded with day & night on the remaining portion, the men working in 3 gangs, 8 hours each. It is expected that the through service will be established in Oct. or Nov. (July, pg. 210.)

St. John Valley Railway.—J. H. Miller, of New York City, states that construction will begin this fall & that it is expected to have the road finished by July 1900. The route will be from Fredericton to Lower Woodstock, thence to Houlton, Me., to connect with the Bangor & Aroostook R.R. The line will be operated as a local institution. (May, pg. 137.)

White Pass & Yukon.—We are officially informed that a large force is still at work on the line between Skagway & Lake Bennett, 42 miles, ballasting & perfecting the grade & alignment. Work has not been commenced upon construction beyond Bennett towards Fort Selkirk, but the management anticipates that a force will be located on that line before winter opens. A large amount of freight is going in over the line & there is considerable tourist travel in addition to that of miners & prospectors. The line has been built by the Pacific Construction Co., & is expected to be turned over to the railway company about Aug. 20. The 42 miles between Skagway & Lake Bennett are said to have cost about \$2,000,000 exclusive of equipment. (July, pg. 210.)

The management has no information respecting the proposed line to be built by Capt. W. Langley from Taku City to Atlin. (June, pg. 176.)

Railway Operating Matters.

More than 2,000,000 trees have been planted along the line of the Northern Pacific in Dakota, to serve as protection from snow-drifts.

The Central Ontario Ry. has placed an order with the Acton Burrows Co., Toronto, to equip its stations & station platforms with enameled iron "No Smoking" signs.

On Aug. 2 some 250 men in the G.T.R. shops at Port Huron, Mich., struck, owing to the employment of a non-union man. They returned to work the following day without having obtained any concession.

We unhesitatingly endorse the following from the Sarnia Observer: "Now that the Port Huron, Mich., authorities are enforcing the alien labor law with respect to Canadians employed in the G.T.R. shops in that city, it behooves the authorities here to pay the same kind of attention to the men who work in Sarnia but reside in Port Huron."

The last two clauses of the Minister of Railways bill to amend the general Railways Act, which proposed to empower the Railway Committee of the Privy Council to order the location of stations to suit the public convenience & to frame running rules for use by all railways, were abandoned. The last mentioned provision should never have been introduced.

It was stated in Winnipeg on July 31, that the C.P.R. locomotive drivers & firemen had come to an amicable arrangement with general Superintendent Osborne as to the changes desired in their schedule, & the delegates were returning to their respective divisions. The trainmen were likely to settle matters that day. One of the principal points they urged, that express messengers should not be required to handle baggage, in place of the regular baggage men, was expected to be agreed to.

The locomotive drivers & firemen of the G.T.R. have been notified by their committee, which has been in almost daily consultation with F. W. Morse, Superintendent of Motive Power, for the last couple of months, that an increase of wages has been agreed to by the management. Concessions, it is said, have been made on both sides, & the good feeling existing between the employees of this branch of the railway service & Mr. Morse remains unimpaired. The members of the Grievance Committee have returned home.

The difficulty between the G.T.R. & its trackmen appears to be at an end. After the announcement of the increase of 10c. a day to the men on the main lines of heavy travel as detailed in our last issue, pg. 207, the Executive Committee of the Trackmen's Association reassembled in Montreal. Those of them who were employees of the Co. had an interview with Mr. Hays in which he stated that no further concession could be made. The Committee then issued circulars to the trackmen, but the number & tenor of responses was such that it was evident another strike was not desired & on Aug. 12 the members of the committee returned to their homes.

Quebec and Lake St. John Railway.

A meeting of the holders of the 5% 1st mortgage bonds of this Co. was held in London, Eng., Aug. 2, for the purpose of appointing a committee of holders of the bonds "to consider the position of such bondholders, to confer with the trustees, & to take such steps as the committee may think best to protect the rights & interests of such bondholders, & to organize for unity of action." C. C. Macrae, a director of the Railway Share Trust & Agency Co., (the trustees), who presided, stated that the bonds were issued in London, over the complete main line of the railway, about 10 years ago, with a guarantee of interest for 10 years, by the Province of Quebec. That period had run out, & the bondholders were now in the position of having to look for any return on their capital to the earnings of the road. The working of the railway had shown that only on something like half of the line were the prospects for earnings at all good. In addition to the 190 miles from Quebec to Lake St. John, which formed the main line, & upon which the bonds were secured, various extensions had been made, which served as feeders. The bondholders had a valuable asset in the terminal property situated in the city of Quebec. Analyzing the accounts of the railway for the past 10 years it would be seen that the line had only about paid its way, & in common with so many lines operating without working capital, the directors had been compelled to take the cost of betterments out of the revenue of each year. From all the information he could obtain he was strongly of opinion that, in this instance, there had been no bad faith on the part of any one connected with the management in Canada, everything having been done on the other side to make the line successful. The Canadian Government had not seen its way to grant any further assistance, & in view of the termination of the guarantee & the inevitable default, the trustees, through their solicitors, had done all that was needful to protect the rights of the bondholders. The effect of the action of the trustees would be to keep the railway intact. The present meeting, however, was quite informal, as no legal gathering could be held until six months after the default had taken place. The bondholders could not expect to obtain their full interest for some time, but when the Co. had turned the corner they might, he considered, obtain a return on their capital during the next year or two. Some of the gentlemen in Canada, more sanguine than he was, thought that in the near future the

actual earnings of the road would be sufficient to pay something like the full interest on the bonds. He then moved a resolution appointing a committee of bondholders.

In reply to the comments of bondholders the Chairman said that the capital stock of the Co. was given at \$4,074,000, but he had never attached any value to it, as he had always considered that much of it represented "water," as was usual with so many transatlantic railways. He did not know who were the present holders of that stock.

Mr. Hanson pointed out that the line had not been exclusively built out of the money of the bondholders, but that an appreciable portion of solid cash was put into the undertaking. He moved that F. Ross, A. S. Jecks, S. Gardiner, J. W. Ballance, & E. F. Coates be appointed as the committee for the object stated, words instructing the committee to report to the bondholders being added to the original motion. The resolution was adopted. —Railway Times.

Proposed Topographical Survey.

M. J. Butler, C.E., of Deseronto, Ont., says that a strong effort will be made to have a topographical survey made of the Dominion. The Government has been memorialized on several occasions by the Land Surveyors' Association, & the matter has been agitated in journals of scientific societies; but for the most part the public is quite ignorant of the matter.

"Canada alone among all the civilized nations I can think of," says Mr. Butler, "is without an accurate topographical map of its territory. No water-power development can be undertaken, for instance, on any intelligent basis under the present conditions. Its future must be estimated by guesswork pure & simple. The same is true of many other departments of enterprise. What is needed is a topographical & geodetic survey, which will ascertain all the physical features of each section of the country; its geology, the character of its soil, the extent & age of its forests, the areas of cleared land, the public improvements, roads, & so forth; in fact, all the features, natural & artificial. Most important of all would be exact information as to the watersheds & the catchment area in relation to statistics of the rainfall. As I have said such maps are to be found in every country except Canada; even the lesser countries of Europe & the petty Republics of South America have them. What Canada needs is an enterprise similar to the U.S. Coast & Geodetic Survey, which is conducted at the expense of the Federal Government at Washington. In the past, when Canadians did not realize the value of their natural possessions & there was little competition for their waterways, the lack of such information was not felt. From this time on the evils arising from the absence of such information will be more & more recognized. Every stream in Ontario is being studied with a view to its possibilities as a source of power, & information as to the watershed is essential. We know hardly anything about the rainfall & run-off of our waterways. The water supply of them can only be estimated on the basis of accurate information as to the catchment areas. Take the Trent Valley canal, for instance, which is to be a series of artificial waterways connecting the natural waterways already existing. So far as I can see, there is no way of knowing whether the water supply is to be permanent throughout its length as the settlement of the country increases. The matter is one of great importance in lake navigation also. Our knowledge of the coast-line of Lake Ontario is far from accurate, based as it is on old charts. Until two years ago, when Col. Anderson had a topographical survey made of the Bay of Quinte, it was impossible for a

scheme to go from Kingston to Belleville without a port. A chart now exists showing the streets & indentations of the land. The scheme we propose for the accomplishment of the work is that the Federal Government should do the preliminary 'triangular' work, to use a technical term; then the data as to features, natural & otherwise, should be collected by the Provincial Governments. The new organization of engineers & members of other scientific professions recently formed in Toronto at once appointed a committee to take up the matter. This was on the suggestion of Kivas Tully, C.E., who is fully convinced of the importance of such a work."

Railways in Canada.

One of the earliest references to a transcontinental Canadian Railway was that of Carlyle. His New Downing Street, one of the Latter Day Pamphlets, published in 1850, is full of allusions to the rebellion losses bill, the annexation movement & other burning questions of half a century ago. The favorite notions of the Seer are exhibited in this essay. Of the constitutional remedies which it was proposed to apply to Canada he spoke with his usual scorn. The Governor of Canada was to be one of Carlyle's "strong men." Downing street was to be reorganized, British men-of-war were to be employed carrying to British colonies "our war soldiers industrial," & the prisoners in the jails were to be shipped off & set to work building a railway "quite across America," a suggestion which Carlyle obtained from a pamphlet by Major Carmichael Smith. "And surely were the colonies once enfranchised from red tape, & the poor mother country once enfranchised from it; were our idle seventy-fours carrying out streams of British industrials, & those scoundrel regiments all working under divine drill sergeants at the Grand Atlantic & Pacific Junction Railway, poor Britain & her poor colonies might find that they had true relations to each other; that the Imperial mother & her constitutionally obedient daughters were not a red-tape fiction, provoking bitter mockery as at present, but a blessed God's fact, destined to fill half the world with its fruits one day."

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A Single One Gives Relief.

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One gives relief. Accept no substitute.
Send 5 cents to Ripans Chemical Co., No. 10 Spruce St., New York.

The "Atlantic & Pacific Junction" was built, but under somewhat different circumstances from those conceived by the great philosopher. The strong Governor never arrived, while the Parliamentary institutions, for which in the colonies as in Great Britain he had so little respect, grew more powerful & more democratic. But in the strong Imperial spirit which pervades the essay, Carlyle was in advance of his day; one transcontinental railway is now an accomplished fact, & we are beginning to talk of another. The route of the new line will contribute to a new conception of the extent of this country. It has been jokingly said that it fulfilled the geometrical idea of length without breadth, or that it resembled a string of fishing-poles tied together at the ends. But recent events have been working against the scoffers. Draw a line north from Pelee Island to the latitude of Dawson, & you will find that it is not very different in length from a line drawn west from Pelee Island to the Rockies. The gap in settlement between old Ontario & Manitoba is being rapidly filled up by the development of northwestern Ontario; & the Rainy River Railway will give an immense impetus to this movement. From Lake Superior to Manitoba there will be two railways, & apparently plenty of business for both. The western peninsula of Old Ontario, extending, say, from Toronto to Windsor, has for some years been a network of railways, but the multiplication of railways in the eastern portion is a more recent development, the latest step in which is the Ottawa, Arnprior & Parry Sound. It is not many years since Gravenhurst was the terminus of the Northern Railway; to-day, at a point more than twice as far north, there is railway connection with Montreal, Toronto & Winnipeg; and it is only a question of a few years when the locomotive will reach the shores of Hudson's Bay.

The same extension of settlement north is to be seen in the prairie country. The northwestern part of Manitoba has recently been opened up, & the country is so promising that settlement has pushed on ahead of the railway, which has now reached the border of Saskatchewan. From this point

the new railway is to run to Prince Albert, & thence to Edmonton. Passing through Alberta in a north-westerly direction, the railway will strike the Yellow Head Pass in the Rockies, & then will come the most novel & difficult part of the undertaking—the construction of the line through British Columbia to Fort Simpson, some 500 miles north of the western terminus of the C.P.R. To realize what an extension of our railway system this will be, consider that a straight line drawn from Vancouver to Fort Simpson is as long as one drawn from Toronto to James Bay.

What will be the result of opening up the northern part of British Columbia, now inaccessible except to hardy explorers, is largely a matter of speculation. But when all this work is finished the possibilities of railway development in this country will be by no means at an end. A railway 150 miles long from Prince Albert to Edmonton would give communication into the great territory of Athabasca. The projectors of the new line seem to have their eye on Hudson's Bay, the western shore of which is less than 400 miles from the eastern limit. It would not be surprising if "the study of small maps," that fascinating but sometimes misleading occupation, should have suggested the dream of a transcontinental railway of an entirely new kind, connecting the Pacific Ocean and Hudson's Bay. It looks like a dream now; but perhaps not more of a dream than the C.P.R. seemed to be 50 years ago.—Globe.

The Chilkoot Pass Tramway, which has been sold to the White Pass & Yukon Ry., is said to have been closed down for a time at least.

The Great Eastern Ry., which runs from the C.P.R. at St. Michel de Yamaska to St. Gregoire on the G.T.R. in Nicolet county, Que., & is 23 miles in length, is to be sold by the sheriff at Sorel Aug. 29, at the instance of Mayor Prefontaine, of Montreal, in his suit against the Co. & C. N. Armstrong. This line is included in the Atlantic & Lake Superior system, having been purchased in 1894 for \$115,000 cash, \$150,000 1st mortgage bonds & \$420,000 in paid up capital stock.

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Canadian Roadmasters' Association.

The 3rd annual convention will be held at Toronto Sep. 20 & 21. The meetings will be held in court room no. 2 of the I.O.F. Temple Building, starting at 9 a.m. daily, & the members will make their headquarters at the Grand Union Hotel, corner of Front & Simcoe streets, opposite the Union Station, where special rates will be given to them.

The special topics selected for discussion at the convention are the following, the names given being those of the committees appointed to prepare reports on each subject:—

1. TRACK TOOLS.—J. Drinkwater, A. McAuley, W. Shanks.

2. EXPANSION OF DIFFERENT WEIGHTS OF RAILS.—J. Shanks, J. Graham, J. Leslie.

3. PLACING OF TIES & TRIMMING BALLAST.—E. Murphy, T. Hickey, J. Malloy.

4. RAIL JOINTS.—J. Drinkwater, W. Shanks. This matter was reported on at the last convention & partly discussed, to be again taken up at the forthcoming meeting.

A number of other subjects will, doubtless, be discussed, & exhibits will be made by railway supply manufacturers. There is every reason to believe that the meeting will be an interesting & useful one, & we hope to see a good attendance, not only of those who are already members of the Association, but of all roadmasters who can be present & who will join, as we are satisfied they will find the membership of advantage to them. Roadmasters are invited to contribute papers on any subjects they choose, whether on the programme or not.

The following reports of committees are given in advance, so that they may be considered before the meeting by the members, who will thus be in a better position to discuss them.

EXPANSION OF DIFFERENT WEIGHTS OF RAILS.

The committee, J. Shanks, J. Leslie & J. Graham, report as follows: The expansion required in 30-ft. rails at different temperatures is as follows:

30° below zero, 5-16 of an inch.		
0°	1-4	" "
30° above zero, 3-16	" "	" "
60°	1-8	" "
90°	1-16	" "

The above expansion applies to rails from 56 to 73 lbs. per yard.

PLACING OF TIES AND TRIMMING BALLAST.

E. Murphy, Roadmaster C.P.R., Woodstock, Ont., Chairman of the Committee, reports as follows. Thirty-foot rails should have ties uniformly spaced as follows:

70 lbs. a yard or lighter, 18 ties	
70 to 80 " "	16 "
80 to 100 " "	14 "

Ties in main side tracks should be 24 in. centres, & in other than main side tracks 30 in. centres. In reference to trimming ballast I cannot give a better idea than to consult the C.P.R. standard. I have had my ballast for the past 16 years trimmed according to our present standard, & have found a great benefit from it. We all agree that the quicker we can get the water from the roadbed the better it is for the road.

RAIL JOINTS.

The committee, J. Drinkwater & W. Shanks, reported last year as follows, the discussion on the report being adjourned until this year: In connection with our work there is no one thing of so much importance or that affects tracks so much as the joints. Considering from this fact the importance of the subject & the amount of money, time & study that has been expended on attempting to perfect rail joints, & yet your committee are strongly of the opinion that the best that has been produced that they have had practical experience with is still lacking, or has failed to

fully meet the requirements. Our experience is from the old wrought iron chair to the plain fish plate with the tie directly under the joint. Then came the 2-tie angle bar, & later the 6 hole 40 ins. angle bar supported with 3 ties, & later still the 44 ins. angle bar supported the same as the 40 ins. with 3 ties, & at present we have a 4 hole angle bar supported on 2 ties.

Our experience has been that wherever joints have been supported with a tie directly under them, whether with the plain fish plate or the 3 tie 6 hole angle bar, the results have been better than with the 4 hole angle bar with the joint suspended between ties. The new angle bar with 4 bolts & 2 ties suspended joint is, we consider, a decided improvement over the old one in its general make up. Instead of slats in the edges for spikes the holes are through the web or flange. This gives the full benefit of the 4 spikes against spreading, but with the improvements in this joint over the old 2 tie suspended joints we have been unable to see where the defect has been remedied, or the cause removed, or the necessity provided for that we have found to exist with a suspended joint.

The 40 & 44 ins. angle bars have the appearance of a waste of material & this, of course, means expense for which no benefit is derived.

Up to the present our experience is, & we beg to report based on experience, that the suspended joint has been a failure & even with the improvements on the present suspended joint we do not feel free to recommend it as being all that it should be, but, to the contrary, believe that they must get their support from underneath & we consider that the energy spent & the efforts put forth to produce a satisfactory joint have not been productive of the result desired.

The annual convention of the Roadmasters' Association of America will be held at Detroit, Mich., Sept. 12, 13, & 14. The Hotel Cadillac will be the headquarters of the members.

Railway Projects.

Burk's Falls to Saultsburg.—R. Forbes, of Duluth, Minn., Vice-President of the Parry Sound Copper Co., states that the Co. thinks of building a railway to Loring, Ont., by way of Burk's Falls & Saultsburg where it has properties.

Ha Ha Bay to Roberval, Que.—Among the objects of the British American Pulp & Paper Co., which is applying for a Dominion charter, is the construction of a railway from Ha Ha Bay on the Saguenay River, to Grand Falls, on the Peribonka River, thence to the first falls on the Mistassini River, thence to the Chutes à l'Ours, on the Chamouchouan River, & thence to Roberval on Lake St. John. It is further sought to run branch lines from this system, & lines connecting the various pulp & paper mills it is intended to establish at the different falls; also to generate electricity & distribute it. The capital stock is to be \$3,000,000. The applicants are R. Prefontaine, R. Bickerdeke, A. A. Thibault, D. A. McCaskill & Edward Goff Penny, of Montreal.

Owen Sound to Meaford, Ont.—Although the Dominion Parliament has voted a subsidy for a line of 21 miles between these points, no company has been chartered to build it, & no application appears to have been made for the granting of the subsidy. General Manager Hays has informed the Mayor of Owen Sound that the G.T.R. is not likely to undertake the work of construction, & it is admitted that no other company could successfully operate it.

Pyramid Harbor to Fort Selkirk. A San Francisco despatch of July 27 said:—"Pierre Humbert, jr., a Boston banker, who is at the head of a project to construct a railroad from

Pyramid Harbor to Fort Selkirk, is in the city. 'We have made our filings,' said he, 'and have practically secured a charter for that portion of the road traversing American territory. We are now waiting on Ottawa for a Canadian charter, & right-of-way from the boundary to the Yukon. As soon as this is accomplished, we will begin construction.'"

Mr. Humbert will probably have to wait some time "on Ottawa," in view of the Dominion Government's decision not to grant any more charters to lines into the Yukon, starting from ports owned or claimed by the U.S.

Trail to Sayward, B.C.—A press report credits F. A. Heinze, who built the Columbia & Western Ry., between West Robson & Rossland, & sold it to the C.P.R., with a desire to build some 8 or 10 miles of line from Trail to connect with the Spokane Falls & Northern at Sayward, the second station north of the International Boundary. As Trail is on the west side of the Columbia River & Sayward on the east a ferry transfer would be necessary.

Vancouver Island & Port Angeles.—F. Higgins, barrister, Victoria, B.C., gives notice that application will be made to the Dominion & Provincial Parliaments for the incorporation of a company to establish a railway ferry between Port Angeles, Wash., & the harbor of Victoria, Pedder Bay, or Beechy Bay, Vancouver Island, with power to build a railway from either of the named harbors to Langford Station, & along the west coast of Vancouver Island. It is said the company interested is the Port Angeles Eastern Ry., which is now building in the state of Washington.

In our June issue, pg. 171, we gave full particulars of the negotiations between the Port Angeles Eastern Ry. Co. & the city of Victoria for a railway car ferry & passenger boat service between Port Angeles, Wash., & Victoria. The committee of citizens of Victoria to which the matter was submitted had before it a proposition to bonus the Railway Co. \$17,500 a year for 10 years, on the basis of 5% on the estimated cost of the car ferry & steamboat. The committee decided against the proposition by a vote of about 2 to 1, the mayor having taken the ground that the city had no power to bonus a foreign corporation.

C.P.R. Dividend.—At a meeting of C.P.R. directors Aug. 14, a dividend for the half year ended June 30, of 2% on both preference & common stocks was declared payable Oct. 20. The earnings of the past six months would have warranted a larger dividend, but the directors considered it inexpedient to increase it. Some disappointment may have been felt, but the general opinion, both in Canada & Europe, is that the board has acted wisely in pursuing a conservative course. The Westminster Gazette voices London opinion in saying:—"The cautious policy of the directors is no doubt wiser in view of the exceptional condition of the farming industry during the past year or two, & the necessity of providing in fat years for adversities in lean years. It is better to have a safe & continuous 4% than the larger dividend now & the collapse of the latter."

Canadian Ticket Agents' Association. Secretary De la Hooke has issued a breezy & up-to-date circular, announcing the 13th annual meeting to be held at Winnipeg Oct. 10, instead of Oct. 13, as first arranged. The members will leave Toronto, Sunday, Oct. 8, at 1 p.m. via G.T.R. to North Bay, where members from the east will join them, & proceed via C.P.R. to Winnipeg, arriving there Tuesday, Oct. 10, at 6.30 a.m. The meeting will be held on that day, & a banquet will take place at the Clarendon Hotel in the evening. The party will leave Winnipeg Wednesday, Oct. 11, travelling by the Northern

Pacific, Chicago, Milwaukee & St. Paul, & Grand Trunk lines via St. Paul & Chicago. It is probable a stop will be made at Grand Forks, that Thursday, Oct. 12, will be spent in St. Paul & Minneapolis, that a stop will be made at Milwaukee, & that Chicago will be left on Friday evening, Oct. 13.

Railway Committee of Privy Council.

At a meeting of the Railway Committee of the Privy Council at Ottawa, July 29, the application of the Portage & North Western Ry. Co., a subsidiary of the Northern Pacific, to cross the C.P.R. tracks near Drummond & Brydges streets, Portage la Prairie, & to make a junction with the M. & N.W.R., was considered. The Town Council of Portage la Prairie has given the P. & N.W.R. Co. power to run along Pacific avenue, Portage la Prairie, & this has been ratified by the Legislature, subject to a provision that on a certain defined portion of the street no switches be allowed to be laid. On the application for the crossing coming up at Ottawa, counsel for the C.P.R. objected, unless the P. & N.W.R. Co. was forbidden to lay switches on any part of the street. Judgment was reserved, the matter being referred to a sub-committee to deal with, & on Aug. 10 it was announced that the Committee had decided to grant the application, without the limitations asked for.

Western Agencies of Atlantic Steamships.

—For some years past the general agencies of practically all the Atlantic steamship companies for the territory west of Lake Superior have been held by W. Stitt, chief clerk of the C.P.R. Passenger Department at Winnipeg,

who has recently been promoted to the position of Assistant General Passenger Agent of the Western Division. Mr. Stitt has issued a circular announcing that W. P. F. Cummings has been given charge of the business in connection with the Atlantic steamship lines, that remittances must be sent to him, care of the General Passenger Agent's office, at Winnipeg, & that all communications on the business of the Atlantic steamers should be so addressed.

Dominion Iron & Steel Co.—Advices from Sydney, N.S., state that the Dominion Iron & Steel Co. has begun work at the International pier, making preparations for a railway tapping the I.C.R. so as to take building material, etc., to where it will be needed. Contractors are getting things ready preparatory to the building of the shed. Over 100 men are employed. Quarrying stone at South Bar is progressing, though it may be given up on account of the softness of the stone.

Sir Sandford Fleming Interviewed.

In a recent interview in England Sir Sandford Fleming, after referring to the position of Canada as he found it on coming to the country in 1845, dwelt on the Imperial instinct, after which the interviewer continues:—Now we come to the Pacific cable, & Sir Sandford pointed out that Canadians attach the highest importance to it as another bond of Empire. It might be expected to expand trade between Canada & Australia, not at present very extensive. That, however, was quite overshadowed by the value it would have in the Imperial sense. Sir Sandford has given years of study to this question of an all-British cable, & his ideas thereon quite girdle the globe.

"Granted the present scheme," he remarked, "& you will reach Australia without having a foot of your wire on foreign territory. Why not have another cable bringing you back to London by Western Australia, Cocos Island, Mauritius, & South Africa? At Cocos Island you could establish branch lines to Singapore & Colombo, so joining up with the whole of Asia & India. From Cape Town go to St. Helena, Ascension Island, Barbadoes, & Bermuda, where you are in near relation to the present Atlantic cables. Measuring the cable as you put it into the sea at Vancouver, you would need 23,000 knots of it to reach Bermuda. The expense would be between £5,000,000 & £6,000,000, and just think what you would have for the money."

Sir Sandford hardly needed to explain to me that he struck across the Atlantic from Cape Town in order to avoid the shallow waters of North Africa, & the shores of Europe. "In the event of war," he laid it

down, "the cables would be most likely to be cut near Europe. A home-coming cable, according to my plan, would be in deep water all the time, and therefore difficult to cut. Once at Bermuda or Halifax, you would have a number of cables to take messages on to England. They would not all be cut at once, and it might be that the getting through of a single despatch, after war had broken out, would be worth more than the whole of the cost of the suggested cable." These views have already been submitted to the Colonial Office, & Sir Sandford thinks the scheme at present in hand a basis towards a complete, all-British girdle of the globe.

"You would," he observed, "be able, having a circular line, to communicate by two ways with any part of the Empire. If one road failed, the other would be there, so making us very secure. Apart from anything else, I look forward to the electric cable becoming the great means of communication between the various quarters of the world. I can see, in the dim distance, the day when a newspaper will be able to publish intelligence concerning the most distant parts, as fully & as promptly as if it related to its own city. We do not yet fully realize the value of electricity as a means of communicating over long distances. You telephone from the Strand to Piccadilly, but you could accomplish your purpose by sending a messenger. Not so when thousands of miles intervene; then the supreme value of the electric telegraph is apparent. The expense lies in constructing a line, & that once done, all is simple. Here it is, use it to the utmost; keep it going every minute of the twenty-four. If you can send a telegram for sixpence in England, why should it so quickly cost you six shillings if you go outside England? The next great advance of the world will probably be in respect of quick and cheap communication between all parts of it."

Sir Sandford has had visions before, & happily he has lived to find some of them realized. It had been laid down by certain experts that the interior plains of Canada could not be connected by rail with the Pacific & Atlantic coasts. In 1871 British Columbia came into the Canadian Dominion, asking, as part & parcel of the bargain, for a road to unite it with the other provinces. The splendid response was the Canadian Pacific Railway, which thus had its origin.

"The thing just had to be done," Sir Sandford remarked, "although the survey presented great difficulties in the Rocky mountains & elsewhere, there were various places at which the line could have been cut through. Every man on the survey was imbued with the importance of the task, which was not merely the finding of a way for a railway, but the seeking out of a trunk road destined to do much to build up Canada as a nation. That

The Canadian Pacific Railway Company.

Dividends for the half-year ended 30th June, 1899, have been declared as follows:

On the Preference Stock two per cent.

On the Common Stock two per cent.

Warrants for the Common Stock dividend will be made out or about 2nd October to Shareholders of record at the closing of the books in New York and London respectively.

The Preference Stock dividend will be paid on Monday, October 2nd, to Shareholders of record at the closing of the books at the Company's London Office, 1 Queen Victoria Street, London, E.C.

The Common Stock transfer books will close in London at 3 p.m. on Friday, 25th August, and in Montreal and New York on Friday, 8th September. The Preference Stock books will close at 3 p.m. on Friday, 1st September.

All books will be re-opened on Tuesday, October 3rd.

By Order of the Board.

CHARLES DRINKWATER,

Secretary.

MONTREAL, 14th August, 1899.

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was something to think of—occasionally, anyhow, as you lay in bed after a day's work."

The last rail in the C.P.R. was laid at the point then christened Craigellachie, situated amid the lonely grandeur of the Rocky mountains. Lord Strathcona, Sir Wm. Van Horne, & others who had worked for the great venture, were there, as the sections of steel coning from east to west met, & became the Canadian Pacific. Why the name "Craigellachie"? It was identified not only with a place in Scotland, but with an old Scottish clan slogan. "Stand fast, Craigellachie!" Endless difficulties had to be faced in carrying through the Canadian Pacific scheme, & on one occasion Lord Strathcona & Lord Mount Stephen had to console each other across the Atlantic about some hitch. The word which the cable flashed from the one to the other was "Craigellachie"—that is to say, the inspiring counsel, "Stand fast, Craigellachie!" This Sir Sandford told me, & it is a picturesque footnote to history.

"The joining up of the railway," he went on, "was a ceremony very impressive & suggestive in its simplicity. Afterwards our train went down to the Pacific side, & from there I remember sending a cable to Lord Mount Stephen in London. I wired that we had taken ten days to cross the continent—that I fancy was the time—but that the day would arrive when a passenger could journey from London to Vancouver in 10 days. As I speak, we have practically reached that celebrity in travelling, though when I telegraphed, some people in London regarded me as rather a wild prophet. Within a week of the completion of the C.P.R. several cars of naval stores for Esquimalt, the British depot on the Pacific, passed over it from Halifax. This was an object lesson on the uses of the road as an Imperial highway, & there have been many others since then."

Sir Sandford looks forward to seeing weekly lines of steamers leave Vancouver for Australia & Asiatic ports. He conceives them as connecting with the terminus of the Siberian railway, so forming a continuous trunk artery about the world. It is a fine conception, all the more that it will mean the possibility of going round the globe in less than half the 80 days which Jules Verne, in his daring narrative, allowed for the trip.

THE SOULANGES CANAL.

Lake St. Francis is 33 miles long; it is merely an expansion of the St. Lawrence River; a pool above the rapids between it & Lake St. Louis. The fall between these lakes is $8\frac{1}{2}$ ft. at mean water, & in a distance of about 16 miles there are the Coteau, Cedars, Split Rock & Cedars Rapids. At extreme low water, there is a depth of not more than 6 ft. in the channel at some places, & it is to surmount these rapids that the Soulanges Canal has been constructed. The canal is 14 miles long, & leaves the foot of Lake St. Francis at Macdonald's Point, just below the village of Coteau Landing. For $1\frac{1}{2}$ miles it runs straight, touching the margin of the river about a mile from the upper entrance, & from the end of this tangent the line sweeps round to the north-east, behind the village of Coteau du Lac, for about 3 miles, on a curve of 14,324 radius. It is then continued by a 2nd tangent, of some $8\frac{1}{2}$ miles long, passing about a mile inland from the Cedars village. Thence, the line bends slightly to the north, & is led into the Ottawa River, about 2 miles from its junction with the St. Lawrence, at Cascades Point. The canal is, for all practical purposes of navigation, a straight line throughout, & is 2 miles shorter than the route by the river. The fall of $8\frac{1}{2}$ ft. is overcome by 4 locks; $70\frac{1}{2}$ ft. of this is at the Cascades end, where the bluff forming the right bank of the Vaudreuil branch of the Ottawa gives an oppor-

tunity of locating 3 of the locks in the 1st mile, each having a rise of $23\frac{1}{2}$ ft. There is an interval of over 2 miles between the 3rd & 4th locks, the latter being about 3 miles from the lower entrance. Here the lift is variable; it is about $12\frac{1}{2}$ ft. at mean water of Lake St. Francis, but, at extreme high periods, it would, if this water were allowed to enter the canal, be about 15 ft. About 1,000 ft. above lock no. 4, there are a pair of guard gates, placed for safety to the lower locks in case of accident. At the upper, or Lake St. Francis entrance, there is a guard lock, by which the surface level of the summit can be regulated, without interruption or danger to navigation. At periods of high water, this will be used as a lift lock, but, at ordinary stages of the lake, its surface level will be that of the canal. The distribution of lockage is supplemented by a series of weirs for the passage of the necessary supply.

There are 7 road bridges & 1 railway bridge across the canal, the latter of which traverses the lower wings of the guard lock, & carries the Canada Atlantic Ry. It swings over the lock & raceway, & is about 180 ft. long. At the head of this lock there is another swing bridge, to pass the main road between Coteau Landing & Cascades Point, & a similar structure will be erected at lock 3, in connection with the Quinze Chiens Road. The remaining 5 road bridges cross the full width of the canal & have been designed to permit a full & free flow for the water & so as not to impede rapid navigation. This is effected by building the pivot pier in a line with the toe of the south slope, between which & the foot of the north slope there is an opening of 100 feet. The bridges are 246 ft. long, & the south half swings partly over the land & partly over a channel formed in rear of the pivot pier to give additional water section. Thos. Monro, M. Can. Soc. C.E., Chief Engineer of the canal, from whose paper on the subject we quote, believes that this is a considerable improvement on the old method of placing the pivot in the middle of the canal, with a narrow channel on each side of it, where vessels have to slow up, & often find it difficult to get safely past.

To pass the drainage of the country, lying to the north, across the line of the canal, has necessitated a very large outlay. The first stream met with in descending is the River Delisle. This has its source some 60 miles inland. Its catchment basin has an area of about 180 square miles and during spring floods the flow is something over 200,000 cubic feet a minute. The river is passed under the canal through 4 lines of cast iron tubes, 10 ft. in diameter, laid in a trench 50 ft. wide, excavated in the rock to the depth required. The next stream is called the Rouge River, & its flow during floods is about half that of the Delisle. It is carried under the canal by 2 lines of tubes of the same diameter as those of the Delisle. The excavation for the foundation of this structure was carried down to the boulder clay, through a stratum of soft blue material, which gave a good deal of trouble, through sliding during the progress of the work. At the River la Graise, the water is carried by a single line of tubes, 10 feet in diameter. The foundation of this structure is on piles, driven some 25 or 30 ft. to hard material. There are also 2 pipe culverts of small dimensions towards the lower end of the canal.

The canal throughout is about 100 ft. wide at bottom, & was designed to have side slopes of 2 to 1, but because of the slipping of the clay banks in some places the slope is now partially 4 to 1. The banks are first formed to the slopes, & then a notch is cut to receive the stone protection lining. This is about 3 ft. wide at the base, tapering up to about 1 ft. on top, where it is finished by a rough coping. Between this coping & the top of the bank the surface is sodded, the sodding being returned about 5 ft. on the level.

On the north side of the canal a macadam road, 15 ft. in width, will be formed throughout its entire length, the centre of which is 33 ft. from the edge of the cut or bank on that side.

At the Cascades' end the excavation is in rock of the Potsdam formation, which affords a solid foundation for locks 1, 2, & 3. The upper extension walls of the latter lock are, however, of piles & concrete. The reach between locks 3 & 4 is in clay, upon which the piers & abutments of the St. Antoine road bridge are founded. The road bridges at St. Fereol & St. Dominique are also built upon clay. The surface of the blue clay along the summit reach gradually rises towards the west & culminates at the crossing of the St. Emmanuel Road, where it is almost level with the top bank, being only covered with a thin layer of sandy soil. Wherever this clay was cut into by the canal there was danger of slides, roughly in proportion to the depth of the cutting. This danger was greater on the north side, which intercepted the natural drainage towards the river, so that in time the slope became so saturated as to break loose & slip into the canal. That is to say, by the excavation of a deep trench of such dimensions a similar condition of things was set up as that existing along the bank of the St. Lawrence between Coteau & Cascades, where from time immemorial deboulements have occurred, causing in many places a wearing away, which in some places is measured by hundreds of feet. One of these slides took place in Oct. 25, 1897, when, without any perceptible warning, the north bank of the canal, for over a $\frac{1}{4}$ of a mile in length, slid into the canal, taking with it the abutment of the St. Emmanuel bridge, which was thrown bodily forward about 50 ft. into the centre of the canal. Other slides have occurred about a mile or so to the west of the St. Emmanuel road, & one of these took place only the other day. Towards the crossing of the River Delisle the surface of the blue clay lowers rapidly. At the river itself, rock of the calciferous is encountered, & this alternates with the clays & sands of the drift formation for some 2 miles to the west. At the upper entrance the guard lock & surrounding structures are all founded upon solid rocks. There are about 6,750,000 cubic yards of clay of all sorts, & 300,000 cubic yards of rock of various kinds in the excavations for the canal.

The site chosen for the power-house, to generate electricity for the operating of the docks, bridges, etc., and the lightening of the canal throughout, is where the River la Graise crosses under the canal & joins the St. Lawrence about 400 ft. to the south of it. The amount of electrical power required to operate the locks, bridges & other structures, & to light the canal satisfactorily throughout its entire length of fourteen miles, was carefully determined by experts, who also worked out the details of the distribution & application of this power. The power-house is connected with a regulating weir, which is intended to control the summit level of the canal, without discharging a great volume of water through the Cascade locks.

At the ordinary level of Lake St. Francis there will 180 ft. of water in the canal, equal to a cross sectional area of 2,524 sq. ft. Propellers of the type now being built on the upper lakes to navigate these canals will have a submerged midships section averaging $42 \times 14 = 588$ sq. ft., or less than $\frac{1}{4}$ of that of the water area at mean level. This will permit of a fairly high rate of speed, as full depth under the keel of a vessel is of great value, both for speed & safety. Mr. Monro believes that the single individual lock is better than the fleet lock & can be operated more quickly & the maximum facilities may be provided by duplicate locks. "The lift of locks should be made as great as possible," he says "where conditions permit, as time is consumed by

the number of locks rather than by the lift. And this is the policy he has pursued in building the Soulages canal.

The general features of lock 12, which is typical of the others, are as follows: The lock is filled & emptied through culverts in the side walls, from which cast iron pipes 30 inches in diameter, 100 ft. each side, lead into the bottom of the chamber. The pipes have 40% greater discharging capacity than the culverts themselves. The lock will be filled in about 5 or 6 minutes, & this will be effected without subjecting the vessel to much surging or strain. At the head of each culvert there is placed in an 8 by 4 ft. shaft, operated from the coping, a 6 by 6 ft. sluice of the Stoney pattern. These are for the first time introduced into a Canadian canal, their operation is very simple, & they have given the highest satisfaction in controlling large bodies of water in Europe, where they are in extensive use, being employed for that purpose on the Manchester ship canal. The method of emptying & filling locks through tunnels in the side walls is considered to be very much the best; filling & emptying through valves in the gates, as in the Welland canal, having proven decidedly objectionable. Each lift lock is provided with a heavy breast wall at its upper end, corresponding in height to that of the lift. These walls have been reintroduced for the purpose of removing the cause of about $\frac{1}{10}$ of the accidents that have occurred on the enlarged canals, namely, vessels carrying away the upper gates of the locks by striking them whilst entering from the lower reach. If a vessel goes ahead too far in a Soulages canal lift lock, it will strike against the breast wall, & damage itself instead of the gates. The gates are built on what is called the 'solid' plan, which consists of a number of superimposed timbers shaped to the required horizontal pattern & fastened together. The method is simple, & in this case the strength is superabundant. One leaf of the lower gates of the high lift locks at the Cascades' end of the canal weighs over 90 tons in the air. The timber used is principally Douglas fir, which was hauled across the continent for the purpose.

It is proposed to work a lock from one point on the south side & about 20 ft. back from the coping, where a switch cabin will be placed. This will be connected with the motors actuating the sluices & operating bars. When a vessel enters the lock from the lower level & her stern is up to the breast wall she will signal & the lower gates will be closed. The machinery will effect this in a perfect manner. The gates will shut precisely & synchronously, & avoid any trouble from overlapping, which often occurs now in other locks. This should be done in 1 minute. The lower sluices are then dropped & the upper ones hoisted, the lock being filled as indicated. When the water has risen to the full height, the upper gates are opened & the vessel passes out. The lockages are expected to be made easily in from 12 to 15 minutes. The capacity of the canal, at 4 lockages an hour, on the basis

of $\frac{1}{2}$ westbound freight, would be about 20,000,000 tons in an ordinary season.

In the construction of these locks, concrete has been used to a greater extent than in any previous works of this kind in Canada. Mr. Monro specified that cement of a certain quality should be supplied by the government to the several contractors, and should not be purchased by them at all, & thus there was no inducement on the part of the latter to use cement of an inferior quality. In the preparation of the cement some 70,000 briquettes have been made for testing purposes in a quantity of about 200,000 barrels. Good, clean sand and properly broken stone have been insisted upon, & it is believed that this work is excellent throughout. Mixing has been done both by hand & by machine, but in either case the product when carefully laid & rammed make an exceptionally good hydraulic wall, while its cost per cubic yard was less than half that of masonry, on the Soulages canal. There its use was clearly suggested by the fact that in the excavations for the prism, about 300,000 cubic yards of rock had to be taken out which was unfit for masonry, but excellent for concrete. This supplied the 15,000 cubic yards required for concrete; also, about 120,000 cubic yards for stone protection lining; together with over 50,000 cubic yards for macadam, repairs, etc., leaving a large surplus to be thrown away.

Mr. Monro was transferred from the Welland canal at the close of 1888 & assigned the duty of determining the best location for a canal, having a navigable depth of 14 ft., between Lakes St. Louis & St. Francis. After extensive surveys & examinations, he submitted a report in 1889 to the late J. Page, Chief Engineer of Canals, in which reasons were given why the new canal ought to be constructed on the north side of the St. Lawrence. Mr. Page died in 1890, & in June of that year, a second report was addressed to the Secretary of the Department, confirming the views previously expressed. In that document the projected work was for the first time named the Soulages canal. In a memorandum in Jan. 1891, prepared for Sir John Macdonald, by T. Trudeau, Deputy-Minister & Chief Engineer of Canals, the scheme submitted by Mr. Monro was approved of in general terms. This view was subsequently confirmed by the government, and, in Aug. 1891, \$300,000 was voted by Parliament towards the construction of the Soulages canal, which was then estimated to cost \$4,750,000. Plans and specifications were prepared, and, in May, 1893, all the 13 sections between Cascades Point & Coteau Landing were under contract. Between the time of Mr. Monro's report of June 18, 1890, & the letting of the works, however, the bottom plan of the summit level, 10 $\frac{1}{2}$ miles long, & the foundations of the structures on it, were lowered about 1 $\frac{1}{2}$ feet, largely increasing the quantities, & adding about \$500,000 to the cost of construction, making the total estimated cost \$5,250,000, instead of \$4,750,000.

For the sake of clearness in showing the present condition of the different sections,

they will best be described in the order visited by the writer.

Section 13.—Contractors Manning & McDonald, Toronto. Date of contract, Sep. 24, 1892. Approximate value of work, \$635,000. This contract, comprising entrance walls, guard lock, waste weir & two swing bridges, is now complete, & has been partially tested.

Section 12.—Contractor M. J. Hogan, Montreal. Date of contract, April 5th, 1897. Approximate value of work \$220,000. Before Mr. Hogan took hold of it, this work had been twice under contract & in each case the contractor failed to prosecute the work to completion owing to its costly character. This work is composed of hard clay, intermixed with nests of boulders of large sizes, fissured rock & quicksand. He expects to get finished by the end of August. He is already beginning to move his machinery out of the cutting.

Section 11.—The first contractor for this was G. Goodwin, & the contract was dated May 11, 1892. This was afterwards transferred to T. Feeney, & later to Poupore & Fraser, of Ottawa. Approximate value of work, \$325,000. This section, which was composed of rock & hard material, is completed.

Section 10.—Contractors Rogers & Taylor, Montreal. Date of contract, Dec. 24, 1892. Approximate value of work, \$292,000. This work was practically all earth, the only structure upon it being one large road bridge, & it was completed last fall. Small slides occurred upon the north side of this section, but these were soon repaired.

Section 9.—Contractors Manning & McDonald. Date of contract, Jan. 30, 1893. Approximate value of work, \$180,000. Rather extensive slides took place on this section, but these have been repaired & the work is now finished. The restoration was effected by placing stone for support & drainage at the base of the slopes, & then filling in. The slope of the north bank was also altered from 2 to 1 to 4 to 1.

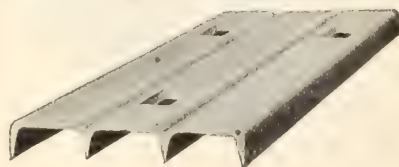
Section 8.—Contractor C. H. Raynor, Syracuse, N.Y. Date of contract, Dec. 29, 1892. Approximate value of work, \$312,000. This, with the previous section, has given the contractors & the engineers a great deal of trouble, owing to the slides. A heavy slide took place on the north side of this section on Oct. 25, 1897, at the crossing of the St. Emmanuel road. This swept the abutments of the road bridge, containing 1,100 cubic yards of concrete, off its pile foundations, & threw it bodily some 50 ft. into the bottom of the canal, where it sank into the soft blue clay for a depth of about 19 ft. About 40,000 or 50,000 cubic yards of earth accompanied it. This was being repaired & the slope was changed from 2 to 1 to 4 to 1, but, much to the surprise of all concerned, without the least warning, another extensive slide took place the day before the writer visited the canal, carrying away the bank for about 350 ft. Men & teams were working upon it at the

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time, & these were carried bodily into the canal. Fortunately, all the men escaped without injury, but one horse was smothered to death. On this section, too, the power house to operate & light the canal by electricity, is being built, & much remains to be done before this structure can be finished.

Sections 4, 5, 6 & 7.—These sections are all comprised in one contract, which was first let to G. Goodwin, & afterwards re-let to A. Onderdonk in April, 1897. Approximate value of contract, \$957,000. When Mr. Onderdonk took over the contract there were approximately 850,000 cubic yards of earthwork to complete. About 1,200,000 of the easiest part had been taken out by the previous contractors, & the work then abandoned. The masonry & concrete, of which there were about 40,000 cubic yards, were untouched, not a stone having been prepared or delivered four years after the signing of the contract. The lower part of the prism is chiefly in blue clay, difficult to handle, especially in wet or frosty weather, & in some cases the material has been hauled over 4 miles. The masonry of lock no. 4, which rests on a pile foundation, has been completed, & the work is excellent. The other masonry on these sections is about completed, but much remains to be done to the iron work, gates, etc., & there is still considerable earthwork to remove. It will be almost impossible to finish this work this season.

Section 3.—Contractors, J. & M. O'Leary, Ottawa. Date of contract, March 27, 1893. Approximate value of work, \$200,000. This work is completed, & was accepted from its contractors in the fall of 1897.

Sections 1 & 2.—This contract was first let to A. Stewart, of Ottawa, on Sept. 24, 1892, & was re-let to Ryan & Macdonell, on Dec. 1, 1897. Approximate value of work, \$983,000. Upon these sections are 3 locks, with waste weirs, basins, etc. This has been one of the heaviest pieces of work on the canal, & has been carried on very vigorously, night & day. It is hoped by the Government that these sections may be finished by about the beginning of Sep., but this is very doubtful, indeed, as much remains to be done. If, indeed, the canal is finished in time for the passage of vessels drawing 14 ft. of water at the opening of navigation next year, it will be quite as soon as is generally expected by many on the spot.

The full staff of engineers in charge of the canal is as follows: T. Monro, chief, assisted by A. J. Grant, S. J. Chapleau & R. A. Dufresne, from no. 13 to no. 7, inclusive; Mr. McNaughton, who resides at Cedars Rapids, has charge of nos. 8, 7, 6 & 5; & Mr. Coutlee, assisted by Messrs. Matthewson, Wise & Davey have charge of the remaining 4 sections & entrance at Cascades Point.—Montreal Witness.

An Ottawa despatch of Aug. 15 says:—The Minister & Deputy Minister of Railways, Mr. Collingwood Schreiber, were over the Soulanges canal works yesterday. They found that another slide has occurred in the clay banks of the prism of the canal on Raynor's section. A large quantity of clay was precipitated into the bottom. As the water has been let in the canal the slide will be taken out as soon as a dredge can be had, & it is hoped that the water in may obviate further mishaps. Should no further slide occur the canal may be opened to navigation by the end of the first week in September.

Through the St. Lawrence Rapids.

The recent trip through the rapids of the steel str. Mae, the largest vessel ever transferred from the great lakes to the Atlantic coast, via the St. Lawrence, has proven a most interesting event of the present season of navigation. The Mae was built at Toledo, Ohio, for the Porto Rico trade & is 250 ft.

keel, 42 ft. beam & 24 ft. depth. She has triple expansion engines of 19, 30 & 52 ins. diameter of cylinders & 40 ins. stroke; 2 Scotch boilers, 12 by 12½ ft., allowed 175 lbs. steam pressure. As she was too large to pass through the St. Lawrence canals she had to attempt running the rapids. After discharging a cargo of grain in Kingston, she proceeded under her own steam to Ogdensburg, arriving there July 16. From there she was taken in tow of the str. Chieftain, & proceeded as far as Coteau Landing, arriving there July 17. Something having gone wrong with the Mae's steam steering apparatus, it was given a thorough overhaul & the defective part repaired, & on July 18 the steamer, drawing 7 ft. 9 ins. of water, started on her perilous journey down the Coteau Rapids in tow of the Chieftain. She swept past the Coteau railway bridge without mishap. Upon taking her first plunge in the Coteau rapids, however, her steam steering gear again gave out, leaving her to the mercy of the waves, but the plucky commander of the Chieftain, realizing the danger, at once swung his steamer around in the current. He brought the Mae head to current & her anchors were thrown just below the big shoal known as "La bature de franc coeur," where she fetched up all safe in the eddy formed by this shoal. The steering gear was once more put in repair, & on July 20 the anchors were raised & another start made. Arriving opposite the great swells known as La chute aux boulevaux (the largest in the whole chain of rapids), the vessel took a sheer northwards, straight for the big shoal where the Standard Oil Co.'s barge stranded a year ago, but the Chieftain crowded on full steam & pulled her clear of it. The next place where trouble was expected is called La bature a Lachinette, but the steamer, as if to atone for her previous shortcomings, made this winding descent as beautifully as any of the mail steamers could have done. Split rock, Grecian's shoals & Cascades were then successively passed in safety, & without further adventure the largest & deepest draught steamship ever attempted through the rapids glided safely into the still waters of Lake St. Louis.—Marine Review.

Heavy Lake Traffic.

The shipping business on the great lakes has expanded enormously this year. On both sides of the lakes vessel owners are being offered more business than their boats can handle & rates have advanced considerably already, & promise to go higher. U.S. vessel owners claim to be getting higher rates than in any year for 10 years back. Coal & ore shipments seem to engage most of the vessels from southern parts. The boom in the iron & steel trades has no doubt brought about this activity. Iron mining companies are endeavoring to get as much ore as possible to points of manufacture before the season closes, but the consumption has increased so largely that the furnaces are devouring shipments almost as fast as they are unloaded. One Chicago concern is said to be 250,000 tons short of its usual stock of ore at this time of the year, & other companies are no better off. It is predicted that when navigation closes it will be found that stocks of coal at north-western & western lake ports are not nearly adequate to the demands which will be made upon them next winter. Coal shippers have been very reluctant to pay the rates being asked by vessel owners this year, & in consequence, the boats are going in for other more profitable business. Vesselmen say that it is now impossible with the ships available to replenish the stocks of coal at the head of the lakes before navigation closes. How far this is true remains to be seen.

Canadian vessel owners are experiencing a no less active demand for their services than

their U.S. competitors, & are making substantial profits out of the business. No one will begrudge them this, as the business has been to a large extent unprofitable for a number of years. Sailors & all classes of employees are also benefited by the increased business, as wages have been advanced 10 to 15%. The carrying of Canadian lumber to U.S. ports is a new source of revenue this year, due to the new regulations of the Ontario Government regarding log exports. Hitherto the logs have been rafted to U. S. ports & sawn there. Now they are being sawn in Canada & Canadian vessels get the business of carrying the lumber across. The grain carrying trade is also yielding large revenues to Canadian vessels this season, & the delays caused by the backward spring & the Buffalo strike are now being fully compensated for.

Dominion Notices to Mariners.

The Department of Marine has issued the following notices:—

No. 47, July 24, Quebec.—St. Jean semaphore again in operation.

No. 48, July 26, Nova Scotia.—Liscomb whistling buoy.

No. 49, July 27, U.S.A.—Inland waters contiguous to International Boundary Line. 1. Galloo Island shoal gas buoy no. 1; 2. Presqu'île fog signal station; 3. Kelley's Island south shoal gas buoy no. 2; 4. Peach Orchard point gas buoy; 5. Detroit River—Limekiln Crossing channel—depth signals; 6. Lake St. Clair twenty-foot channel lights; 7. Lake St. Clair—Grosse point—new buoy; 8. River St. Mary—Lightbuoy established off Gros cap; 9. Light buoys in Vidal shoal channel.

No. 50, July 27, Newfoundland & Labrador.—Improved fog signals at Belle Isle.

No. 51, July 27, Ontario.—Improvements in Rainy River range.

Richelieu & Ontario Navigation Co.

The Co.'s hotels are reported to be all doing well, including the new one at Tadoussac.

The directors have decided to invite plans for an hotel at Murray Bay, to be built next year.

On July 16 the Co. inaugurated its double service between Montreal & Quebec, adding a day service to the night one. The day service is performed by the strs. Columbian & Caspian.

On the str. Toronto's trip from Toronto to Prescott & return, Aug. 1 to 3, her coal consumption was tested. On the down trip it was 1.80 per horse-power per hour on a speed of 17 miles, & the up trip was 1.76 on a speed of 17.6 miles.

A union wharf at Montreal for the Co.'s boats is talked of, so that shippers may have the advantage of cheap freight transfers, light storage & sharp connections. The Toronto & Hamilton steamers now dock in the canal basins, & the other boats at another wharf. Through freight for points below Montreal could be much more easily transferred by all boats going to one wharf.

At a meeting July 20, the General Manager informed the directors of a marked increase in receipts, which, owing to the lateness of navigation opening, were about \$20,000 behind at the start. In comparison with last year, the boats had been running less time, yet the receipts were not only sufficient to recoup the \$20,000 loss at the beginning, but to place \$20,000 additional to the amount.

Levels of the Great Lakes.

L. E. Cooley, C. E., Chicago, estimates 10,000 cubic feet a second as the probable outflow of water at Chicago, for the sanitary

Prof. Abbe, Chief Meteorologist of the U.S. Weather Bureau, who has been making a study of the rainfall & outflow of the Great Lakes, says, in this connection: "The effect on the general level of Lake Michigan & Lake Huron, practically the same body of water, will be to increase the present outflow about three inches annually, so that the future outflow will be about 70 instead of 67 inches a year. The effect upon the depth of water & navigation in Lake Michigan & Lake Huron, & on the outflows of the Lakes St. Clair, Erie & Ontario will be barely appreciable & of no practical importance whatever in comparison with the uncertainty, the variability, & the great importance of the rainfall & evaporation. This slight drain upon Lake Michigan will be supplied by Lakes Superior & Huron, without affecting the surface level of St. Clair or Erie by more than a small fraction of an inch. The deepening of the channel through St. Clair & Detroit rivers will diminish the resistance to the flow of water, so that more will pass per second than before, provided the head of water, viz., the difference in level between Lakes Huron & Erie, remains the same; but this will not be the case. The effect will be felt at first mostly in the very center of the channel, & the total annual discharge at first will be much less than 1% more than at present. It may increase from 230,000 to 232,000 cubic feet a second, or from 67 to 67.6 inches a year, but the final result will be the same as if we opened a wider & easier communication between the two lakes, & they will come to the same level & act as one lake just as Huron & Michigan do now. As the influence of these two proposed engineering improvements on the regime on the lake is so small compared with that of the natural forces at work, it is especially important to accumulate & improve the climatological data, rainfall & evaporation, barometric pressure & winds, all of which affect the supply & the outflow."

Favors the Montreal Route.

The committee on canals appointed by Governor Roosevelt, of New York State, has been asking representatives of the transportation interests: "What is best to be done about the canals?" President J. J. Hill, of the Great Northern Ry. (U.S.A.), replied as follows:

"The entire question of canal communication between the great lakes & the port of New York is one that deeply interests the whole country north of the Ohio river, & particularly the north-western states. A canal which would take less time & greatly less money to build would follow the River St. Lawrence to the vicinity of Montreal, & there turn south by way of Lake Champlain, but during the time of open water for such a canal the port of Montreal would be open to seagoing vessels, & I see no reason when a canal was built to within sight of Montreal harbor, where it could reach seagoing ships & with harbor dues much less than those in the

port of New York, why any traffic other than such as might be locally required for consumption at intermediate points or in the city of New York should bear the additional expense of transportation for say 400 miles from Montreal to New York. I do not think the national sentiment would be enough to pay the financial cost. If the present Erie canal were enlarged & deepened to a depth of 10 ft., so that canal boats of 3,000 tons might be used, it is more than likely that the best practical results would be obtained in this way. I do not know whether it would be possible to take water from Lake Ontario by way of the Oswego & Erie canals to the Hudson river. The low rates of rail transportation have at times made it impossible to operate the canal boats now in use profitably in the grain traffic between Buffalo & New York, & it is not by any means certain that with improved facilities for handling grain at terminal points & other favorable conditions, the rail rates have reached their lowest limit."

The Deep Water Ways.

The U.S. Deep Water Ways Commission is approaching the completion of its work, a large force being engaged at Detroit, tabulating & arranging results, and it is expected the final report will be presented early next year. Major Raymond, C. E. of the Commission, estimates the cost of the proposed waterway at about \$200,000. In a recent interview he said:—

"The route to be followed will be through the Sault St. Marie Canal to Lake Huron, through the river to Lake Erie, thence by ship canal around Niagara Falls to Lake Ontario. The question confronting the commission at this point is whether or not the Welland Canal, which is Canadian property, should be utilized by deepening, as it is now totally inadequate for use in ships of deep draught, or a new canal built in U.S. territory. This may be found the more desirable for international reasons. A depth of 30 ft. through the waterway should be sufficient to carry any vessel to the ocean. The entire scheme contemplates some very serious engineering problems, partly as to the system of locks. From the point above mentioned, two canal routes are suggested, both using the Hudson River. One is known as the Oswego-Mohawk Route, and the other as the Champlain-St. Lawrence Route. The Oswego-Mohawk Route is to start at Oswego & proceed along the Mohawk Valley, taking in such cities as Syracuse, Rome, & Utica, going thence to Troy, where it will connect with the Hudson, necessitating a deepening of the Hudson. This route will practically obliterate the Erie Canal, though it will take up some of its waterways. The Champlain-St. Lawrence Route has been surveyed from Lake St. Francis, which is an arm of the St. Lawrence River, diametrically across to the Richelieu River, which flows into Lake Champlain, & through this lake by means of a

canal to Troy. In addition to the consideration of the above suggestions, the commission will discuss the question of an increase of the locks of the Sault St. Marie Canal."

Province of Quebec Shipping.

The Montreal Warehousing Co. has installed a conveyor at its elevator there with which vessels can be loaded at the rate of 8,000 to 10,000 bus. an hour, without lighterage.

The twin screw ferry steamer Levis, to ply between Quebec & New Liverpool or St. Romuald, 8 miles above Quebec on the south side of the river, has been launched at Levis.

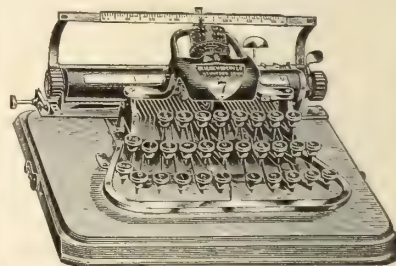
The str. Majestic, built by the Polson Iron Works, Toronto, for the Richelieu River Navigation Co., of St. Johns, Que., & which was described in our June issue, pg. 184, was launched at the Polson shipyard, Toronto, July 13. Her trial trip was made July 26; a few days later she left for the east to start running on the Richelieu River.

The str. Mistassini was burned to the water's edge at her wharf at Roberval, Lake St. John, July 24. She was owned by H. J. Beamer, said to be valued at \$50,000 & not insured. The press despatches spoke of her as a new boat, which is probably a mistake, as the only str. Mistassini registered up to Dec. 31, 1898, was built in 1891, at Roberval. She was a side-wheeler, 130 ft. long, 22 ft. 4 ins. wide & 8 ft. 2 ins. deep, gross tonnage 249.

There is to be another shake up in the underwriters' rates for the St. Lawrence, & when the various agents receive notification of the customary increase for Sept., they will notice a decided excess over the rates of any previous year. This was stated to a Witness representative by one of the leading insurance representatives in the marine business. Some

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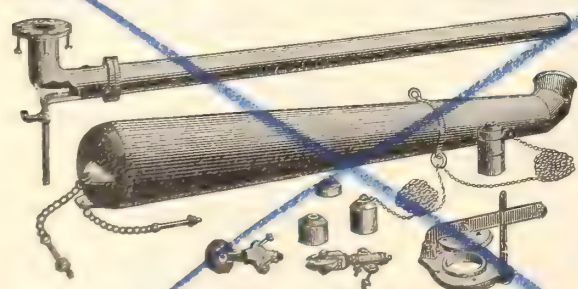
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of the elements explained as partly responsible for the increase were reports of heavy ice, numerous misfortunes continuing during the season, & the autumn weather setting in shortly after September.

The shipping season of 1899, at Montreal, which gave so much promise at its opening is not turning out so busy as was confidently expected at the outset. Business is especially dull about the wharves. Up to the end of July both the number of ships, their tonnage, as well as the harbor revenue, has fallen off considerably, when compared with the business up to the corresponding date last year. Some blame the exceedingly low freight rates prevailing as the cause of the business inactivity. Prominent shippers complain especially of the manner in which the trade with London has fallen away.

The new pier at the foot of Jacques Cartier square, Montreal, is ready on the upper side to accommodate a vessel. The wharf, which is part of the harbor improvement scheme embraced in plan 12 a-2, will be 850 ft. long on the upper side, 850 ft. long on the lower side & 300 ft. in width. The pier will accommodate 5 large vessels. The crib work was begun last spring, & the superstructure about the middle of June. Over 800 ft. of crib work has been placed in position on the upstream side & about 600 ft. on the lower side. The pier, when completed, will be covered by 8 inches of black rock & 4 inches of macadam.

British Columbia Shipping.

The C.P.R. steamship Athenian is said to have been chartered to take a load of U.S. cavalry horses from Seattle to Manila.

Capt. McCroskie is now in charge of the C.P.N. Co.'s str. Princess Louise, while Capt. Foote will have command of the Danube, vice Capt. Meyers, who leaves shortly for England.

Capt. Cates has returned to steamboat business at Vancouver, after two years in the Yukon. In partnership with W. Haywood he has bought the Puget Sound str. Defiance, which has been transferred to the Canadian registry & will be used for short up the coast trips.

Now that traffic is increasing to points on the west coast, the necessity for its improved lighting is becoming more urgent. At present there are no light-houses on the whole western Island Coast north of Cape Beale, & mariners are strongly commenting on the fact. A light, they say, at the entrance to Barclay Sound, on Amphrite Point, would be of incalculable value to shipping, for, though right on the seaboard, Barclay Sound is one of the most difficult pieces of navigation to be found on the B.C. coast, for the entrance presents a perfect archipelago. There is a strong current setting towards Ucluelet, & it not infrequently happens that a sailing vessel is carried up to this locality & loses herself completely for a time. In foggy weather especially does this happen, & in nine cases out of ten the only thing that saves her is the deep channel.—Victoria Colonist.

Yukon & Northern Navigation Matters.

Passenger traffic is reported as very evenly divided between the upper and lower Yukon River boats.

The str. Bailey, a sternwheeler, built last year for the Bennett-City White Horse run, by S. S. Bailey, has been sold.

A boat is running between Taku Arm & Atlin City, & a tramway, two miles across, connects with Captain John Irving's str. Gleaner.

The str. Olive May, is said to have been purchased by the Bennett Lake & Klondike

Navigation Co., & is to be refitted & named the Dora. She will run on the upper Yukon.

The steamers of the Alaska Commercial Co. on the Yukon are now burning coal. Several thousand tons of good coal taken from a newly-discovered mine on Nation River, have been stowed in bunkers on the Yukon.

At the recent annual meeting of the Hudson's Bay Co., in London, Lord Strathcona said:—"The steamers Caledonia & Strathcona have been put on the Stikine river again, but the Co. can hardly expect the same profitable results from them this year, as the proposed railway from Glenora to Teslin Lake has not been proceeded with, although the line may probably ultimately be carried out."

U. S. Consul Cook, in a report from Dawson to the State Department, says:—"There is a great deal of activity in shipping here. At one time there were 17 steamboats at the various landings. The boats are providing improved accommodations for passengers & I do not see why excursion parties are not organized to come & see this land of gold, now that travelling is made comfortable. I should think a trip up the Yukon would be more interesting to Americans than a trip up the Rhine."

The International Navigation Co., owners of the St. Paul & other ocean steamers of the American & Red Star lines, is said to have organized the Empire Transportation Co. to operate a fleet of ocean steamers between Seattle & St. Michael, & 18 river boats between St. Michael & Dawson & intermediate points on the Yukon River. The transatlantic steamers, Ohio, Illinois, Indiana, Pennsylvania & Conemaugh, heretofore employed in the Liverpool & Antwerp trade, are said to have been secured for this route. It is also said the Empire Line will introduce a novelty in the shape of a river boat, so far as the Yukon is concerned. It will be patterned after Stanley's Congo light draft steamers with 6 small propellers in the stern, each one in its own compartment.

At a recent meeting of the Victoria Board of Trade it was decided to write the Canadian Pacific Navigation Co., requesting an improvement in the Northern Steamship service, & on receipt of the Co.'s reply to make a thorough enquiry as to what is required & what can be done. In introducing the subject A. G. McCandless said it was impossible to have a satisfactory service while the present plan of calling at Northern B. C. salmon ports was continued. The conditions of the two traffics were eminently different, & outbound Klondikers cannot be expected to take a steamer that will delay them in a section where they have no interest for days, while the steamer loads a few cases of salmon. Nor can the B. C. company expect to command the passenger business unless it provides vessels to handle it that will compare in speed, comfort & appointments with such craft as the Humboldt & the City of Seattle. He made an interesting statement when he said that the time had not long passed when the merchants of Victoria came to the rescue of the C.P.N. Co., & by signing a round-robin declaring an intention to boycott the road, prevented the C.P.R. placing a fast passenger steamer on the Victoria-Vancouver route.

The river ice in front of Dawson moved out May 17, & was soon followed by the arrival of a number of barges which started from the foot of Lake Laberge, & travelled in the rear of the ice floes. These were followed by the str. Flora. On account of low water considerable difficulty was experienced by steamers in getting down the river in the early part of June, much damage to hulls being done by shoals in Thirty Mile Creek & Teslin River. The str. Jas. Domville was totally wrecked at Thirty Mile, the steering gear not answering quickly enough for a sharp turn in the rapids. She was built last year for the

Klondike & Stewart River Pioneers, Ltd., an English Co., & was towed to St. Michael's whence she ascended the Yukon. Up to June 20 the following boats that wintered in the Yukon, from Rampart to Dawson, had arrived at the latter point:—Sovereign, Monarch, Victoria, J. J. Healy, Rideout, Mary E. Graff, Robert Kerr, Seattle, Arnold, J. C. Barr, Seattle No. 3, Lightning Clara, Oil City, Pilgrim, Herman, U. S. Stratton, Reindeer, J. C. Power, & John J. Cudahy. From the headwaters the following arrived at Dawson: Flora, W. K. Merwin, Columbia, Pingree, Tyrell, P. B. Lowe, Gold Star, Canadian & Ora. The Ora was the first boat to arrive with connection from the outside.

An informal meeting of Alaska Steamship Association was held in the office of the Canadian Pacific Navigation Co. at Victoria, July 25, & the representatives of the different companies included in the association proffered the fatted calf to the C.P.N. Co., which had given notice of withdrawal from the combine. The notice was given by letter which was read at a meeting of the association held at Seattle July 19. According to one of the Sound steamboat men present at the meeting the reason of the threatened withdrawal is said to be the same that nearly resulted in similar action several weeks ago. Both of the Canadian companies, the C.P.N. & Union, have threatened to pull out of the organization, unless the Seattle companies stop calling at B. C. ports while their vessels are en route to or from Alaska. So determined were they upon that move, that it was several days before the prospective trouble was obviated, & it was even necessary to have several conferences between the companies of the association. But even with the present stated withdrawal of the C. P.N. Co., it is believed that moral suasion will again result in drawing the recalcitrant members back into the fold. It is expected that after further discussions participated in by the members of the association, in the two countries, the body will be kept intact, & the C.P.N. people induced to reconsider their action.—Victoria Times.

Ontario & The Great Lakes.

The Thousand Islands passenger traffic has never been heavier than it is now.

W. Power, the veteran ship builder, is reported seriously ill with cancer at Kingston.

The Rainy River Navigation Co. has been incorporated under the Dominion Companies Act, capital \$99,000; headquarters, Rat Portage.

Captain Johnston, of the str. Princess Louise, is said to be negotiating for the purchase of another boat to ply between Ottawa & Thurso, Que.

Capt. J. Robertson, of the str. Darius Cole, is credited with being the oldest commander in active service on the lakes. He will be 73 next Dec. He began sailing 37 years ago.

The wreck of the old str. Rothesay is giving annoyance in the vicinity of Blaisy Point, near Prescott. The iron skeleton of the wheels stands only a few inches below the surface.

A survey of the proposed route of the Montreal, Ottawa, & Georgian Bay Canal is being made under W. Shanley, C.E., in order to satisfy the Government as to the estimated cost of the work.

Capt. Reynolds' str. Empress, built to replace the Golden City, burned last year, was launched at Lakefield July 17. She is 93 ft. over all, 16 ft. beam, has an 85 ft. keel & a promenade deck 78 ft. long.

The Western peninsula will hereafter have first-class service across Lake Erie to Cleveland, from Port Stanley & Rondeau. Tri-

weekly trips will be begun at once, the first steamer of the Lake Erie Navigation Co., the *Ureana*, having arrived at Port Stanley.

On July 20 fire broke out in the hold of the C.P.R. str. *Athabasca*, which was tied up at the dock at Owen Sound. It was caused by an explosion of patent medicines. Efforts to smother the flames by steam proving futile, the hold had to be flooded with water & the damage to the cargo was considerable.

The U. S. Treasury has remitted the penalty of \$3,200 imposed on the Canadian str. *Comfort* for carrying coastwise passengers. She carried a Fourth of July party from Marine City, Mich., to another point in the U.S., via a Canadian port. The captain said that he did not think he was violating any law, inasmuch as he touched at a point in Canada en route.

It is stated that the small passenger steamer *Unique* is to be put in service again, after being in limbo at Sarnia, Ont., on account of debt. An arrangement has been arrived at whereby she comes into the possession of an eastern syndicate. She is being fitted up & painted & will go into the excursion trade among the Thousand Islands of the River St. Lawrence & vicinity.—*Marine Record*.

The Northern Navigation Co.'s str. *Germanic* was launched at Collingwood July 20. She is 190 ft. long over all, 32 ft. beam, depth of hold 12½ ft., registered tonnage 1,300. She has state room accommodation for 200 1st class. Vice-President Long, in referring to the Co.'s increase of capital to \$1,000,000 said that the unexpended \$600,000 would be used in building large vessels suitable for the requirements of the increasing trade; also, that in conjunction with the Dry Dock Co. the N. N. Co. had in view the establishment of a large ship-building industry that would give constant employment to a large number of men.

June touched the high water mark at the Canadian & U.S. canals at Sault Ste. Marie, the freight tonnage of over 3,000,000 tons for the month breaking all records. This tonnage was not only greater than that of any previous

month in the history of the canals, but it exceeded by 244,390 tons the total traffic of St. Mary's canal during the entire year of 1885. Nothing further is needed to demonstrate the marvellous growth of lake commerce during the past 15 years, & the growth during the present year indicates that it will be but a few years when the three locks at St. Mary's Falls will be taxed to their utmost capacity in carrying it.

In the charge against Capt. McIntyre, of the str. *Ongiara*, for Sabbath profanation, brought at Niagara recently, judgment was reserved. The defence put in a number of pleas, but it is held that the magistrate has no jurisdiction. The remedy, if any, is a civil one by action only. The Provincial Legislature can make a crime of it or amend the Lord's Day Act, which was in force at Confederation. It is claimed that the Legislature has no jurisdiction in respect to the Niagara River, as it is an international highway, & that the Dominion Parliament alone has jurisdiction. The Niagara Navigation Co. has a Dominion charter, & when a corporation is not liable its servant is not liable.

Six or eight months ago the wooden steamer of 2,500 to 2,800 tons capacity, of which there is quite a large number on the great lakes, & most of them not very old, was not looked upon as very valuable property. Now these vessels are held in some cases at prices 50% above what they could be bought for last winter. Several wooden steamers of moderate size that were on the market just before the opening of navigation, were offered at \$55,000 to \$65,000; now \$80,000 & \$85,000 are the prices asked for them. Negotiations are pending for the transfer of several vessels that would be considered almost worthless a short time ago, but the parties are slow in coming to terms on account of the general advance in values.—*Marine Review*.

There is said to be no truth in a report which recently emanated from Toronto to the effect that the G.T.R. authorities were considering the advisability of establishing a line of steamboats from either Owen Sound or Goderich in opposition to the C.P.R. steam-

boat service. The G.T. authorities have heard nothing of such a project. The G.T.R. has its affiliated steamboat connections with the great lakes from both Owen Sound, Goderich & Collingwood, to Chicago, Duluth & other lake centres, & it needs no other. The existing service is sufficient for the present requirements of the traffic. Some newer boats will, no doubt, in due course, take the place of the older ones now in the service, but that is a matter of time. The service as it is now conducted is satisfactory.

The proposed St. Clair & Erie Ship Canal involves the building of a canal across the narrow neck of land separating Lakes St. Clair & Erie. The distance is 13 miles. The construction of a canal of this length would save 79 miles of dangerous lake & river navigation. The canal would undoubtedly be of great advantage to U.S. shipping, more so than to Canadian. The shipping passing Detroit amounts to 32,000,000 tons a year. It is estimated that at least two-thirds of this amount would use the canal, & that charges on this tonnage, at 2½c. a ton, would produce a revenue of \$550,000 a year, enough to finance the enterprise. In addition to this, it is claimed there would be a saving of \$1,014,200 a year to the vessel owners by reason of the shorter & safer route via the canal. The promoters do not ask for a subsidy.

The question as to the date on which the St. Lawrence canals will be available for the passage of vessels of 14 ft. draught is one on which officials do not feel like making any definite statement, though all indications point to the completion of all the pending improvements, with the exception of those on the Cardinal section of the Galops canal, by the latter part of August. The Soulages is reported as practically ready & the other works are understood to be in such an advanced stage as to justify the hope that the enlarged & deepened channel may be thrown open by the date mentioned or by Sept. at the latest. The contractors for the Cardinal section have agreed to take all vessels of more than 9 ft. draught up the river by means of strong tugs, so that the opening of navigation from the

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Probably a month will elapse before the consolidation of towing & wrecking interests on the great lakes is fully effected, but it is not at all probable now that there will be any hitch in the plans, as enough has been done to insure the success of the new company. Even after the money required for this undertaking had been subscribed by some 50 of the leading U.S. vessel owners of the great lakes, including the managers of all the principal ore companies & several representatives of the line-boat interests in Buffalo, & it was found that the stock could be sold four or five times over, it was still agreed that unless the property of the various harbor tug lines could be brought into the combination at such prices as to insure sound business methods, the scheme was not to be carried out. The plan of organization, which involves a certain amount of stock to be taken by the several companies entering into the organization, is so conservative as to appeal to the tug owners as well as to the vessel owners.—*Marine Review*, July 13.

Maritime Provinces Shipping.

The steamers of the Dominion Atlantic Ry. & of the Yarmouth S. S. Co. have been doing some racing lately between Yarmouth & Boston.

Superintendent Chipman has made some changes in the Plant line offices in Halifax: R. H. Humphrey becomes Agent in charge of accounting department; F. H. Chipman, City Passenger Agent; J. A. Lane, Chief Freight Clerk; F. F. Coates, Secretary & Assistant to Superintendent.

ELECTRIC RAILWAYS.

The Lines in Western Canada.

British Columbia Electric Ry.—In Victoria the Co. will shortly inaugurate reduced fares for workmen going to & returning from work on the Esquimault branch, & will also correct some anomalies in the present system of transfers.

Earnings & expenses for June:

	1898.	1899.	Increase or Decrease.
GROSS EARNINGS.			
Railway—Vancouver branch	\$6,450	\$7,601	\$1,151
Victoria "	7,189	6,540	649—
Westminster "	6,181	7,036	855+
Lighting—Vancouver "	5,119	5,393	274+
Victoria "	3,397	3,596	199+
Total gross earnings	\$28,336	\$30,166	\$1,830+
Working expenses	\$17,826	\$18,402	\$576+
Net profits.....	\$10,510	\$11,764	\$1,254+
Gross earnings April 1 to June 30.....	\$87,763	\$92,344	\$4,581+
Net earnings April 1 to June 30.....	\$31,780	\$35,981	\$4,201+
+Increase. —Decrease.			

Nelson Electric Tramway.—The first spike was driven Aug. 1st, by C. S. Drummond, a director of the British Electric Traction Co. It was a gold one & was afterwards presented to him by the Mayor. Construction will be proceeded with at once. A line will run from the C.P.R. station to Baker St., thence to Bogustown, if pending negotiations are successfully concluded. A branch will run up Stanley St. as far as Mines road, thence to Kootenay St., & from there to the skating rink, at the corner of Houston & Stanley Sts., which belongs to the Co. A line will also run along Observatory St., or possibly Robson St. to Josephine St., thence down to the main line on Baker St. A considerable quantity of rails, etc., has arrived. Power will be supplied by the West Kootenay Power & Light

Co., from Bonnington Falls. Halifax Hall is engineer in charge of construction. It is said that the British Electric Traction Co. (the parent company) had such faith in the future of Nelson that it has decided not to place the tramway shares on the market, but to keep them.

Re Sunday Cars.—At the recent session of the Manitoba Legislature, a bill introduced by R. P. Roblin, to amend the Municipal Act by allowing the council of any city to submit to a vote of the people the question of running electric cars on Sunday, was defeated.

Ontario Electric Railways.

Barrie.—With reference to the paragraph in our last issue, pg. 218, we are informed that the Royal Electric Co. did not make application to the Barrie town council for a franchise for an electric railway between Barrie & Allandale, as the Co. manufactures only; but its general agent at Toronto, J. A. Kammerer, wrote making enquiries from the council as to what franchise or encouragement would be given to a syndicate which would be willing to build an electric railway. The enquiry was made for outside capital, but up to July 25 no reply had been received.

Berlin to Port Dover.—There are said to be prospects of a line being built between these points.

The Hamilton Consolidations. At the time of writing (Aug. 7) there is very little to add to what was said in our last issue, pg. 221. There appears to be no doubt that the Cataract Power Co., represented by J. Patterson, has secured control of the Hamilton & Dundas line, the Manager having been notified to that effect by the owners. It is said the wide cars now on that line will be transferred to some other road & replaced by narrower cars which can be run over the double tracks in Hamilton. A rumor that Mr. Patterson's backers would take over the Hamilton, Grimsby & Beamsville line is again denied, with the statement added that the new company proposes to build a fast freight line to Toronto. Mr. Patterson had some people from New York, Chicago & Boston looking over the field during the third week in July. It was announced that the Hamilton St. Ry. & the Hamilton & Dundas Ry. would be transferred on Aug. 2, but for some reason not made public the transfer did not take place. It is said Mr. Patterson has to pay 125 for the Hamilton St. Ry. stock held by the shareholders who pooled their interests.

London St. Ry.—Earnings for July, \$1,056.13; operating expenses, \$5,531.14. Loss, \$4,475.01. In July, '98, the earnings were \$10,809.31; operating expenses, \$6,000.52. Net earnings, \$4,808.79. The strike still continues, with occasional disturbances by some of the citizens.

The Ottawa Electric Ry. Co. donated \$400 to the Associated Charities of the City out of the proceeds of the first Sunday's traffic on July 23. The row in the City Council over the by-law granting the Co. permission to run on Sundays has ended, the by-law having been finally passed.

The Port Arthur Electric Ry. has had a lot of improvements made recently in the wires & roadbed.

Toronto Railway. The gross earnings are:

	1899.	1898.	Increase.
Jan.	\$95,690.12	\$86,502.36	\$9,187.76
Feb.	91,860.30	82,402.19	9,458.11
Mar.	102,444.88	95,184.42	7,260.46
April	95,212.37	86,898.83	8,313.54
May	104,806.62	92,670.35	12,136.27
June	109,063.18	94,119.32	14,943.86
July	116,844.41	104,402.07	12,442.34
	\$716,922.41	\$639,214.39	\$77,708.02

There has been very little change in the position of affairs respecting the building of radial railways by this Co. east & west from To-

ronto since the matter was referred to at length in our April issue, pg. 121. A short time ago Manager Keating met the Peel County Council with reference to crossing the Etobicoke River, when the matter was referred to a committee of the Council to meet on the spot & settle the conditions under which the Council will allow a railway bridge to be built. It is understood that the question of the extensions will be considered at the next board meeting of the Co., but this may not be held for some little time as a number of the directors are away.

It is reported that the franchise of the Toronto Baseball Club has been sold by A. Irwin, C. A. Campbell & T. G. Soole, to the Toronto Ferry Co. The Toronto Ry. Co. is said to have been negotiating for it with the intention of removing the games from the Island to the city side, & this forced the Ferry Co. to protect itself. The price is said to be about \$10,000.

Woodstock to Ingersoll.—Dr. Ickes, the promoter of this proposed line, was in Woodstock recently & expressed himself as satisfied with the 50 years franchise offered by Woodstock.

Quebec Electric Railways.

Montreal St. Ry.—The gross earnings are:

	1898-9.	1897-8.	Increase.
Oct.	\$133,419.69	\$116,093.09	\$17,326.60
Nov.	125,129.10	119,088.08	6,041.02
Dec.	127,678.00	113,029.33	14,648.67
Jan.	125,276.04	110,155.96	15,120.08
Feb.	113,838.02	102,425.99	11,412.03
Mar.	123,754.11	114,476.98	9,277.13
April.	130,405.96	110,619.27	19,786.69
May.	145,466.38	123,308.08	22,158.30
June.	156,858.34	132,964.61	23,893.73
July.	154,048.07	143,986.63	10,061.44
	\$1,338,879.71	\$1,177,788.02	\$161,091.69

The Verdun extension has been completed to the western limits of the village. The line runs along the Lower Lachine Road, right beside the river, as far as the Lachine Rapids, & to within a quarter of a mile of the Lachine Rapids Hydraulic & Land Co.'s power house. Between the Queen's Park & the end of the route an extra fare is charged each way. The route chosen is one of the prettiest on the island of Montreal.

The Co. is arranging to build a second street car line into Westmount, having concluded an arrangement with the Seminary of Saint Sulpice, by which it secures the right of way over 30,625 ft. of land, running through the Seminary's property. The portion purchased is bounded by Sherbrooke st., Cote des Neiges road, Cote des Neiges corporation & Westmount. Thirty cents a foot is the price agreed upon, bringing the total up to \$9,187.50. The Co. intends to build the line from the present terminus of the Guy st. line up the Cote des Neiges road, a short distance beyond Cedar avenue, through the seminary grounds, on what was at one time intended for Elm avenue. It is said this line will ultimately be extended to the cemeteries, so that funeral cars may be run.

The cars are being equipped with life-saving fenders which are being made at the Co.'s works.

The Co. has placed an electric pay car in service, so that the men, in place of receiving their wages at the Co.'s office, are now paid at the various centres. This greatly facilitates matters, as the men are spread out in their various occupations over a large area. The car is constructed much on the same principle as the regulation mail car used in many sections of country in the electric railway service. It is divided into two compartments. One is merely a passage way through which the person receiving money passes, entrance being made at one end of the car & exit by the other. In the other compartment, which is entirely closed in, are the paymaster & the checker. These two officials have

the drivers at their disposal, but only one of them is the giving of envelopes. Of course there are a conductor & motorman. The windows on both sides of the car are protected by wire netting.

Carried by a law recently passed by the City Council, when a car stops at an intersecting street, it is stopped at the near corner instead of the far one, as heretofore. The speed of cars is limited to 8 miles an hour & 4 miles an hour when turning street corners & at intersecting lines.

The Co. is contemplating the erection of a club house for its men at the corner of Harbor & St. Catherine streets. The plans show a building modern in all respects, with every convenience for the welfare of the men.

The Montreal Park & Island Ry. Co. is seeking to restrain the town of St. Louis from interfering with its tracks on Park Avenue. The Co. alleges in substance that it has acquired by transfer the franchise granted to A. J. Corrivau in 1893 to construct & operate an electric railway in St. Louis & that since then this particular branch of its system has been declared to be a road to the general advantage of Canada by the Dominion Parliament, & that the defendant had no right on any pretext whatever to interfere with it & tear up the tracks as it did. Substantially the defence is that by its charter the corporation has the power conferred upon it to level, pave or macadamize any street in its limits, to level the ground for sidewalks, etc., that the work done with that end in view on Park Avenue was done in the regular way by a resolution of the Town Council, adopted on a report of the town engineer, to render Park Avenue fit for traffic & this in view of the selling of the exhibition grounds in lots. Moreover, if the tracks were removed it was because they were above the level of the street. The corporation denies that it is in contempt, & alleges that

when the writ was served all work was stopped.

The following notice to conductors & motormen has been issued:—On & after Aug. 1, motormen & conductors who have been in the Co.'s employ for 2 years or over will receive 15c an hour. There will also be \$100 distributed at Christmas in prizes to motormen & conductors holding the best records, as follows:—\$20 each for the motorman & conductor having worked 350 days or more during the year & having the best record. \$15 each for the motorman & conductor having worked 200 days or more during the year & having the best record. \$10 each for the motorman & conductor having worked 100 days or more during the year & having the best record. \$5 each for the motorman & conductor having worked 60 days or more during the year & having the best record. The records will be based upon the carrying out of the orders entered in the order book, obedience to the rules of the Co. & the care of the Co.'s property.

Rumors have been revived lately as to the absorption of the M. P. & I. Ry. by the Montreal St. Ry. Co. It is said that the M. P. & I. Co.'s property can be had for \$800,000 but that the M. St. Ry. Co. is not inclined to give that amount at present.

Quebec Electric Ry.—The Quebec, Montmorency & Charlevoix Ry. Co. has paid the City of Quebec \$2,365, being 4% on the earnings of the line in the city for the 6 months ended June 30, which amounted to \$59,141.

The Queenston-Lewiston Bridge.

The suspension bridge across the Niagara River, between Queenston, Ont., & Lewiston, N.Y., was opened July 21, under the auspices of the International Traction Co., which has built it through its subsidiary companies,

the Queenston Heights Bridge Co., of Canada, & the Lewiston Connecting Bridge Co., of New York State. The location of the bridge is on the site of a suspension bridge erected in 1850-51, & adheres pretty closely to the lines of the old bridge, which was wrecked by a hurricane on Feb. 1, 1864, & not rebuilt, because it was an unprofitable investment. As the great suspension bridges which stood further up the gorge have given place to new steel arches, this suspension bridge is the only structure of the kind spanning the Niagara. The cable span of the new bridge is 1,040 ft., & the span of the stiffening truss 800 ft. From center to center of trusses the width is 28 ft. clear, & the roadway has a clear width of 25 ft. The versed sine of the cables is 87 ft., & the height of the superstructure above high water mark is 65 ft. The height of the bridge above the tracks of the Niagara Gorge R.R. is about 15 ft. The stiffening truss extends about 4 ft. above the floor, & the only railing is light strips of iron flats reinforced by oak half-rounds. The floor is of 2 in. oak plank laid crosswise. A single track for trolley cars is laid through the center, the width of the bridge affording ample room for vehicles to pass on either side of the track. There is no walk for pedestrians, as the point of the bridge's location is such that there is not likely to be much travel on foot.

There are 4 towers, 2 on each side of the river. The towers on the New York side have a height of 26 ft., bases of 13 ft. square, & are located 28 ft. back from the edge of the bluff. The towers on the Canadian side have a height of 18 ft., with bases 12 ft. square, & are located 15 ft. back from the edge of the bluff, the ledge on the Canadian side being more firm than on the New York side. In the construction of these towers it was found possible to use a great part of the old towers in the new bases, & the old inscription stones

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of the towers on both sides of the river were preserved, & have place in the new towers. The new stone used in the towers on the New York side came from Buffalo quarries, & that in the Canadian towers from Queenston quarries.

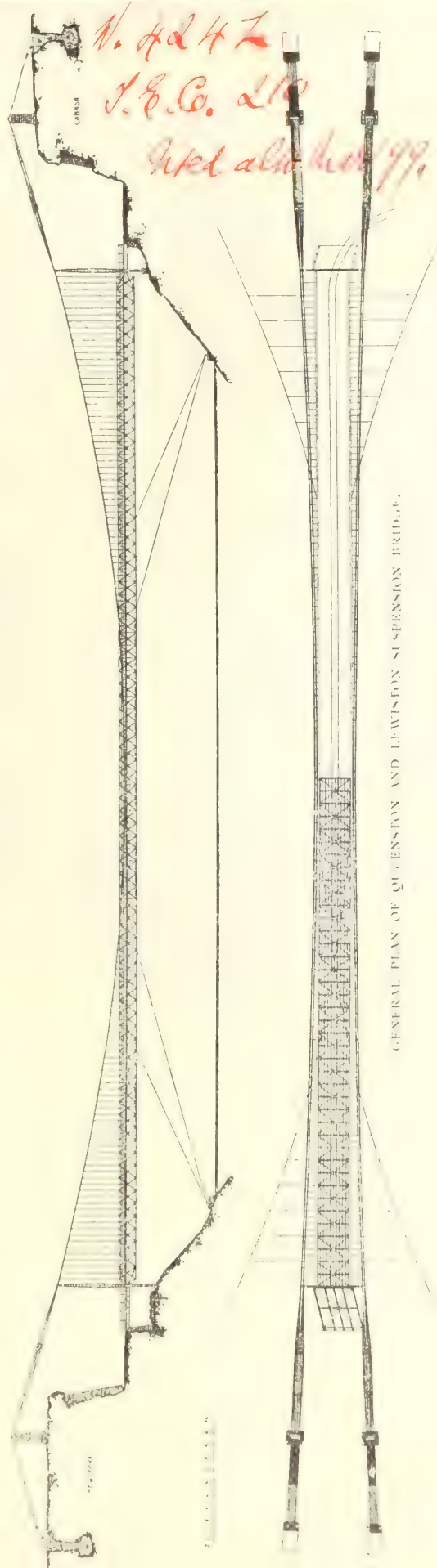
Four cables form the main support of the bridge. Each of these is composed of fourteen $2\frac{1}{4}$ in. galvanized cast steel wire ropes. These cables once formed a part of the old suspension bridge that stood close to the falls, & which was taken down in the early part of last year. The span of the upper suspension bridge was so great, & the anchorages so far back from the towers, that it has been found possible to cut the old cables in half, & thus use them on the shorter span of this new bridge. However, when so cut they are hardly long enough to fill out the entire span & reach back to the anchorages, & for this reason about 75 ft. at each end of the cable span is made up of eye-bars. The cables are anchored in solid rock about 150 ft. back from the towers, the shafts being filled with concrete. The suspended span is connected to the river banks by 2 approach spans, the one on the New York side being $34\frac{1}{2}$ ft. long, & the one on the Canadian side $19\frac{1}{2}$ ft. long.

On each side of the river the bridge has long approaches on which double tracks are laid for electric cars passing on & off the bridge. These approaches are about 25 ft. wide; the one on the Canadian side is about 1,000 ft. long, & the one on the New York side about 800 ft. long. Both approaches have face walls to prevent the native shale disintegrating under the weather. The approach wall on the New York side runs close beside the tracks of the Niagara Gorge R.R. Its highest part is about 19 ft., & for 660 ft. it drops at a 1% grade, & then for 200 ft. at a 2% grade. The high part is laid in cement, & the remainder is laid dry. These approach walls form the bridge landings. Gorge R.R. tracks are connected with the bridge on the New York side, & the Niagara Falls Park & River Ry. tracks with the bridge at the Canadian end. This makes it possible for passengers to travel around the beautiful gorge without leaving their seats in the electric cars. Starting, for instance, from the New York State Reservation, at Niagara Falls, N.Y., the trip consists of crossing the river over the new upper steel arch in a car of the Niagara Falls Park & River road; passing down that line along the top of the high bank on the Canadian side to Queenston, there crossing on the new suspension bridge to the New York side, where the tracks of the Niagara Gorge R.R. are taken back along the water's edge & up the bank to the point of starting, thus allowing passengers to view the river & banks from above & below, all forming a most delightful trip.

The capacity of the new Suspension bridge is such that it will accommodate the heaviest of trolley cars, together with a uniformly distributed load of 40 lbs. to the square foot over the entire structure. About 800 tons of metal have been used in its construction, & the cables weigh about 200 tons.

Canadian Enterprise in Brazil.

Comparatively few northern people know that in the southern part of Brazil lies one of the richest & most rapidly growing cities of South America, the capital of the state of Sao Paulo, & most advantageously situated as regards climate, elevation, railway connections & seaport facilities. The city of Sao Paulo is situated about 40 miles from the seacoast, directly under the tropic of Capricorn, $23\frac{1}{4}$ degrees south of the Equator. About 5 miles from the ocean hills rise abruptly to the height of 2,000 ft., & from this point a tableland extends inland for many miles. Sao Paulo is one of the highest points on this table land, its elevation



being 2,500 ft. above the sea level. The climate is, for a tropical country, cool, bracing & healthful, & is not characterized by that depressing tropical humidity which is felt in the seacoast cities of Brazil. The latest estimates place the population at not less than 250,000, the growth having been extremely rapid during the past ten years. It is to this city that the attention of a number of Canadian & New York capitalists has been directed for some time, with the result that a syndicate has been formed, consisting of F. S. Pearson, Chief Engineer of the Metropolitan Street Ry. Co. of New York; W. Mackenzie, who is largely interested in many Canadian street railway properties; B. F. Pearson, of Halifax, N.S., & others, to develop the street railway, light & power interests of Sao Paulo. Franchises have been obtained for street railway lines covering all desirable routes in the city, including a few miles of street now traversed by a mule railway which has been in existence for some years. R. C. Brown, whose management of the Halifax property was such as to win him the entire confidence of its owners, has gone to Sao Paulo with a large consignment of electric railway apparatus, & is in full charge of construction, equipment & temporarily, of the operation of the system. He is accompanied by F. S. Pearson, who will determine the main outlines of the installation, locate power stations, etc.

The syndicate has obtained a concession for a number of lines laid out in such a way as to give the whole city a good service, but it is not believed that the development of the system will stop with the completion of these lines, for there are desirable suburbs to be reached. Coal in Sao Paulo sells for \$10 a ton, & wood is equally costly. As a consequence, the price of gas & electric lighting is high, & none of the city lighting is as yet done by electricity. Five thousand commercial incandescent lamps are, however, supplied from the present station. The electric light service begins at sundown & except for a few large customers, extends only until 10 o'clock in the evening. About 20 miles west of the city of Sao Paulo is the only large water power near the city, with a profitable minimum supply of 10,000 h.p., to 20,000 h.p. This has been secured by the syndicate, which intends developing power & transmitting it to Sao Paulo for furnishing the lighting, railway & power service. The introduction of cheap power into a city where steam power at present costs from \$100 to \$150 a year will mean a great deal to its industries & to the lighting & railway enterprise. The right to build a transmission line has been obtained & this line will pass through the town of Augua Branca, where there are at present several factories.

The syndicate has obtained the government approval for a type of street car which is almost an exact duplicate of the Broadway, New York, car. At present there has been shipped to Sao Paulo 10 miles of track, with necessary ties & other railway material. 15 cars, Broadway pattern; two 225 kw. generators for direct connection with the engines & boilers. By the end of the year it is expected that 35 miles of track & 75 cars will be in Sao Paulo, & within a short time thereafter the temporary steam power station, now building, with apparatus described above, will be re-

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1883	2,216	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	59,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	24,604	181,846 79	283,967 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.40
1892	43,024	344,748 82	580,597 85	13 49	6.25
1893	54,484	392,185 93	858,857 89	15 76	5.47
1894	70,035	511,162 30	1,187,225 11	16 94	5.47
1895	86,521	685,000 18	1,560,733 46	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.50
1897	124,685	992,225 60	2,558,832 78	20 52	5.56
1898	144,000	1,176,125 14	3,186,370 36	22 12	5.67

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Or Any Officer or Member of the Order.

placed by power electrically transmitted from the waterfalls by the three-phase system. At this waterfall a brick and cement dam, 40 ft. high & 400 ft. long, will be constructed. The following particulars are given of the Co.'s method of construction. The standard 7-in. girder rail, which is used for city streets, weighs 90 lbs. a yard & is mounted on steel ties spaced every 10 ft. The ties are set in concrete, the latter being carried a distance of 4 11-16 ins. below the base of the rail. The rails are connected with the ties by clips & are bonded to them, making a cross connection. The joints are also bonded by the Anderson west end bond. The guard rail weighs 110 lbs. a yard, & the T rail for suburban service 62 lbs. a yard.

W. Kelly, for many years eastern passenger agent of the Chicago, Milwaukee & St. Paul Ry., has been appointed general passenger agent of the Niagara Gorge R.R.

Judge Lillibridge, of the U.S. Circuit Court, at Detroit, Mich., recently delivered a decision permanently enjoining the street railway companies from carrying freight over their lines within the city. Hitherto the suburban companies' cars have carried freight over the city companies' lines, although there has been no special authority for doing so.

At the beginning of Oct. electric traction will be installed on the lines of the Metropolitan Ry. Co., in London, Eng. The newspapers unanimously applaud the change from steam power. The system is entirely underground, & the smoke & gases from the engines have always been a most objectionable feature, preventing many persons from riding on the lines. This handicap will be entirely removed by the use of electricity.

The All-British Pacific Cable.

The Act passed by the Dominion Parliament at the recent session provides that the Governor in Council may enter into an agreement with the Governments of the United Kingdom & of the Australasian colonies, for the purpose of securing the construction & operation of a cable between Canada & Australasia. A Board of Commissioners, composed of 8 members, shall be created by authority of the Imperial Parliament of the United Kingdom. The cable & all property acquired for the undertaking shall vest in this board, in trust, to carry out the undertaking for the benefit of the Governments sharing in it. To carry out the undertaking, the board may issue debentures, payable at not less than 25 years nor more than 50 years from issue, & bearing interest not exceeding 3% per annum, the total amount of debentures not to exceed £1,700,000. Subject to the cost of operation, maintenance & management, & the setting apart of a sinking fund to provide for renewals, the principal & interest shall be a 1st charge on all the property & earnings of the undertaking. The cable shall be laid between Canada & Australasia via the Pacific Ocean, & may be in sections, but all points of its landing shall be on British territory. The Governor in Council may appoint, & shall be entitled to appoint, 2 of the commissioners, who shall, with the remaining 6 members appointed, 3 by the United Kingdom & 3 by the other contributing governments, constitute the board. The respective governments joining in the agreement shall be interested in the profits & losses of the undertaking in proportion to the amount of their liability as aforesaid. The Governor in Council is authorized, on behalf of Canada, to guarantee payment of five-eighths of the principal of the debentures, & of interest thereon.

In introducing the bill the Postmaster-General said that as to the extent to which the

scheme would involve Canada financially, it was impossible to give anything but estimates. The line would have to be laid in places at a depth of 3,000 fathoms, which exceeded the depth of any cable at the present time, but once it was laid this circumstance would help to preserve it. The estimate of cost made by the Imperial Pacific Cable Committee was £1,422,000. Since then the cost of material had appreciated to the extent of about £170,000, making the total estimated cost £1,592,000. To this it was proposed to add £108,000 as a margin, & to figure the total cost at £1,700,000. It was confidently anticipated by all that the cable would become a paying enterprise within a very few years. The cost of maintenance, repairs, sinking fund & interest, would be £144,886, & it was believed by experts that, after paying all these charges, there would be a surplus for the 1st year of operation of £1,114, which would increase by the 5th year to £124,565.

General Telegraph Matters.

Advices received at Vancouver, July 31, stated that the Dominion Government telegraph line from Bennett had been completed to Little Salmon. It was expected that it would reach Fort Selkirk by Aug. 25 & Dawson by Oct. 15.

The G.N.W.T. Co. has opened the following offices:—Cacouna, Que.; Ekfrid, Ont.; Forestdale, Que.; Glanworth, Ont.; Grimsby Park, Ont.; Roberval Hotel, Que.; Seeley's Bay, Ont.; St. Leon Springs, Que. The office at Stittsville, Ont., has been closed.

A telegraph line is being built by the C.P.R. along the Columbia & Western Ry., from West Robson to Midway, B.C., & will be completed simultaneously with the track. It is already in operation between West Robson & Gladstone, about 45 miles. Pending the completion through to Midway, the Vernon & Nelson Telegraph Co.'s line from Rossland to Greenwood is to be used for telegraphing as well as telephoning.

It is said that when the Government telegraph line is completed between Bennett & Dawson, Yukon, the rate for a 10 word message will be \$2.75, or 27½c. a word. It will be remembered that the Canadian, British Columbian & Dawson City Telegraph Co., in its debenture prospectus, gave an estimate of a revenue of 5 shillings, or \$1.22 a word, between Dawson City & Quesnelle, B.C., the extravagant absurdity of which we pointed out at the time.

The C.P.R. Co.'s Telegraph has closed these offices:—Wawanesa, Man.; Otter Lake, Ont.; South March, Ont. The following offices have been opened:—British Columbia: Gladstone, Kuskanook, McLean's Tunnel, West Robson, Kootenay Landing, Material Yard, Republic. North-West Territory: Bowell, Strathcona. Ontario: Jordan, South Lancaster. Quebec: Coteau, Fairfax, Heathton, Kateville, Massawippi, Mulvena, St. Edwards, Trenholmville, Cassville, Granite Quarry, Johnville, Kingsey Siding, Marlow, Norton Mills, St. Milo, Tuck's Landing.

The Dominion Department of Public Works is asking tenders for 165 tons of no. 8 S. W. G. galvanized iron telegraph wire (354 to 365 lbs. a mile), delivered in bond at the C. P. R. station at Vancouver, B.C. The quality of the wire & galvanizing must be such as will afford a test corresponding to the Felton-Guilleaume standard EBB; having a constant (resistance x weight, per mile) under 5,700; breaking strain, over 1,100 lbs., & taking not less than 20 twists in 6 ins. Weight of lengths, without joint, 90 to 112 lbs. Also for delivery with the above 5 tons no. 9 soft annealed galvanized iron tie wire.

A Skagway, Alaska, telegram of July 18 said:—"Two representatives of a company

which claims to have a concession for a cable from Vancouver, B.C., to this port are now here. They say steps will very shortly be taken to begin the laying of the cable. Much London capital is said to have been subscribed for this cable, in order that the mining market of London may be in telegraphic communication with the gold fields of the interior." In view of the fact that the Dominion Government has decided to extend its line from Quesnelle, B.C., via the Stikine River & Teslin Lake, to connect with the line being built from Bennett to Dawson, it is not likely a cable will be laid. In any case, cable experts say the route is almost impracticable for a cable.

The Spokane & Northern Telegraph Co. will, it is said, make some extensions into the Boundary Creek country. When D. C. Corbin sold the Spokane Falls & Northern Ry. system to the Great Northern Co. he retained the telegraph line which runs from Spokane to Rossland, & from Northport to Nelson. He has been granted a Dominion charter for a telegraph line into the Boundary Creek country. The new line will, it is said, be constructed from Marcus, where connection will be made with the line running to Rossland, Spokane & Nelson. It may be extended to Cascade, Grand Forks, Columbia, Greenwood & Midway. From the latter point it may go down the Kettle River to Curlew & thence to Republic. The latter place would thus be given direct communication with the leading Boundary points.

A London, Eng., despatch of July 30 says:—"Some very interesting tests of wireless telegraphy were tried last week, Maskelyne, the famous wonder worker of the Egyptian Hall, being the experimenter. On Wednesday a balloon was sent up. When almost out of sight messages were sent from the earth to the balloon & replied to. Then at a distance of 400 yards a powder magazine was, by means of wireless telegraphy, blown to pieces. Maskelyne affirmed that the effort would have been quite the same at a distance of 10 miles. It would be interesting to hear Marconi's opinion about this, but as he is with the manoeuvring fleets we must wait for that to test the theory. Still, a further test. Another balloon was sent up, but carried no people this time, only a tail of cartridges of gun cotton. After waiting till the balloon was but a speck in the sky a button was pressed. There was a flash, a very distinct boom, & the speck disappeared."

A. E. Porter & W. A. Ander, of Bennett, will apply at the next session of the British Columbia Legislature for an act to incorporate a company to construct & operate a system of wireless telegraphy for the transmission of messages from some place near Bennett, Cassiar District, by the most direct route southeasterly through the Province to some point on or near the C.P.R. in the Province, with power to build branches to some point on Vancouver Island, & to other points in the Province. Speaking of this application, the Railroad Gazette says:—"Is a charter necessary for the right to put up a pole on a quarter acre of private ground once in a hundred miles? Must authority be got from the Government to sling electricity through the air? We shall next be told that the inhabitant of New York must get a charter in New Jersey to look at summer sunsets or to smell the fertilizer factories. Perhaps, however, our Canadian friends are simply aiming to stake out a claim to sufficient aerial territory to prevent intrusion by rival ether-disturbers. The annoyances so prevalent in various parts of the country during the past few years in consequence of the disturbance of railroad signal circuits, by stray electricity from street-car lines, suggest that doing business in the sky may not be so free from the sordid elements of earthly life as the poets & electricians would have us think."

General Telephone Matters.

Rossland, B.C., has given a franchise to the Canadian Telegraph & Telephone Co.

In Moncton, N.B., 26 telephone instruments were burned out during a thunderstorm on July 10.

The business of the Bell Telephone Co. at Braxville, Ont., has increased rapidly lately, 10 operators being now employed.

In the Imperial House of Commons, Aug. 1, a bill to incorporate the Bell Telephone Co. was passed its 3rd reading with only 20 dissentients. It continues the franchise of the present company until 1911.

On July 24 poles were reported as being up for 10 miles on the new Brunswick Telephone Co.'s extension from Moncton to Buctouche, & it is expected to have the work completed during Aug.

Winnipeg City Council has authorized a committee to make the best terms possible with the Bell Telephone Co. to carry on the fire alarm system until the city is ready to take it over in about 6 months' time.

The Western Union Telegraph Co. & several other companies, have brought suit against the American Bell Telephone Co., under the Western Union-Bell contract, in which they seek an accounting in stocks & dividends amounting in the aggregate to about \$10,000,000. This suit not only directly affects the A.B.T. Co., but also all its sub-companies' stock & holdings.

S. L. Dakin, Beaver Harbor, N.B., & others are applying for incorporation under the N.B. Companies Act, as the Penfield & St. George Telephone Co., capital \$2,000, headquarters at Beaver Harbor, to establish telephone communication between St. George & Black's Harbor, Penfield, Penfield Ridge, Bonny River, LeTete Harbor, Mascarane, Back Bay & West Isles.

T. T. Bailey, Portage la Prairie, Man., is said to have received intimation from the Bell Telephone Co. that a petition from Portage la Prairie, asking for the establishment of a long distance system, has been favorably considered,

that estimates will be made of the cost & probable revenue, & if these are favorable the work will be proceeded with between Winnipeg & Portage la Prairie, with a possible extension to Brandon & other towns.

Prof. A. G. Bell is reported to have explained in a lecture how he came to invent the telephone as follows:—"My father invented a symbol by which deaf mutes could converse, & finally I invented an apparatus by which the vibrations of speech could be seen, & it turned out to be a telephone. It occurred to me to make a machine that would enable one to hear vibrations. I went to an aurist, & he advised me to take the human ear as my model. He supplied me with a dead man's ear, & with this ear I experimented, & upon applying the apparatus I found that the dead man's ear wrote down the vibrations. I arrived at the conclusion that if I could make iron vibrate on a dead man's ear I could make an instrument more delicate which would cause those vibrations to be heard & understood. I thought if I placed a delicate piece of steel over an electric magnet I could get a vibration, & thus the telephone was completed. The telephone arose from my attempts to teach the deaf to speak. It arose from my knowledge, not of electricity, but as a teacher of the deaf. Had I been an electrician I would not have attempted it."—Electrical World.

Among the Express Companies.

The B.C. Express Co. reports business as very fair.

D. C. Jackson has been appointed Superintendent of the Alaska Pacific Ex. Co., with headquarters at Skagway, Alaska.

W. M. Gordon has been appointed Route Agent of the Dominion Ex. Co., with headquarters at Winnipeg, with charge of all offices between Moose Jaw, Assa., & Fort William, Ont., inclusive, & all intermediate branch lines.

R. E. Helme has been appointed Route Agent of the Dominion Ex. Co., with head-

quarters at Nelson, B.C., vice A. Devitt resigned, with charge of following territory: all offices on main line of C.P.R. west of Moose Jaw, Assa.; to & including Revelstoke, B.C.; Edmonton branch; Macleod branch; Lethbridge branch to & including Kootenay Ldg.; all offices south of Revelstoke, B.C.

F. G. McKay has been appointed Route Agent of the Dominion Express Co., with headquarters at London, Ont., vice R. E. Helme transferred, with charge of following territory: all offices on C.P.R. between Galt, Ont., & Detroit, Mich., inclusive; Ingersoll branch; Lake Erie & Detroit River Ry., & the following stage routes: between Galt & Hespeler; between Galt & Waterloo; between Ayr & Brantford; between St. Thomas & Aylmer.

On July 27 Acting Chief of Ontario Police Mains arrested, at Niagara Falls, A. Nixon, who gave St. Catharines as his residence, & J. Chrysler, who gave his residence as Allandale, but claims he has been teaching school at Elmsdale the past year. He is well known at Niagara Falls, & it is alleged that he has a criminal record. The two were charged with conspiring to defraud the Canadian Ex. Co. It is stated that they signed an order at Niagara Falls & forwarded it to the St. Catharines agency, to forward any money package from St. Catharines to Port Robinson. To this, the charge is, they signed the fictitious name of C. N. Hutton. The sequel to this was a check for \$200, supposed to be forged on the Bank of Commerce, Collingwood, made in favor of C. N. Hutton & signed, in supposed forgery, with the name of G. Logan, there being, it is said, over \$300 in that bank in favor of G. Logan, which has been, it is said, advertised as unclaimed. When the bank received the check, purporting to be signed by Logan, with a request from "Hutton" to forward the money to St. Catharines, the bank authorities handed the matter over to their St. Catharines agency, the arrest of Chrysler & Nixon following. The men were brought before the Police Magistrate at Niagara Falls, & were committed for trial.

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The Railway of the Future.

By Adolphe Davis, C. E.

About 60 years ago England gave birth to the steam surface railway & inaugurated the present system, & now it is again about to inaugurate the railway of the future. England waits the proper time before accepting new inventions, & does not spend money uselessly. Her people will generally make sure of a new undertaking, & will wait to see if anything better will turn up that can replace what is already in operation with lasting advantage. They have waited 60 years for new developments in railway systems, but there has been comparatively no change in the last 50 years, although it is to be admitted that the speed has been increased on passenger trains during the past 40 years by about 20 miles an hour. The changes made have consisted chiefly in making the cars more comfortable for the traveling public. In America the weight & size of the railway rolling stock have been increased greatly for the sake of facility & economy in operating; but not so rapidly in England. The latter have correctly believed there is a limit, have stopped increasing the weight of their rolling stock, & have turned their attention to devising means to meet the present conditions, which demand greater facilities & quicker means of transit, combined with more absolute safety.

American railway managers have as yet seen no limit, & they are increasing the size of the carrying capacity of their rolling stock; engines are also increased in power & corresponding weight: all this with one idea in view—to reduce the cost of operation of their line. The means adopted appear well calculated to give the companies the desired result. The main result of the practice is the great saving of man labor; in fact, the managers will tell the directors of their companies that in place of two trains being required to move a given quantity of freight, one train with one staff will do the work, so that 50% is saved on engine drivers, firemen, conductors & brakemen, & 50% on locomotives. This is for freight trains only, as on passenger trains the service remains the same. When such a report is made at a directors' meeting, there are smiles & happiness all around. Generally there is mention made of the great saving made by steamship companies in replacing the small steamers with those of four times the carrying capacity. Here, no doubt, a great saving is actually accomplished. A large expensive steamship will replace, say, four of the smaller ones, but it cannot be compared with the change that follows an increase in the carrying capacity of railway rolling stock.

In changing from small steamers to the large ones, one steamer takes the place of four—hence one crew, one set of officers, one set of engines & boilers; in fact, one complete ship at sea, one steamer berth at harbor—all in place of four. It is true that the crew will number a few more men than on a small

steamer. The consumption of coal is greater, but not nearly as much coal will be used as on four smaller ones. The risk of accidents at sea is lessened by 75%, therefore the saving must be very great. Also, the steamship company does not have to lose the small steamers, as steamers of almost any size can be put into service at various classes of carrying on the sea. This considerably reduces the expense necessitated by the change—and the extra expense ends there.

With the railway it is different. In place of one ship, thousands of new cars are required, & in place of one engine, hundreds of new locomotives are needed. This is not all. The very moment this new heavy rolling stock is ready to be put into operation, new & heavier rails, new & larger ties, & new & stronger bridges are required for the whole line. There must be new turn-tables for locomotives, the roadbed requires additional ballast, & in many cases new engine houses are needed. In the repairing shops additional machines to take in the larger parts of the larger locomotives will be necessary; in fact, the companies may look to the expense of a new railway, less only the right of way & roadbed. In addition, there is an almost total loss of the rolling stock, rails, bridges, etc., previously in use, as most of it can only be scrapped at best. When the change on a few of the trunk lines takes place, all other lines must follow or they cannot compete. Old rolling stock will be discarded, at very great loss. When all the cost of this change has been correctly estimated, after the interest has been paid on many millions of outlay, the net receipts may not be so large as were expected.

Again, the maintenance of the new heavy rolling stock, & the wear & tear of the rails, bridges, roadbed, & the rolling stock itself, must be much greater. The same number of bearings have greater friction, hence a large increase in cost of lubrication & wearing material. The roadbed & bridges will suffer in proportion, & extra friction will have to be applied to the wheels to stop these heavy trains & to moderate their speed on down grades. On the up grades the strain will be greatly increased. Additional losses are likely to result from accidents, for, although the system of steam surface railways has been in existence about 60 years, there have been comparatively no improvements outside of the enlarging of the cars & locomotives & making them stronger & more comfortable for travellers. Except for these attempts to imitate the extravagant luxury of hotels, the system is practically the same. The speed of passenger trains has been increased about 20 miles an hour in 40 years. The cost of transit for persons & freight remains about the same.

While various devices have been applied, the only one which has been of any consequence in minimizing the number of accidents to the employees is the automatic coupler, which is still far from perfection. The number of accidents on railways of all kinds & under all circumstances have been con-

tinually on the increase, the cause being that the competition of railways has become greater as new railways have been built. Railway managers have had in view only cheapness of operation of their lines. Cheap material & construction has been used, anything that would call for a little additional expense for the minimizing of accidents not being entertained. In large cities railway traffic is so congested that accidents are almost of daily occurrence. The question is, What is to be done to insure safety of travel on railways, together with quicker transit?

The elevated electrical railway will no doubt be the railway of the future. They are about to build an elevated railroad in a district full of railways between Liverpool & Manchester. This would seem to prove that the builders are reasonably assured that the new mode of transit will gradually take the place of the surface railways, both for passenger & express freight.

The considerations which make in its favor are several: First—There is the surety that an elevated railway can be made so as to insure positive safety from all accidents, though the tramway be running at 100 miles an hour or more, because from its position there can be no contact with moving or other objects, which are numerous on the ground surface. There can be no accidents from floods or washouts, landslides or misplaced switches, nor from broken wheels or rails, from collision or as the result of any one putting obstructions on the track. In the case of trains following each other, the connections would be cut from the power of the following train by the operations of the first train, should the latter be stopped because of any unforeseen emergency; so that the following train would have no propelling power in case of the necessity to stop the first train, & the electric signal would automatically strike the bell on the train that followed. As to falling off the track, that would be prevented by a gab-grip that would follow the T of the top cord of the truss, so that it would be impossible for the wheels to mount the rail or get the body of the car lower than the top cord of the girder, only four inches distant. The side of the car is also protected by the sides of the girders, which have a flat, smooth plate running on both sides, which would come in contact with rollers fitted on the sides of each car. No snow to ever block the line or cause any expense or accidents; no grades of any consequence, so that the uniform speed would be constant; no short curves to create danger or extra friction; the track would always be uniform & the car would always run very smoothly; no dust, sand, cinders or grit to cut up bearings & machinery; thus all axles could be made to run smoothly on ball bearings with comparatively little lubricant, & the cars would be free from smoke & dirt of any kind. One can fancy the comfort to travel in cars that are perfectly safe, running smoothly, with good & clean ventilation, & the enjoyment of viewing all the surrounding country as a great panorama.

THE RAILWAY & SHIPPING WORLD.

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TREASURER, H. Brownley, Toronto; SECRETARY, S. A. Mills, Toronto; GUARD, H. Bowler, Toronto; AUDITORS, D. L. Foley, Toronto; E. J. O'Dell, Owen Sound.

The electric single rail projected by F. B. Behr, for the elevated railway to be built from Liverpool to Manchester, is not the style of railway that can be practically successful. With the single rail system the one wheel would not be sufficient to attain a very high rate of speed, as the one-rail system would cause the wheels to slip, & the extra friction which would be caused by oscillation that must take place from the uneven loading of cars, wind, etc., would be a great detriment.

The new system is perfectly free from any interference from these causes, the railway itself can be built much cheaper, lighter & safer & the cars remain the same type as the surface cars are at present. Of course the cost of building an elevated railway would be greater on the first outlay than a surface railway, on account of the height it must be made at some places, as in crossing rivers, towns, etc. This will require pillars or piers to be made very heavy & strong for perfect safety. But, on the other hand, the mileage can be reduced on the average at least 25 to 30%. There would be comparatively no right-of-way to pay for, as only the pillars will take up any valuable space in the country, & very little anywhere. No embankments, no ditches, water culverts, stone or brick arches for roadways, no tunnels to be cut through mountains, no fences, no men to guard level crossings or on the track, no accidents to trains on crossings, no ballast required, & no expense caused by the killing of people & animals.

Then comes the difference in cost of operation of the two systems. On the electric elevated there would be comparatively no dead weight of locomotives, the motor car being much lighter than the steam locomotive, less than half the dead weight of the cars to be hauled over the line. The staff of engine-drivers & firemen, with all the assisting staff at engine-houses, would be reduced. There would be no hauling of coal & water over the line. Water stations, water pipes, water pumping engines, coal stations, all would be abandoned for three power stations per 100 miles, where boilers, engines & machinery are stationary. No damage from fire caused from sparks of locomotives, & no more burning up of trains and passengers when trains are run off the track & down embankments, or in collisions. Moreover, by moving the passenger trains from the surface, greater facilities would be given for the movement of freight trains, thus preventing many accidents & delays to the freight in transit.

As to the possibility of revenue sufficient to warrant the outlay, it is enough to consider the prospects of such a line built from New York to Chicago. The time now necessary to make that run is about 35 hours, while the time would be only 7 hours on the elevated, the distance being reduced to 700 miles, & the train running at 100 miles an hour. And this besides the fact that a person would arrive by the elevated railway perfectly rested & ready for business, in place of requiring 6 or 8 hours to rest, as is the case after one has travelled to Chicago by the present system. Passengers could afford to go a distance of 300 or 400 miles to start for Chicago from New York. Passengers from Quebec, Montreal or Boston could reach New York in one night & take the elevated. They would still make the journey in about half the time now required. In the vicinity of Chicago the same would apply. An elevated line built now between these two points would be only a beginning of the new system, it would not only return a high rate of interest on the outlay, but would confer a general benefit on the traveling human race.

The writer of the foregoing article is a consulting engineer in Montreal, who, since Mr. Blair became Minister of Railways, has on several occasions been employed on matters connected with the government railways.

The article contains a good many statements that are likely to be dissented from by other engineers & by railway men generally, & we invite a free discussion of it in these columns. For the present we abstain from reference to Mr. Davis' "railway of the future," further than to say that very few are likely to agree with him as to its "positive safety from all accidents." But we must take decided objection to some of his statements as to the railways of to-day.

Mr. Davis says "the number of accidents on railways of all kinds & under all circumstances, have been continually on the increase, that railway managers have had in view only cheapness of operation of their lines, & that cheap material & construction have been used, anything that would call for a little additional expense for the minimizing of accidents not being entertained."

These statements are entirely unwarranted & at variance with facts. It is true that in the United States the liability to train accidents has somewhat increased with increasing train mileage, but this does not warrant the inference that the number of personal injuries has increased relatively to revenue train mileage. In Canada the government statistics refer only to those accidents from which personal injury results. They show that from 1875 to 1897 the number of passengers killed per million carried averaged for the whole period 1.25. From 1890 to 1897, the highest in any one year was 1.03 in 1892, & in 1897 it was only .43. This shows a decrease of accidents, not an increase.

Train accidents may be divided into two classes, those for which the railway corporations may properly be held responsible, as due to defects in tracks, in equipment, or in regulations, & those beyond their control, as when proximately caused by obstructions, by malice, by negligence, or by disobedience of orders. Speaking generally, the diminution of train accidents must be brought about by improvement in the permanent way, by increased efficiency in appliances, in regulations, in discipline & in inspection. And there is no doubt, whatever, that in all these respects marked advances have been made on Canadian railways in the past few years & are still continually going on. That "cheap material & construction have been used," & that "anything that would call for a little additional expense for the minimizing of accidents has not been entertained," is absolutely incorrect. There has been a steady improvement in both material & construction. The various standard roadbeds of to-day are infinitely better than they were 10 years ago, the rails are much heavier & less liable to breakage, & the structures are vastly improved by the substitution of steel & masonry where formerly a good deal of wood was used. As a marked instance of the expense gone to to minimize accidents, we may mention the great precautions adopted by the C.P.R. for its main line through the mountains & canyons of British Columbia, & its consequent immunity from accidents there. The high standard of construction adopted by the C.P.R. may also be referred to. In the same way there are the improvements which have been made & are still going on in the G.T.R. lines, all with a view to improve the carrying capacity of the road & to ensure additional safety. And what is true of the two principal systems, applies to most of the other lines. In connection with the permanent way improvements may be mentioned the increased use of derailing devices, safety switches & guard rails on bridges & trestles.

The passenger car equipment has been rendered much safer by the increased solidity of its construction, by the introduction of vestibules, by the use of air brakes & automatic couplers, & by the substitution of steam heat for stoves; then there has been the introduction of the block system on some

lines, the improvements in signaling & the gradual improvement and tendency towards uniformity in train rules, with the accompanying raising of the standard of discipline.

The Dominion Railway Policy.

In a recent interview in Toronto, J. Sutherland, M.P., chief Government whip in the House of Commons, being asked as to the financial policy of the Government, said it was based on the ground that new conditions produced new necessities. In the past a policy of retrenchment was considered necessary to meet the conditions then existing. At present the great thing was to develop & build up Canada. This was the chief feature of the Government's policy. They proposed to accomplish this by building more railways, developing Canada's mineral resources, & en-

The Irish Channel Tunnel.

The project of a tunnel across the Irish Channel has been lately brought forward in England, & has caused a good deal of talk on both sides of the Atlantic. It is an aged scheme. Sir Edwin Watkins some years ago had a project for a tunnel across the Irish Channel, another across the British Channel, & either a tunnel or a car ferry across the Straits of Gibraltar, & thus a through line of rail communication from Cork to some point in Asia, possibly Herat. We forget the exact terminus. The promoters of this present scheme estimate that the cost of the Irish tunnel will be \$50,000,000, & that the interest during construction will be \$10,000,000 more, or a total of \$60,000,000. They wish to make sure of being able to pay 3% on this outlay, & to that end ask the Government to guarantee any deficiency up to but not exceeding 3%.

devoted to Eastern Canada & Newfoundland, which contains a full & accurate description of routes, cities, points of interest, summer resorts, information for sportsmen, etc., is written by C. G. D. Roberts, late of King's College, Windsor, N.S., & is revised & corrected to date. Mr. Roberts' fascinating writing lifts the work far above the level of the ordinary guide book & makes it of absorbing interest. For some unexplained reason the space devoted to Western Canada is reduced from some 250 pages, as in former years, to about 50. Hitherto this portion of the work was written by Ernest Ingersoll, a recognized authority. Possibly the western tourist travel is not sufficiently large at present to justify, from a commercial standpoint, so large a space being devoted to it, but the west is advancing more rapidly than any other portion of the Dominion, & it seems a pity that at such a time the available in-

Returned to Montreal Herald, Sep. 15, 1899 #57



W. Wainwright.

J. W. Loud.

Sir C. Rivers-Wilson.

F. H. McGuigan.

C. M. Hays.

G. B. Rees.

W. E. Davis.

A GROUP OF GRAND TRUNK RAILWAY OFFICIALS.

deavoring to stimulate the growth of the country generally. The fruits of this policy, he said, were already forthcoming. The building of the Crow's Nest Pass Ry was an evidence of the excellence of this policy. It had been denounced at its inception, but it had opened up a section of country which would pour millions of dollars into the country at large. For instance, the North Star mine was now recognized as a great property, & its owners were building a spur line to the mine. This would have been impossible unless the Crow's Nest Pass route had been constructed. What was true of the East Kootenay country was true of many other sections of Canada. It was now realized that New Ontario had millions & millions of dollars' worth of wealth to reward a policy of railroad development. This was the ground on which the Government justified its financial expenditures, & it was regarded as a policy of Canada for Canadians.

Mr. Balfour, in replying to a deputation, said that he could not speak for the Government, but pointed out that the project is for a tunnel, not from England to Ireland, but from Scotland to Ireland, & that in all probability passengers, mails & freight would continue to follow the more direct southerly routes which they now follow, & that the promoters might well doubt their ability to compete with water borne traffic. He suggested that it might be as well also to ascertain pretty carefully the nature of the ground to be traversed before embarking on a scheme so colossal.—Railroad Gazette.

Appleton's Canadian Guide Book.

This well-known work has been issued for the current year complete in one volume of 327 pages, with illustrations, maps of each province & of the principal cities, fishing districts, etc. As in previous years the portion

information in regard to it should be cut down. It is to be hoped the publishers may see their way clear to give more space to the west in future editions. The book is one that no one travelling in Canada, especially from the east, may know the country, should fail to take with him, to the stranger travelling it is simply indispensable, & even those who stay at home may learn much of interest from it. The publishers for Canada are G. N. Morang & Co., Toronto, & The Montreal News Co., Montreal.

The Hamilton Mountain Park Co., a recently organized concern, will take over the inclined railway formerly operated by the East Hamilton Improvement Co.

R. Chapple, Chief Clerk, General Superintendent's office, Eastern Division, C.P.R., Montreal, has announced that the company will have its headquarters in Montreal.

RAILWAY FINANCE, MEETINGS, &c.

American Railway Earnings.—The Chronicle's compilation of railway gross earnings in July shows that month to have been one of the best in the recent revival. The increase as compared with July last year is \$7,037,025, or 17%. Out of 116 roads reported, 102 showed gains. This is the heaviest gain in any month since Nov., 1897, which month was depressed with a month of depressed business in the year of the Presidential election. In the July gains, the New York Central stands at the head with an increase of more than \$1,000,000. Next comes the Chicago, Milwaukee & St. Paul with \$849,000; then the Great Northern, the Mexican Central, the Northern Pacific, the Baltimore & Ohio, the Canadian Pacific & Illinois Central show gains of over \$1,000,000 each; while the Louisville & Nashville ought to be classified with these roads, as its gain is \$299,913. The Grand Trunk gained almost \$250,000, & the Wabash close to \$200,000. Then the Norfolk & Western, the Missouri Pacific, the Mobile & Ohio, the Missouri, Kansas & Texas, the Hocking Valley, the Cleveland, Cincinnati, Chicago, & St. Louis, & the Southern show gains of over \$100,000 each.—*Railroad Gazette*.

The Atlantic & Lake Superior Ry. Co.'s annual meeting will be held at 35 St. James St., Montreal, Sep. 6.

Boston & Maine.—The report for the year ended June 30, shows the gross transportation income to be \$19,890,608, an increase of \$147,662 over previous year. The operating expenses were \$13,705,977, an increase of \$25,187. The net income was \$6,184,630, an increase of \$122,475. After the payment of interest, rentals, dividends, etc., the balance is \$15,991 in excess of previous year.

Buffalo & Lake Huron.—The directors in their report for the 6 months ended June 30, announce the payment of a dividend of 5s. 3d. a share, leaving a balance of £518 to be carried forward. A year ago a similar dividend was paid, & £360 was carried forward. This line, which runs from International Bridge to Goderich, Ont., 162 miles, is leased in perpetuity to the G.T.R. for £70,000 a year.

Chignecto Marine Ry.—At a recent meeting of this Co. in London, Eng., the Dominion Government was severely attacked for refusing to revoke the subsidy which the Co. failed to earn according to contract. The Chairman, A.D. Provand, M.P., said the Government gave "a blank refusal in every way" to his three proposals: namely, to reinstate the Co. in the possession of its subsidy that the railway might be completed; to give the Co. £400,000 as compensation for the non-reinstatement; or to submit the amount of compensation to arbitration. Mr. Provand could see no good reason for these refusals, & the shareholders confirmed the board in its refusal to accept this attitude of the Government as final. Commenting on the matter, the London correspondent of the *Toronto Globe* says: "In spite of the energy & activity of Mr. Provand in canvassing for sympathy for the Chignecto bondholders, he does not seem to be able to convince the London press that his case is as flawless as he appears himself to believe. It will be remembered that last year *The Times* was very careful in its remarks on the subject to state that Mr. Provand's presentment of the case was a purely ex parte one. The Economist went much further, & pointed out that nothing was so likely to defeat the object of the bondholders as the violent language & threats of retaliation employed by their representative. The Financial Times expressed a somewhat similar

view. This year neither of the first two papers mentioned have commented at all upon the report & meeting so far as I have seen, but the Financial Times devotes a long leader to the subject, in which it strongly arraigns the policy which has been pursued by Mr. Provand, & urges the bondholders to lose no time in adopting a more rational method of procedure. It professes to find in the wording of the report of the sub-committee of the Privy Council a loop-hole for the continuance of the negotiations on the basis of compensation, & advises the Co. to send over at once another representative, who will be prepared to carry on negotiations in the conciliatory spirit which should have been adopted from the first, & to meet the views of the Government on every minor point, a course which Mr. Provand appears to have studiously avoided. If the investors are sensible enough to take this advice it is possibly not too late to arrive at a settlement, which—while not saddling the Canadian people with a very heavy burden, of the effects of which they had become legally quit—will make a good impression & improve Canadian credit here."

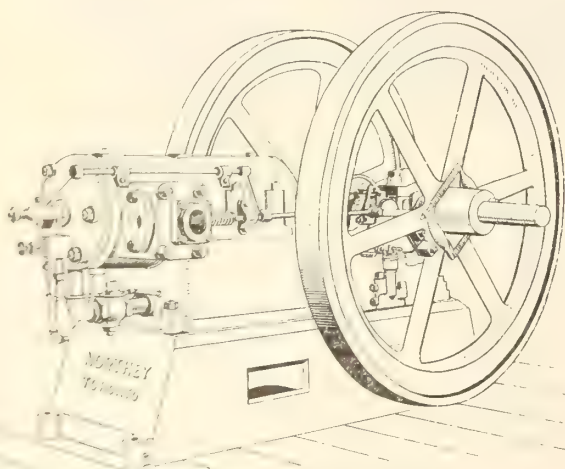
The Elgin & Havelock Ry. Co.'s annual meeting will be held at 3 Great James St., Bedford Row, London, Eng., Sept. 6.

The Fort Erie Ferry Ry. Co. has executed a mortgage, dated Aug. 1, 1899, for \$50,000.00, to R. L. Fryer & H. T. Ramsdell, trustees, as security for the payment of \$50,000.00 bonds of the Co.; the mortgage covering all the real & personal property, rights & franchises of the Co.

Grand Trunk.—The Council of Longueuil has reduced the valuation of the Co.'s wharf property from \$48,000 to \$25,000, & is likely to make further concessions if the Co. will facilitate communication with Montreal over the Victoria Jubilee Bridge.

The Northey Gas or Gasoline Engine.

In Connection with Pumping Machinery for Tank Duty.



"BUILT FOR HARD WORK."

Railway Officials will find the Northey Engine to be a marked improvement over steam or other forms of power for this duty. It is simple of construction, and easily managed, necessitating only the turn of a fly-wheel to start, while it can be going at full speed in a few seconds and be shut down on the instant. Needs no engineer to look after it, the station hands can do all that is required, while it will run for hours at a time with little or no attention. The Engine is compactly built and of the best materials; it uses either gas or gasoline for fuel, and its safety and economy with either have proved it to be the most satisfactory power in the market.

We will cheerfully send Booklet and every information upon request.

The Northey Mfg. Co., Limited, ¹⁰³²KING ST. SUBWAY, Toronto, Ont.

Kootenay Ry. & Navigation Co.—Application has been made to the London Stock Exchange Committee to appoint a special settling day for this Co.'s £250,000 5% debenture stock.

The London & Pacific Gold Fields, Ltd., of 38 Holborn Viaduct, London, Eng., which has been licensed to do business in British Columbia, is empowered to construct or subscribe to, and aid in the construction of any railway or tramway in the Dominion, or elsewhere, the existence of which may be deemed to be advantageous to this Co., & to take & hold shares in any company formed for the purpose of the construction of any such railway or tramway.

Northern Pacific.—The U.S. Circuit Court of Appeals, on July 13th, at St. Paul, handed down a decision holding that the terminus of the Co. is at Ashland, Wis., & not Duluth, & that the Co. is therefore entitled to 1,000,000 acres of land which the Government has sought to have excluded from the land grant.

The election of J. S. Kennedy, a prominent stockholder of the Great Northern, as a director of the N.P., is stated by high authorities to mean that the two Companies are now working in entire harmony. This would avert any rate wars or duplication of new lines in the Northwest, which have been threatened in recent months.—Railroad Gazette.

The Ottawa & New York Ry. Co.'s annual meeting will be held at Ottawa Sept. 19.

Quebec & Lake St. John Ry.—The committee appointed at the meeting of bondholders, Aug. 2, has issued the following circular to the holders of the £780,000 5% 1st mortgage bonds:

"Having carefully considered the most advisable course to pursue for the benefit & protection of the rights & interests of the bondholders, in view of the default in payment of the interest on the bonds by the Ry. Co., we beg to put forward the following scheme for your consideration: We suggest that every bondholder deposit his bonds with the Railway Share Trust & Agency Co., Ltd., (the trustees for the bondholders), to the order of the committee, in exchange for which scrip certificates to bearer shall be issued to him. The committee will thus have all the bonds vested in them, subject to certain conditions indorsed on the back of the scrip certificates.

"Shortly, these conditions enable the committee to act generally for the common advantage and benefit of the bondholders. And, as it is very necessary that the committee shall have at their disposal sufficient funds to meet the expenses incurred from time to time, the conditions authorize the committee to raise money on the security of the deposited bonds to an amount not exceeding 2% of the nominal value of such bonds. This scheme will avoid the necessity of convening frequent meetings to authorize the committee to act in small matters, & will thus save considerable expense & annoyance to the bondholders. The conditions on the certificate expressly provide that no further money than the above-mentioned 2% shall be borrowed on the bonds, & that no reconstruction of the Co., or variation or change in the rights, position or securities of the bondholders (except the buying in of the property forming the security of the bondholders) shall be concluded without the sanction of a resolution of a general meeting, duly convened, of the holders of scrip certificates, passed by a majority in value of such holders, present in person or by proxy, thus limiting the powers of the committee to the less important matters." The circular is signed by A. W. Ballance, E. F. Coates, S. Gardner & A. S. Jacks. It is explained that F. Ross, being in Canada, it has not yet been possible to obtain his signature to the circular.

Quebec Central gross earnings for July, \$56,563.16, against \$48,799.66 in July, '98;

working expenses \$33,662.36, against \$28,921.69; net earnings \$22,900.80, against \$19,877.97.

Gross earnings 7 mos. to July 31, \$275,623.54, against \$248,756.14 for corresponding period; working expenses \$181,212.86 against \$173,477.03; net earnings \$94,410.68 against \$75,279.11.

Salisbury & Harvey.—An order has been made in the Equity Court at St. John, N.B., for foreclosure & sale of this railway, which has been in the hands of receivers for some time. The present proceedings are to close out the bonds. Once before the railway passed under the hammer. Then it was at the instance of the English bondholders, whose claims amounted to about \$600,000. The bondholders now are United Statesers, & the amount of the bonds \$250,000. The bondholders and stockholders are, for the most part, the same, & it is likely the present owners will bid in the property.

White Pass & Yukon.—The directors of the British Columbia Development Association have declared an interim dividend of 20%, being 15% on the preference shares, & £10 a share on the founders' shares. Accompanying the dividend notice is a circular stating that under an agreement dated July 29, 1898, Close Bros. had an option to pay this Co. £26,500 in redemption of £53,000 shares in the White Pass & Yukon Ry., held by the directors as security for this amount. Owing to litigation concerning the ownership of a large amount of shares, of which these £53,000 formed part (in which litigation, however, the Co.'s interests are in no way jeopardised, as both parties admit the right of this Co.), the directors have been able to make a new & satisfactory arrangement. Close Bros. have agreed as follows:—To redeem £10,000 of shares by a payment of £5,000 in cash; to purchase at par £5,000 of the £10,000 White Pass & Yukon debenture stock held by this Co.; to transfer absolutely to this Co. £5,000 White Pass Railway shares as a bonus; Close Bros. & Co. to have the option to redeem the remaining £38,000 shares on or before Dec. 31 next, on payment of the balance of £21,500. The £10,000 has been paid by Close Bros., the loan from the bankers (£3,700,) has been paid off, & about £2,500 remains in hand after payment of the dividend.

Notice is given that the following documents have been deposited at the Land Registry Office at Victoria, B.C.:—An Indenture of Mortgage made Oct. 7, 1898, between the B. C. Yukon Ry. Co., the Pacific Contract Co., F. Pavy & C. C. Macrae, & a notarial copy thereof & 1st mortgage bond, dated Oct. 7, from the B. C. Yukon Ry. Co. to F. Pavy & C. C. Macrae, for the principal sum of such an amount as shall be equal at the rate of £6,000 a mile, to the line of railway of the B. C. Yukon Ry. Co., & a notarial copy of the said bond, such bond being secured by the said mortgage.

It is stated that the tramways around White Horse Rapids, both controlled by the Macaulay Co., have been sold to the White Pass & Yukon Ry. Co., the price paid being \$185,000. From this it is inferred that the Co. proposes extending its line down the river.

Grand Trunk Earnings, Expenses, &c.

The Secretary has furnished us with a statement, subject to audit, for the half-year ended June 30, to which is added a comparison for the corresponding period of 1898, as follows:

	1898.	1899.
Gross receipts	\$2,171,710	\$2,108,500
Working expenses	1,243,000	1,208,200
Net revenue	£ 627,800	£ 685,000
Deduct		
Net revenue charges, less credits	100,000	180,800
Balance of net revenue	£ 137,300	£ 195,200

Deduct		
Chicago and G.T. deficiency for 1 year payable by the G.T. Co. under traffic agreements	£ 8,400	£ 36,400
Detroit, Grand Haven and Milwaukee deficiency for the 1/2 year	22,300	22,400
Total deductions	30,700	58,800
Surplus for the 1/2 year	£ 106,600	£ 136,400
Add		
Balance brought from previous 1/2 year	300	4,200
Balance available for dividend	£ 106,900	£ 140,600

The above balance admits of the payment of the full dividend for the 1/2 year on the 4% guaranteed stock, and a dividend at the rate 1% on the 1st preference stock, leaving about £2,000 to be carried forward.

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.:

	1899	1898	Decrease	Increase
July....	\$2,105,493	\$1,860,884	.....	\$ 244,510

The following figures are issued from the London, Eng., office:

	1899.	1898.
Passengers, number	749,832	723,747
amount	1,065,18	1,021,88
Immigrants, number	1,108	1,173
amount	881	646
Mails, express, &c.	17,070	16,849
Freight, tons	827,030	691,000
amount	200,952	177,007
Miscellaneous receipts	11,000	11,381
Total receipts	350,147	338,181
Increase	41,666	

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, Jan. 1 to June 30.

	1899.	1898.	Increase	Decrease
Grand Trunk	£ 350,147	£ 338,181	£ 11,966	
Chicago & G.T.	58,706	57,000	1,706	
D., G. H. & M.	19,795	19,200	595	
Total	£ 428,538	£ 414,381	£ 14,157	

C.P.R. Earnings & Expenses.

Gross earnings, working expenses, net profit and increases or decreases over 1898, from Jan. 1, 1899.

	Earnings.	Expenses.	Net Profits.	Increase or decrease.
Jan.	\$1,864,570.36	\$1,247,036.50	\$ 617,533.86	\$101,906.27 +
Feb.	1,753,382.82	1,153,681.34	599,701.48	176,034.12 +
Mar.	2,109,667.58	1,286,772.01	822,895.57	75,662.06 +
Apr.	2,166,312.40	1,276,008.91	920,303.49	203,212.80 +
May	2,402,151.29	1,369,392.68	1,032,758.61	106,006.30 +
June	2,362,278.67	1,339,218.47	1,023,060.20	205,664.83 +
July	2,385,625.47	1,412,663.84	972,961.63	242,272.84 +
	\$15,073,088.59	\$9,078,773.75	\$5,995,214.84	\$1,110,849.22 +
	+ Increase.			

Approximate earnings for July, \$2,367,000, as against \$2,024,000 in July, 1898; increase, \$343,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—Net earnings 5 months to May 31, \$282,093, against \$224,362 for corresponding period.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Net earnings for 11 months to May 31, \$2,581,728, against \$2,554,941 for corresponding period.

Canadian Pacific Railway Land Sales.

	Acres	Amount
Jan.	14,718	22,044
Feb.	13,747	20,650
Mar.	24,045	35,100
Apr.	30,020	44,100
May	39,573	43,148
June	41,000	100,244.00
July	47,402	140,540.00
		\$ 88,000.00

Senator Fempie, who died at Fredericton, N.S., Aug. 25, aged 81, was for 30 years President of the Fredericton Ry. Co.

RAILWAY APPOINTMENTS, Etc.

Canadian Pacific. Herbert Carter has been appointed General Passenger Agent at Hong Kong, as mentioned in some daily papers. He will go there to take a position in the Passenger Department, relieving one of the staff who has been taken ill. D. E. Brown is the Co.'s General Agent at Hong Kong.

G. Middleton, Locomotive Foreman at Kamloops, B.C., has been promoted to Vancouver as General Foreman of the shops there, & of the engines of the Co.'s steamships. S. Fraser, of North Bend, succeeds him at Kamloops.

A. Gordon, Roadmaster between Leaside & Havelock, Ont., having decided to retire, has resigned, & has been succeeded by A. McAuley, heretofore Roadmaster between Havelock & Smith's Falls, who will have his office at North Toronto, instead of at Parkdale, where Mr. Gordon was located. Mr. McAuley is succeeded at Havelock by J.

Malloy, heretofore Roadmaster of the Orangeville, Elora, Teeswater & Wingham branches, whose place at Orangeville is taken by B. Tansley, heretofore Section Foreman at Havelock.

G. J. Bury, heretofore Superintendent at North Bay, Ont., has been appointed Superintendent at Fort William, in charge of the line from there to Winnipeg, succeeding J. A. Cameron, who is now on leave owing to ill health, & who will, it is said, be transferred to the superintendency of the Crow's Nest Pass line.

T. J. Kennedy, heretofore Superintendent at Chapleau, succeeds Mr. Bury at North Bay as Superintendent of the North Bay, Cartier & Sault Ste. Marie sections, including the Temiskaming branch.

C. Murphy is appointed Acting Superintendent in charge of the Chapleau & White River sections, with headquarters at Chapleau.

Central Vermont.—D. Mackenzie having resigned, the jurisdiction of F. W. Baldwin,

Superintendent, has been extended over the Southern Division. Office at St. Albans, Vt.

C. E. Soule has been appointed Assistant Superintendent of the Southern Division, with office at New London, Conn.

Intercolonial.—V. Pelletier, formerly of the General Superintendent's office at Moncton, & latterly of Montreal, has been appointed in charge of the new city ticket office in Quebec city.

St. Catharines & Niagara Central.—W. N. Warburton, General Freight & Passenger Agent, has also been appointed Acting Superintendent.

Mainly About People.

Miss Audrey Blair, daughter of the Minister of Railways, leaves shortly for Switzerland where she will spend a year at school.

F. W. Powell, Chief Clerk of the Statistical Department of the G.T.R. at Montreal, has left the service & gone to the Western States.

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E. S. Hunt, C.P.R. train despatcher at Moose Jaw, Assa., was married at London, Ont., Aug. 11th, to Miss Gertrude McCutcheon.

N. Graburn, Assistant Superintendent of the Montreal St. Ry., has been appointed Superintendent of the corporation tramways in Glasgow, Scotland.

Col. B. W. Gossage, who died at his residence in St. Thomas, Ont., Aug. 25, aged 67, was at one time engaged as surveyor on the Canada Southern Ry.

R. G. Reid, Proprietor of the Newfoundland Ry., left Montreal Aug. 25, accompanied by his family, for Newfoundland, where he will remain for several weeks.

On Aug. 23, N. K. Connolly, one of the contractors for the I.C.R. deep water terminus at St. John, N.B., was reported as lying very ill at the Royal Hotel, St. John.

Jos. Carter, C.P.R. Ticket Agent at Winnipeg, was married at Kansas City, Aug. 19, to the daughter of Col. Whitney, proprietor of the Wellington Hotel there.

H. Dalton, formerly of London, Ont., has been appointed Superintendent of the Akron Traction & Electric Co., which operates lines between Cleveland & Akron, & from Akron to Kent.

On Aug. 28 Miss Mabel Pease, daughter of the District Passenger Agent of the G.T.R. at Montreal, was reported as being seriously ill with typhoid fever in Winnipeg, where she was visiting.

A number of Halifax citizens who attended the recent carnival at Sydney, N.S., presented District Passenger Agent Lambkin of the I.C.R. with a gold ticket as a souvenir of courtesies received.

W. H. Kelson, General Storekeeper of the C.P.R., while going home one evening recently, was attacked by footpads, beaten & robbed of a gold watch, his assailants getting off without discovery.

C. A. Bruyere, of the Canada Atlantic Ry., Ottawa, is a member of the committee on tests, which will report at the annual convention of the Master Car & Locomotive Painters' Association at Philadelphia, Pa., Sep. 12 to 15.

C. Whitehead, who will be remembered in connection with the construction of section 15 of the C.P.R. between Rat Portage & Cross Lake, was seriously injured recently in a runaway accident near Morden, Man. He is recovering satisfactorily.

Geo. Roberts, a well known builder, who died in Montreal Aug. 28, aged 74, came to Canada in 1854, being employed on G.T.R. construction under Peto, Brassey & Co. for 2 years, after which he built the stations between Levis & Richmond.

C. Drinkwater, Secretary & Assistant to the President of the C.P.R., left Montreal the middle of Aug. on the official car Earncliffe, accompanied by Mrs. Drinkwater, Miss Graham, of Hull, & Dr. K. D. Graham, of Ottawa, for a trip to the Pacific Coast.

Conductor Donohue, of the C.P.R., St. Andrew's branch, is one of the oldest, if not the oldest, conductor on the C.P.R. He has been running on the branch since it was opened 43 years ago by the New Brunswick & Canada Ry. Co., & is still hale & hearty.

D. Robertson, chief clerk in the G.T.R. Master Mechanics' office, Montreal, has resigned, & has been appointed assistant to Manager Wanklyn, of the Montreal St. Ry. T. Maynard has been appointed to succeed Mr. Robertson in the G.T.R. works.

C. R. Hosmer, Manager C.P.R. Co.'s Telegraph, who has been in Europe for some weeks, is expected to return on the ss. Oceanic, which sails on her initial voyage

Sep. 6. Miss Hosmer, who has been in Paris for some months, will probably accompany him.

Assistant General Manager McNicoll, of the C.P.R., left Montreal about the middle of Aug., in the official car Rosemere, for a trip over the Co.'s main lines & branches as far as the Pacific Coast. The chief operating officials are accompanying him over their respective divisions.

C. R. Hosmer, Manager C.P.R. Co.'s Telegraph, has purchased a handsome property at the head of Drummond street, Montreal, formerly owned by D. D. Mann. He intends erecting on it a fine residence for his own occupation. The lot has a frontage of 100 ft., & is of large area.

J. Wilson, Superintendent of the Pacific Division of the C.P.R. Co.'s Telegraph, has returned from a three months' stay in Southern California for the benefit of his health, which is greatly improved. J. Fletcher, of the Co.'s Vancouver staff, has acted as Superintendent during Mr. Wilson's absence.

President Shaughnessy, of the C.P.R., returned to Montreal Aug. 7, after making an inspection of the C.P.R. short line to St. John, N.B., & tributary branches. About the middle of Aug. he left with his family for Quebec & Lake St. John, & on his return spent some days at his summer residence at Riviere du Loup.

J. E. Walsh, Assistant General Passenger Agent of the Canada Atlantic Ry., & his wife & little daughter, were thrown violently from a cab in Ottawa Aug. 28. Mrs. Walsh, who has recently been very ill, received a very severe shaking, & Miss Walsh had her knee injured. Mr. Walsh sustained a few slight injuries.

Alex. McNaughton, for many years Traveling Auditor of the I.C.R., who retired from that position about a year ago owing to ill health, since which he has been employed at the audit office at Moncton, died recently at Moncton, aged 74. At one time he was employed in the European & North American Ry., & afterwards on the New Brunswick Ry.

W. B. Close, of London, Eng., President of the White Pass & Yukon Ry. Co.; C. Lambert, of London, Eng., of the Pacific Contract Co., the contractors for the railway; S. H. Graves, of Chicago, President of the B.C. Yukon Ry. Co., & the Pacific & Arctic Ry. & Navigation Co.; & R. Cassidy, solicitor in B.C. for these companies, are now in the north looking over the W.P. & Y. Ry.

C. M. Hays, General Manager; G. B. Reeve, General Traffic Manager; F. H. McGuigan, General Superintendent, & F. W. Morse, Superintendent of Motive Power, made an extensive tour of inspection over the G.T.R. system in August. The general officers, who travelled by special train, were accompanied during their trip, which lasted over a fortnight, & embraced some 4,600 miles of track, by a number of divisional officers. Mr. Hays expresses himself thoroughly satisfied with the results of the inspection, which covered the main line & all its branches except those south of the St. Lawrence river, & the condition of the property.

In speaking at Oxford, Eng., recently to delegates assembled there in connection with the extension of University teaching, Lord Strathcona said: "I went to Canada in the first year of Her Majesty's reign, so that I have personal knowledge of many of the matters of which I shall speak; & it is interesting, by way of comparison, to state that my first voyage took between 40 & 50 days, & that the clipper-ship in which I sailed, of 500 tons or thereabouts, was a considerable vessel in those days—the largest boat of the kind known at that time being about 1,000 tons. A few weeks ago I crossed the Atlantic, spent a

week in Canada, & was back again in London in three weeks from the day I started."

Peter Larson, of Mann, Foley Brothers & Larson, is, says a B.C. paper, an excellent example of what a poor man can make out of himself. Starting years ago with nothing but determination & perseverance as a capital, he has gradually worked himself up from obscurity & poverty to affluence & prominence, though to this day he is one of the most democratic of men to meet. With shrewdness & care of details he made one small contract after another pay; then he took larger ones, & is now able to handle any size, the present one, of a sum approximating \$4,000,000 for building the Robson-Midway branch of the C. P.R., being a sample. In addition, he is interested in the Nelson & Bedlington Ry. contract, & the Trinidad-Wash. contract. He built the Nelson & Fort Sheppard Ry., & a large section of the Great Northern west from Spokane. He has also done well with his mining investments.

The Atlin & Yukon Routes.

The following figures, furnished by the Vancouver Board of Trade, will be found useful for reference:

WHITE PASS & YUKON RAILWAY (SKAGWAY PASS).

Vancouver to Skagway.....	891 Miles.
Skagway to Summit.....	17
Summit to Lake Bennett ..	20

Lake Bennett to Dawson.	1,480
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DYEA PASS (CHILKOOT PASS).

Vancouver to Dyea.....	895 Miles.
Dyea to Sheep Camp.....	13
Sheep Camp to Summit....	3
Summit to Lake Lindemann	8

Lake Lindemann to Dawson	1,477
--------------------------	-------

VANCOUVER TO DAWSON CITY, ALASKA, BY STEAMER AND THE YUKON RIVER.

Ocean Steamer to St. Michael..	2,660 Miles.
St. Michael to Mouth of Yukon..	80 "
Yukon Mouth to Dawson City..	1,610 "

The Behring Sea does not open for navigation till June, & the earliest date of arrival of a through steamer at Dawson is usually in July.

STIKINE-TESLIN ROUTE.

Vancouver to Wrangle.	700 Miles.
Wrangle to Stikine Island	8
Stikine Island to Glenora	18
Glenora to Telegraph Creek	11

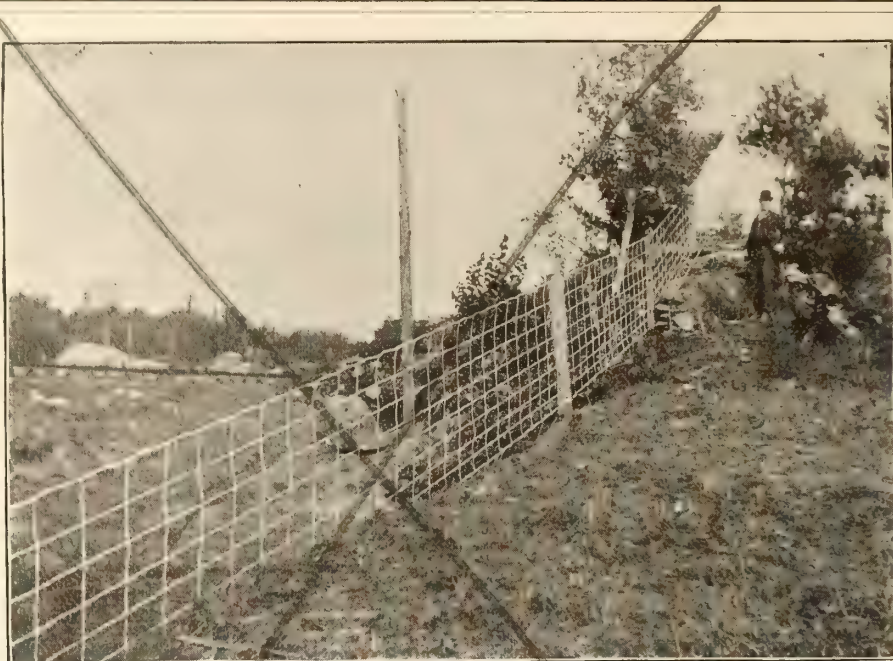
Telegraph Creek to Teslin Lake.....	140
Lake Teslin to Hootalinqua River....	70
Hootalinqua River to Lewis River.	18

Lewis River to Fort Selkirk.....	277
Fort Selkirk to Dawson City	1,610

ATLIN ROUTE.	
Atlin to Skagway	301 Miles.
DISTANCES FROM SKAGWAY, VIA WHITE PASS & YUKON RY., ATLIN ROUTE, VIA BENNETT LAKE (SUMMER).	
Skagway to Bennett	30 ³ / ₄ Miles.
" Taku City	133 ¹ / ₄ "
" Atlin	140 ¹ / ₄ "
ATLIN ROUTE, VIA TOO-CHU LAKE (WINTER).	
Skagway to Too-Chu Lake	38 ¹ / ₄ "
" " foot	60 ¹ / ₄ "
" Taku Arm	64 ¹ / ₄ "
" Golden Gate	94 ¹ / ₄ "
" Taku City	109 ¹ / ₄ "
" Atlin City	116 ¹ / ₄ "

A Half-Cent Ton-Mile Rate.

The Pennsylvania Railway is in many ways to be regarded as the standard railway of America—as the personification of the possible in American railroading. The figures contained in the Co.'s annual reports are, however rightly or wrongly, largely accepted (& especially in Europe) as in a certain sense typical of American railways as a whole. There is no other company, no commercial institution in the U. S. the course of whose affairs is similarly watched for indications of the course of business of the whole country. For this reason we feel almost as if a new epoch in the development of the transportation problem in America was marked by the fact that the average freight rate on the Pennsylvania lines has fallen below half a cent. The average ton mile rate, which was 5.64 mills in 1896 & 5.36 mills in 1897, was 4.99 mills in



The following leading railroads of Canada are using Page fencing in quantities from 1 to 300 miles: Canadian Pacific; Grand Trunk; Intercolonial; Lake Erie & Detroit River; United Counties; Canada Atlantic; St. Lawrence & Adirondack; Michigan Central; Manitoba & Northwestern; East Richelieu Valley; Toronto, Hamilton & Buffalo; Thousand Islands; Crow's Nest Pass, and Pembroke Southern.

This fence is made to wear. The horizontal wires of special steel & coiled.

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C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$3 to \$4 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

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Railway, Steamship and Ferry Signs

For doors, etc., 23 x 3½ inches, blue letters and border on white ground, carried in stock with following lettering.

Waiting Room	Ladies' Toilet	Private Office	Dining Room
General Waiting Room	Men's Toilet	Freight Office	Lunch Room
Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

The following are carried in stock, size 10 x 2½:—

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Railway numbers for bridges, mile posts, signal houses, etc.; single figures on plates 8½ in. high.

These signs last practically for ever, they never fade or tarnish, they are ever bright and attractive, they are absolutely impervious to heat or cold, they are the only signs that will withstand the effects of weather in all climates.

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1898. The average cost of ton movement was similarly reduced to 3.55 mills a mile. However fully we may recognize the inadequacy of the ton-mile standard of comparison, it is unavoidable that these figures should be generally accepted as peculiarly significant. The magnitude of the reduction in freight rates during recent years on the Pennsylvania lines is perhaps most strikingly conveyed by the mere statement that with an increase in ton mileage of about 20% (or nearly three thousand million ton miles), the gross revenues were over \$4,000,000 less than in 1892.

We all hope & believe that the present year will show a general increase in the rate received as compared with 1898. The rapidity of the decline of the last few years, & especially the extraordinary lowness of the average ton revenue last year, was not the result of any legitimate & deliberate reduction of schedule rates, but of demoralization, from the effects of which all roads, the just & the unjust alike, suffered deplorably during the year. It is not necessary to say that rates to-day are much better maintained. There is every hope that the averages for 1899 will make a materially more favorable showing than those of 1898. The recovery will, however, be no more than temporary, for the ultimate tendency of all rates is downward, & what is now a low-water mark under exceptionally bad conditions will sometime come to be a normal figure.—Railway Age.

The I.C.R. & G.T.R. Agreement.

The St. John, N. B., Sun, of Aug. 26, contained the following article: "Two representatives of the Allan Steamship Co. have been to this city to meet the Minister of Railways, Mr. Blair, & to discuss with him some serious aspects of the transportation question. As far as can be learned the situation is this: The Minister of Trade & Commerce called for tenders for the Atlantic mail steamship service, intending to make a contract for two years, pending the establishment of the more ambitious service, which for the present is in abeyance. The Allan Co's tender is said to have met the requirements better than that of the only other offer, which was made by the Elder-Dempster Co. Consequently the Allan Co. was asked to sign a contract. The Co. thought it prudent before going that far to ascertain what arrangements could be made with the C.P.R. for winter export freight. It did not take Mr. Shaughnessy long to explain to the steamship men that he was not in a position to make freight contracts. He is reported to have told them that the I.C.R. had virtually transferred its whole business to the G.T.R. & had shut out the rival railway from any share of the west bound traffic. The Government railway also proposed to close out the passenger arrangement now in operation, & was generally engaged in diverting traffic from the St. John route. In these circumstances the C.P.R. could not do business at this port without loss, as the cars would all have to go west empty. This being the situation the Co. could not see its way clear to make contracts for the delivery of ocean freight at its St. John terminus. Having received this statement the Allans waited upon Mr. Blair & acquainted him with the situation. It is not known what shape affairs have taken since, but it will be seen that the situation is a grave one, not only for the railway & steamship companies but also for this city. The steamship companies want to have the matter settled at once so that if they cannot come here they may make other arrangements. St. John is not so much concerned in the dispute between Mr. Blair & Mr. Shaughnessy as it is in having some sort of settlement which will allow business to be done here. One difficulty is that Mr. Blair is bound so fast to the G.T.R. by his traffic arrangement as to make it diffi-

cult to come to any arrangement with the other road. The Senate has done the Minister a service by making the agreement revocable, but it cannot be cancelled without the consent of the G.T.R. in time for next winter's business. It will be seen that the trouble affects not only the mail lines but all the other winter freight services from this port."

On Aug. 29 the Montreal Herald published the following as a despatch from St. John, N.B.: Hon. A. G. Blair, Minister of Railways, was to-day shown the Sun article relative to the Messrs. Allan's visit, which he had not previously seen. He very much doubted whether the Sun was authorized to make the statements contained in the editorial with respect to Mr. Shaughnessy or the C.P.R. The Minister said it is true the tender of the Allan Co. had been accepted, & they had an interview with him regarding some objection taken by the C.P.R. to the proposed action of the I.C.R. The only objection which Messrs. Allan mentioned to the Minister as having been made by Mr. Shaughnessy was that if the Government persisted in the contention that all traffic originating in the territory traversed by the I.C.R. & intended for points in the West must be delivered at Montreal, it would necessitate the C.P.R. holding back empty cars it had carried east with freight intended for points on the Intercolonial. The I.C.R., Mr. Blair said, does not object to receiving freight from the C.P.R. at St. John for points on the I.C.R. He recognizes it is the right of the railway in whose territory traffic originates to deliver to a connecting road at the end of its long haul, & therefore all C.P.R. freight for points between St. John & Moncton & east of Moncton would properly be receivable by the I.C.R. at St. John. The C.P.R. has complained that cars brought down laden & handed over to the I.C.R. at St. John would have to be hauled back empty, & the Minister is well aware that the C.P.R. would therefore be doing business to less advantage than if it hauled the cars back laden or received the empties free of cost from the I.C.R. at any junction point near Montreal.

So anxious have the I.C.R. authorities been to meet the C.P.R. in a reasonable spirit that they have advised Mr. Shaughnessy of their willingness to deliver empties to the C.P.R. at Montreal or any junction point near that city, & this, it is believed, will obviate the alleged difficulty. "It is not correct," Mr. Blair said, "nor do I think it fair to ascribe to Mr. Shaughnessy the statement that the I.C.R. has virtually transferred its whole business to the G.T.R., meaning, it is supposed, its whole freight business, & shut out rival roads from sharing in the Western traffic. The I.C.R. has not done this. As Minister, I have simply made the best arrangement possible in the interests of the Government railway through the G.T.R., as being the only road that would exchange traffic at Montreal, & this ensures to the I.C.R. the use of its whole line from the terminus at Montreal in preference to the small portion of its line from St. John, to which it would be limited if an exchange agreement were made with the C.P.R. at St. John. But this agreement is confined entirely to unconsign freight, & would not, & does not, preclude shippers from requiring delivery to the C.P.R. at St. Rosalie, Montreal, or Jacques Cartier junctions in respect of goods destined for the West. Neither is it correct to say that the Minister has decided to terminate the passenger agreement between St. John & Halifax. Mr. Shaughnessy would not, I am sure, authorize any such statement, because no such conclusion has been come to. The I.C.R. is only bound to give to the G.T.R. as respects freight, & then only as far as the interests of the I.C.R. have made it desirable or necessary that such an arrangement should be concluded." The statement in the Sun that the Senate had done the Minister a service by making the agreement

revokable, Mr. Blair declared, was not of a character to impress anybody who understands the railway situation. "So far as the senators have interfered with the contract between the G.T.R. & the Intercolonial, they have interfered to its injury," said Mr. Blair, "& I have not the slightest intention of exercising the power the Senate so kindly placed in my hands. I have not the slightest intention this year or next or in any future year, so far as I know now, of cancelling the G.T.R. traffic agreement. The agreement is of that nature that there has been no period, there will be no period, or can be no period, in which the G.T.R. would not cancel the agreement in its own interests if the I.C.R. was willing, without having any statutory provision to do so. As regards St. John," Mr. Blair said, "I have only one feeling. I would do anything in my power consistent with my duty as head of the I.C.R., & with the claims of other localities, to promote the well-being of St. John & the interest of the port, but I am bound to frankly state, however, that I am quite sure the people in no part of the country touched by the I.C.R. expect me to sacrifice what I believe to be the general interest of the I.C.R. at the instance of any other railway system or the individual interests of any other locality."

Mr. Shaughnessy was interviewed on the subject of the Sun's article, & Mr. Blair's reply, but absolutely declined to discuss the matter. He, however, said that the C.P.R. still hoped to have the co-operation rather than the active opposition of the Government road in the former's efforts to maintain a Canadian winter port.

The Montreal Witness, which supports the Government, quotes "a gentleman who has watched railway affairs closely for a good many years," as saying that Mr. Blair's attitude regarding this question left no other alternative for the C.P.R. to assume than that of diverting its seaboard business to Boston. Should this be done the I.C.R. will be practically without steamship connection at either St. John or Halifax, because that railway is not in a position to make freight contracts with any steamship company that would warrant a permanent line of vessels running to & from any of the maritime ports. Without access to business west of Montreal the Government line cannot be a feeder for any steamship line, hence the action of the C.P.R. will certainly close up St. John & Halifax as winter ports & leave the Government railway out in the cold as regards steamship traffic.

Freight Traffic Matters.

Large quantities of cheese are being shipped on the Canada Atlantic at stations between Ottawa & Montreal.

Grain traffic on the Canada Atlantic is very heavy, 5,087,000 bus. having been received at Depot Harbor from the opening of navigation to Aug. 1.

The Alberta Ry. & Coal Co. has established an agency at Nelson, B.C., & will ship coal there from Lethbridge over the Crow's Nest Pass Ry.

The White Pass & Yukon Ry. is hauling about 170 tons of freight daily from Skagway to Bennett. It goes down the river immediately upon arrival in scows & steamers.

Trade has improved along the Bay of Quinte Ry. to such an extent that an additional freight train has been put on. A great deal of lumber is being brought from the back country for exportation to the U.S.

The Manitoba Department of Agriculture estimates the grain yield of the province this year as follows:—Wheat, 33,504,766 bus.; oats, 23,003,126 bus.; barley, 5,532,972 bus.; flax, 296,208 bus.; rye, 65,626 bus.; peas 26,637 bus.

According to the report of the Vancouver Board of Trade the shipments of lumber from that city in 1898 were 40,685,810 ft. b.m., against 50,044,021 in 1897. The shipments by rail to points outside B.C. were 18,754,730 ft. b.m. in 1898, and 23,720,074 in 1897.

General Superintendent Osborne, of the Western Division of the C.P.R., says the Co. is fully prepared to handle the great grain crop of Manitoba & the Territories. The Co. has 25,000 cars, including 1,500 added for this year's crop. The Perish-shops which turned out 6 to 10 new cars a day all the past year, have their capacity now increased to 15 cars a day.

The railways between Buffalo & New York have advanced the freight rate on grain coming to Buffalo by lake. Wheat to New York is 3.5c. a bush.; corn & rye 3c.; barley 2¾c.; & oats, 2c. The advance in wheat is 7½ mills; in corn 7½ mills, & in rye 2½ mills. On the announcement of these advances the canal boats raised their rates to the basis of 2½c. on wheat.

The White Pass & Yukon Ry. has cancelled its through traffic arrangement with the coast, lake & river steamboat companies, & hereafter the railway will be run as a purely local line, each company accepting through shipments having to pay the Ry. Co. a local rate on the same. This will cause a very material raise in through rates. The Canadian Development Co., for example, which has been quoting three rates of \$160, \$155, &

\$130, now announces that the lowest will be \$180.

The White Pass & Yukon Ry. management announces that the regulations of the U.S. government, which prevented perishable goods from Canada being bonded through Alaska, on the way to the Yukon, have been rescinded, & that word has been sent to the collector at Skagway from the Treasury Department, ordering him to pass Canadian perishable goods, the same as other Canadian goods, which means that they will go through without interruption.

On Aug. 14 the roads running east from St. Louis reduced the rate on flour for export to 15c. per 100 lbs. from St. Louis to New York. The western lines terminating in Chicago met the competition by making a rate of 15c. from Missouri River points. The previous rate from the Missouri River was 19½c. On Aug. 1 the lines running east from Chicago advanced the export flour rate to 17c. It cannot be maintained while a rate of 15c. is in effect from Missouri River points to New York via Chicago.

Nelson, B.C., papers report traffic as very good. On Kootenay Lake the C.P.R. steamers are fully employed in making the transfers between the Crow's Nest line at Kootenay Landing & the Columbia & Kootenay branch at Nelson, as well as in the moving of supplies to the railway construction camps at the head of Kootenay Lake. On the railway there is a greater volume of traffic com-

ing in & going out of Nelson than during any former period in its history.

The C.P.R. Freight Department has issued a circular stating that for the purpose of giving its patrons the best despatch for their shipments for the Kootenay & Pacific coast, it has been arranged that, effective Aug. 28, a train, to be known as the "Pacific Coast Bullet," will leave Fort William, making the run to Laggan in 93 hours 55 minutes, & to Kootenay Landing in 101 hours & 10 minutes. The train leaves Fort William at 2 o'clock (Central Time), & arrives at Laggan 22.15 (Mountain Time), Kootenay Landing, 5.30 (Mountain Time). A service is also being arranged for the Pacific Division, particulars of which will be given later.

Arrangements have been made by which an expert fruit shipper & packer from California will spend some time in British Columbia during the fruit-shipping season. It is intended to hold a series of meetings of growers in the fruit districts, & give object lessons in approved methods of grading & packing different varieties of fruit. A car-load of plums, packed, loaded & iced, under the direction of an expert, will be shipped to the Northwest market, & it is hoped that the fruit shipping industry will be placed upon a sound basis. The C.P.R. has promised free transportation to the expert & to furnish a first-class refrigerator car service. The Cleeve Cannery & Cold Storage Co. will cool & ice the fruit at New Westminster for shipment.

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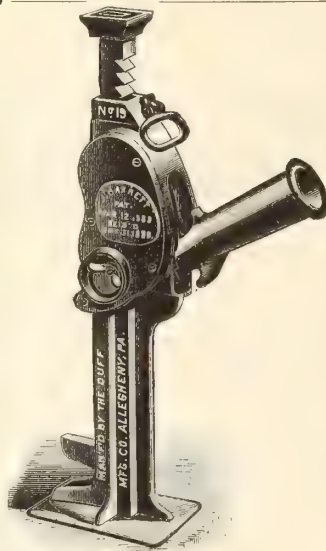
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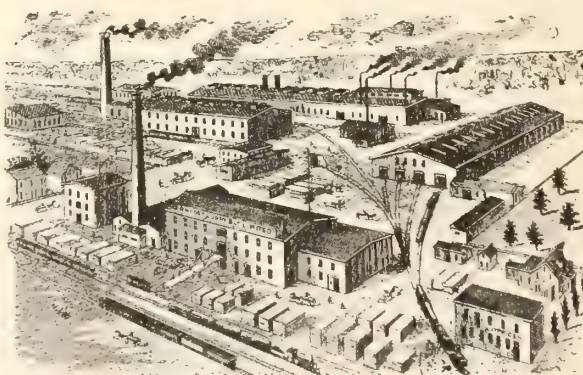
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The Freight Traffic Manager of the C. P. R., speaking of the effect of the recent decision of the Interstate Commerce Commission that all export rates on freight should bear as heavily on the export business as the existing rates on domestic business should bear on the local business in the U. S., said that the only effect which the decision would have on the Canadian lines would be to keep up the export freight rates. The decision of the Commission simply means that no line in the U. S. will be allowed to make an export rate on freight which is lower than its corresponding domestic freight rate. This will, of course, prevent cutting of rates to secure export business, & in that regard, of course, Canadian lines will be affected in as much as the export rates in the U. S. will be kept up, enabling Canadian lines to do the same.

Grain Export via Boston.

A. F. Brown, the largest export grain forwarder in Boston, has been visiting Manitoba, accompanied by Foreign Freight Agent Corbett, of the C. P. R., to interview the grain shippers on the subject of exporting all rail via Boston over the C. P. & Boston & Maine railways. The high lake freights which will prevail this fall will give the C. P. R. an opportunity to handle a large quantity of this season's crop over its all rail line to the Atlantic seaboard, & special efforts will be made by that Co. to this end. The close relations between the C. P. R. & the B. & M. R., together with the excellent elevator facilities & large ocean tonnage at Boston will probably make that the export route, although the New York Central will undoubtedly make a strong effort to get a share at Ogdensburg or Montreal for export via New York.

In an interview in Montreal, on his return from Winnipeg, Mr. Brown said that Boston increased its business last year in the handling of Canadian grain by over 6,000,000 bush., & it was expected that this year there would be a further increase of 25% over last. The steamship charges at Boston, he says, are exceptionally low, steamship lines being authority for the statement that the harbor charges there are about \$1,500 less each trip than at New York. He expects that the Boston & Maine R. R., the U. S. connection of the C. P. R., will carry a large quantity of the Canadian grain to Boston during the coming winter. This result will be contributed to, he believes, by the fact that the C. P. R. being shut out from the St. John & Halifax trade by the recent traffic agreement between the I. C. R. & the G. T. R., will naturally divert as much trade as possible to Boston, via Newport. The C. P. R. would do this as a plain business matter, & in their own financial interests. Of his impressions of Manitoba Mr. Brown said: "I had previously made regular trips through the northwestern States; but never before did I see the wheat-growing portion of the Canadian West. It was simply a revelation to me. After remaining two days in Winnipeg, we went westward 150 miles, & then drove 30 miles north of the main line. There is no wheat-growing country like it on the American continent. I have been in the grain business from 12 to 15 years, but Manitoba surpasses anything I had ever seen in the south. In fact, no one can realize the vast extent & splendid quality of the golden grain I have just seen in the province of Manitoba. The wheat is remarkably clear from weeds & smut; & as I have just said, I never before saw anything like it. We visited a farm eight miles north of Brandon, owned by a Mr. Devine, & the surroundings were really remarkable. His house is built of stone & finished in white wood, & on every hand were indications of comfort & even luxury. This fact is a distinctive feature of your new western country. In the older sections of Kansas & Minnesota we see pretty

good farm houses, but nothing like the establishments that are to be met with on every side in Manitoba. Devine has 300 acres under wheat, & he expects to raise 9,000 bush., & at the price he sold for last year, viz., 67c., will have a good deal of money to put in the bank. I have heard bank managers out there say that the farmers of Manitoba have good deposits, & from what I have seen I am not at all astonished. There is no question in my mind that the crop of Manitoba & the Territories will be 50,000,000 bush., & all say that it will grade no. 1 hard. I was very much impressed with Winnipeg, & it must, with its magnificent back country, become a very large city. In fact, the whole country was a revelation to me. Then there is the C. P. R., which is a wonderfully enterprising corporation; & after seeing the country through which it runs, I am not surprised that the stock should go up. The cars composing the Imperial Limited are simply palaces on wheels."

Export & Domestic Freight Rates.

The question of relative rates upon export & domestic traffic in grain & grain products & of the publication of tariffs relating to such traffic was decided by the U. S. Interstate Commerce Commission, Aug. 7. Following is the official statement:

The Act to regulate commerce applies to the transportation of export & import traffic, & the jurisdiction of the Commission over such traffic is not denied, but is distinctly affirmed & rather enlarged by the decision of the U. S. Supreme Court in *Texas & Pacific R. Co. v. Interstate Commerce Commission*, 162 U. S. 197, 40 L. ed. 940, 5 Inters. Com. Rep. 405.

The Act to regulate commerce does not, as matter of law, prohibit a carrier by railroad from making a through rate from a point within the U. S. to a foreign destination of which its division shall be less than the amount charged by it for the corresponding transportation of domestic merchandise to the port of export. Nor is it, as matter of law, in violation of the Act for such carrier to make a lower rate to the port of export upon traffic which is exported than upon that which is locally consumed, for the export rate is in essence the division of a through rate. *Texas & Pacific R. Co. v. Interstate Commerce Commission*, 162 U. S. 197, 40 L. ed. 940, 5 Inters. Com. Rep. 405, cited & applied. *Kemble v. Boston & Albany R. Co.* 8 I. C. C. Rep. 110, cited & approved.

It is a question of fact whether rates upon export or import traffic, as well as those upon domestic traffic, are in contravention of the provisions of the Act to regulate commerce.

The Act to regulate commerce was intended to & does apply, not only in cases of direct injury to particular individuals or industries, but also in cases involving indirect injury to the community as a whole, & in the absence of some justifying reason, it would not be right for U. S. railroads to permanently transact business for foreigners at a less rate than that for which they render a corresponding service to U. S. citizens.

Market conditions, sometimes in case of wheat, but seldom in case of corn, may justify an export rate through the port of New York somewhat lower than the domestic rate, & Philadelphia, Baltimore, Norfolk & Newport News usually take rates which are certain differentials below the New York rate on both domestic & export traffic. During the period of closed lake navigation the export & domestic grain rates to New York & the other ports mentioned should ordinarily be the same. Rates to other ports, including Boston & ports on the Atlantic north of Boston, & Galveston, New Orleans & other Gulf ports may perhaps be properly made lower on export than on domestic traffic to enable them to compete for the ex-

port business. Such an adjustment of rates would be to the advantage of the carrier, & just alike to the U. S. consumer & the U. S. producer. But as the problem is primarily one for the carriers rather than this Commission, & some rate changes have been made by them during the progress of this proceeding, & the testimony indicates that the present disparities between domestic & export rates will not become permanent, no order is made in relation to this branch of the case.

In the application of export grain rates the carriers should in no case make the rate from any point to the seaboard less than that from any intermediate point on the same line.

Carriers engaged in the transportation of export flour from Minneapolis at a rate which is 1½c. less than the domestic rate to the port of export refuse to make any corresponding concession to intermediate millers. Held, That this is unjust & unlawful discrimination against such intermediate traffic, & that whatever line participates in such lower export rate on flour from Minneapolis must make a corresponding rate upon similar traffic from intermediate points.

There may be instances where a carrier should be permitted to meet railroad competition without reference to its intermediate territory, but when the very existence of an important industry depends upon the carrier being required to treat intermediate territory as it does the more distant territory, the rule of no greater charge for the shorter distance clearly applies.

Carriers largely engaged in transporting export flour have for many years made the same rate on wheat & flour, & such long continued practice is evidence against any difference in rate on those commodities; but the presumption is not irrebuttable, for if it were the carriers could never change their tariffs or classifications.

The profit to U. S. millers in manufacturing flour for export is from 1 to 3c. per 100 lbs., but the freight rates on wheat & flour for export show a difference in favor of the English miller of from 4 to 11c. per 100 lbs., & other things being equal, such discrimination is clearly prohibitive upon the U. S. manufacturer. The published railroad rates on both wheat & flour for export have been the same up to a recent period, & the carriers have exacted such rates, except where lower rates on wheat were induced by competition. Water competition on the Great Lakes limits rail rates to the various ports on both wheat & flour during the navigation season, & to a degree before the opening & after the close of navigation, & the published & actual water rates on wheat have been from 2 to 4c. lower than those on flour. To a limited extent the cost of service may be greater in the transportation of export flour than in that of export wheat. The export rate on flour includes delivery on board ship, while the rate on wheat ordinarily does not, & at New York an additional charge of about 1½c. a bus. for loading wheat is made. Exportation of flour has steadily increased, but for the last 6 years the increase has not been marked, & a decrease is shown by comparing exports in 1894 & 1898.

Held, That public policy & good railway policy alike seem to require the same rate on export wheat & export flour, but that the duties of the Commission are confined to administering the Act to Regulate Commerce, & in view of all the conditions shown in the investigation, a somewhat higher rate on export flour than on export wheat is not in violation of that statute. That the published difference in rates is too wide, & that the rate on flour for export should not exceed that upon export wheat by more than 2c. per 100 lbs. That the relation of rates on domestic shipments of flour & wheat is not involved in this decision, as the export & domestic freights are handled under different conditions.

Rates on export traffic must be published & filed in accordance with the provisions of sec. 6 of the Act to Regulate Commerce.

Severed through export rates made by joining the ocean rate, whatever it may be, to the inland rail rate, whatever it may be, are not analogous to joint rates made by joint arrangement between railway carriers, sub- ject to the statutory sense that the total rate must be published & filed & it is enough if the railway carrier publishes & maintains its own rate to the seaboard. But if there is in fact such a joint arrangement that the rate is a joint rate under the 6th sec. of the Act to Regulate Commerce, then the entire through rate should be published, & not the inland division, which in that case might vary while the entire rate remains the same.

The G.T.R. was represented by its General Manager & General Traffic Manager, & the C.P.R. by its Freight Traffic Manager.

Passenger Rate Troubles.

August was a month of scares in passenger rate matters. Early in Aug. it was announced that on account of the refusal of the Michigan Central & Lake Shore lines to cease selling tickets from the West to Portland, Me., & return via Boston at reduced rates, & the consequent refusal of the G.T.R. to stop selling cut rate excursion tickets to Boston, the Erie had decided to break the recently adopted passenger schedule & withdraw from the Chicago & Boston business. This was followed by the Erie announcing a rate of \$18.45 for the round trip between Chicago & New York. There was previously no round trip between the two cities, the standard one-way rate being \$20. The rate made by the Erie was, therefore, less than a single fare. Corresponding rates were made from intermediate points to New York. General Passenger Agent Usher, of the C.P.R., when interviewed in regard to the cut, said the report that a serious rate war, into which the C.P.R. & G.T.R. Co.s were likely to be drawn, was largely the result of the brilliant imagination of Chicago newspaper men. The report became current because the Pennsylvania lines announced a special rate between Chicago & Philadelphia of \$16.45, & the Erie Ry., in order to retain its New York & Chicago business, met this cut rate by a reduction in the rate between Chicago & New York from \$20 to \$18.45. It transpired that the special rate made by the Pennsylvania lines between Chicago & Philadelphia was only for an excursion of the Grand Army of the Republic from Chicago to Philadelphia, & remained in force only from

Sept. 1 to 4. The Erie road, in order that this special rate might not interfere with its Chicago & New York business, made a corresponding cut in its rates from \$20 to \$18.45 on Chicago & New York business. It was quite understood, however, that both these rates were for the limited period mentioned only, & would not in any way disturb the general tariff of rates on the U.S. lines generally. The Canadian lines were, of course, not in any way affected. The entire report, in fact, was the result of a misunderstanding of facts.

General Traffic Manager Reeve, of the G.T.R., said in an interview: "We are sorry to see the reduction of rate between Chicago & New York & Philadelphia, & I believe it will go far towards abolishing the reduction of rates generally to conventions, more particularly to the Grand Army of the Republic & the Christian Endeavor Society. Not that we think these associations are in any way responsible for the general demoralization that takes place in connection with the reduced fare, but because certain railway companies make that the excuse for all kinds of what used to be called, fifteen or twenty years ago, sharp practices, but which are now considered by the standard lines to mean the quintessence of stupidity. But we believe that the action of the so-called standard lines at the present time is not so much to meet competition in connection with the Grand Army fares to Philadelphia as to be a cloak for them to take action as against the differentials that have been prevalent by the so-called differential lines for many years past, & which were awarded to those lines by arbitration & with the consent &, therefore, by the agreement, of the standard lines. In other words, they are trying to take away from the weaker lines in an underhand way what they virtually agreed to allow them to retain. Our position—I am speaking of the G.T.R.—is one of strict conservatism, as we consider ourselves the strongest of the differential lines, & therefore we will not meet any reduction until the differential lines take the initiative. We will then join them & stay by them, reserving our differential as long as there is anything left to enable us to do so. That will continue to be our policy until the differential is taken away from us by the same power or through the same source as it was given us."

The differential lines are the G.T.R., Baltimore & Ohio, Wabash, Erie, New York, Chicago & St. Louis & Chicago & G.T. The Pan-handle is not admitted to be a differential line. The standard lines are the Lake shore, Michigan Central, the Pennsylvania, in other words, the Vanderbilt systems & the Pennsylvania.

Passenger Traffic Manager Kerr, of the C.P.R., who returned to Montreal Aug. 29, after spending some days in Chicago, said he did not think it likely that a general rate war would be precipitated as a result of the trouble with regard to fares to the G.A.R. convention at Philadelphia. The Erie made cuts in rates based on their claims as a differential road, & these cuts were met by other lines, whose action for a while threatened serious complications. He thought it would be very poor business for any road to start a cutting of rates during such a time of great business activity, when there was traffic enough for all, & the only question was one of sufficient accommodation to handle what was offered.

The Wabash, Michigan Central & other lines cut down to \$15.15 for the return trip to New York but limited the going trip from Sept. 1 to 4 & the return to Sept. 30 & it is expected there will be no further trouble. All the roads have united in appointing a joint agent in New York to handle all tickets & execute them for return trip. It looks altogether likely that cheap tickets will not constitute any sort of harvest fee for the scalpers, in spite of their cheapness. The tickets which the Wabash is issuing, for instance, are almost as rigid as could be made without having a photograph of the purchaser on them. They describe whether the purchaser is medium, slight or stout in size; tall, medium or short in height; male or female, & with light, dark or grey hair, besides bearing an autograph signature. On the Michigan Central the tickets will not be good east of Buffalo on the limited, but they will be good on all trains on the Wabash.

On Aug. 24, the Chicago, Milwaukee & St. Paul Ry. gave the following notice of withdrawal from the Western Passenger Association: "Rival lines, not members of the W. P. Association, namely, the Chicago Great Western, Wisconsin Central & Minneapolis & St. Louis roads, have been demoralizing rates, securing traffic to which, we think, we are entitled. We expected to be protected from such competition by the W. P. Association, but finding that we are not, we have decided to withdraw from the Association in order to be free to meet the competition of rival lines in the manner that may seem best to us. If the Great Western, Wisconsin Central and the Minneapolis & St. Louis roads will join the W. P. Association & abide by its rules, we will renew our membership immediately. While withdrawing from the Association & refusing to be bound by its articles of agreement, we have not severed our connection with the clergy, mileage or immigrant bureaus of the Association, & do not propose to do so."

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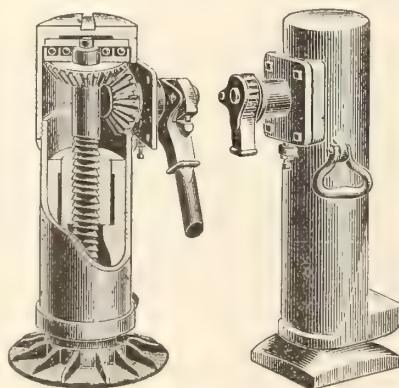
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A. O. Norton, Coaticook, P. Q., Canada.

Government Railway Literature.

The Press & Advertising Agent of the Intercolonial Ry. has issued a "Souvenir for Tourists, Sportsmen & Invalids," which contains some interesting reading matter, though hardly sufficiently in detail to be of much value in furnishing information. The pamphlet, printed at the Government Printing Bureau in Ottawa, has a number of good half-tone illustrations, but its general appearance is marred by the use of several old alleged wood cuts, some of which have the appearance of having been engraved with a jack-knife. Another pamphlet, "Rod & Gun in New Brunswick, along the Line of the Intercolonial Ry. & its Connections," is very well prepared as far as the writing is concerned, but is poorly got up with an unattractive type cover, with poor paper, & with a cheap-looking & indistinct map of the Province. Neither of the publications mentioned are at all up to the standard used by the Grand Trunk & Canadian Pacific for their advertising matter, & consequently will not attract the desired attention. As with other advertising matter, that used by railways must be first class & up-to-date, or the money spent in it will be largely wasted.

In none of the publications got out at Moncton does the Prince Edward Island Ry. receive fair play. In the Souvenir above mentioned it is not named on the cover or mention-page, though several inside pages are devoted to it. The summer climate, surf-bathing, & other attractions of the north shore of P.E.I., are not surpassed by those of any point on the I.C.R., & are equalled by very few, & the Island should be given more prominence.

Whatever mistakes A. H. Harris may have made during his short term as General Traffic Manager, he scored in the adoption of the title, "Canadian Government Railway System," & in showing the division of it into the I.C.R. & the P.E.I. R. on all literature. We think a mistake has been made in dropping the comprehensive title.

Military Rates from the Pacific.

Military rates are causing trouble to the lines west of Chicago, & the agreement on this business is likely to go up in the air. The bulk of the westbound movement has gone to the Chicago & Alton, & its competitors are suspicious. The Wisconsin Central has been ousted from the division arrangement on Chicago-Missouri River business because it was suddenly discovered that this system had no Missouri River line. When the agreement was first entered into the Wisconsin Central was guaranteed a percentage of the total westbound soldier business regardless of the fact that it had no Missouri River line. East bound Central Pacific officers are complaining of the methods employed by the Missouri River-Chicago roads in capturing the business from the coast. The Central Pacific people say that eastbound soldier rates must be adhered to as laid down or it will adopt drastic measures to bring the Eastern roads to time.

A San Francisco despatch says the California Passenger Association, which represents all roads having offices in San Francisco, has decided to route home discharged volunteers over the most direct line, charging the fare of \$37.50 to Missouri River points. This same fare has been announced from Tacoma. The C.P.R. is after the traffic, & has announced the same rate. The northern roads, over which the reduced fare applies, are the Northern Pacific, Great Northern & Canadian Pacific. The agreement to maintain this rate & to fight for business is as yet entirely satisfactory to the northern roads, at least, but there are rumblings of a coming fight. For

the returned volunteer travel, the "Soo," with its C.P.R. connections, is making a hard fight, & if the roads fall out on the division will probably be as active as any of the other lines. Ordinarily the northern roads would be at a disadvantage with the Southern Pacific controlling the California business, but these lines rely strongly on their water routes to San Francisco. They can take the volunteers to Puget Sound at a slight expense, & transport them across the continent at a rate which easily brings them into competition with the Southern Pacific.

C.P.R. Montreal-Ottawa Service.

The C.P.R. has put two handsome trains on its Montreal-Ottawa run. Each train, consisting of locomotive, baggage car, smoking car, 2nd & 1st class cars & parlor car, is entirely new. The exterior wood of the cars is mahogany, matching the standard equipment. In the interior of the parlor car the panels & columns are of satin wood, richly carved & otherwise ornamented. The ceilings are modelled in the empire style of railway architecture, & are superbly decorated in green & gold. Handsome windows of glazed glass add very materially to the pretty effect. The observation windows are hung with damask silk, & smoke-guards prevent the entry of cinders & dust. The chairs are upholstered in terra cotta plush, & look restful & homelike. In either end of the car the private staterooms are situated, these being finished in a delicate shade of fawn. The appointments of the 1st-class car are in keeping with those of the parlor car, the same color scheme being used throughout. The smoking car is furnished with revolving chairs. All the cars are lighted by electricity, the incandescent globes being placed along the sides instead of near the ceiling. The engine is one of the most powerful of its kind ever constructed by the C.P.R. It is not the intention now to cut down the running time of 2½ hours for the 111 miles, it being felt that that is fast enough for all practical purposes for the present, though ultimately it may be reduced to two hours.

Passenger Traffic Matters.

It is said Hamiltonians will erect a large hotel in Muskoka.

Commercial travellers in the U.S. are proposing that the railway companies shall issue uniform interchangeable mileage tickets, so that a ticket bought from one company shall be good on the lines of all.

Traffic on the Intercolonial has been very heavy all season, & the new vestibuled train between Halifax & Montreal is being largely patronized & traffic between Halifax & Sydney has been greatly increased by the improvement in the service.

All the railways running into Ottawa are enjoying a season of steady traffic unsurpassed in previous years. There has been a constant movement of tourists to the summer resorts ever since the opening of the season, as well as the usual influx of visitors & business men that make Ottawa a Mecca during the season.

The question of changing the form of interchangeable mileage tickets in the Western States has been referred by the Western Passenger Association back to the original committee to which the question was first referred. It is desired to increase the mileage of the ticket to 5,000 miles & to provide for a redemption of unused parts of books.

This has so far proved one of the best excursion seasons the railway & steamboat companies have had for years. A feature of the summer travel has been the great numbers of

Canadians from the rural districts as well as tourists from the U.S. who have visited the larger Canadian cities; all contributing materially to swell the volume of the retail trade.

The number of people who spent their vacation in Muskoka this year has been far in excess of any previous summer, probably double, about 12,000 visitors being about this year's figures. This means much to many branches of trade, & those interested will be pleased to learn that the prospects even now are bright that next year will show a very large advance on this.

The G.T.R. has decided to open up for tourists a new & charming country, the Kawartha Lake district, which is likely to rival Muskoka. It embraces the country surrounding north of Peterborough & includes Lakes Balsam, Cameron, Sturgeon, Pigeon, Buckhorn, Chemong & Stoney, which is accessible from Cobocook, Lindsay or Peterboro. The advertising department of the G.T.R. encouraged by the success that has attended its efforts in Muskoka is about to make known the beauties of this region.

The harvest excursions to the Northwest during the fourth week in August were unprecedented in size. Some 500 or 600 went from points on the C.P.R. east of North Bay, but the great bulk were from Ontario & went over the G.T.R. to North Bay, thence by C.P.R. Over 6,000 people, of whom about 1,000 were women & children, were landed at Winnipeg in two days. The transporting of this number for from 1,500 to 2,000 miles, in addition to carrying on the regular heavy freight & passenger traffic, was splendidly managed.

At a recent meeting of the Maritime Board of Trade at St. John, N.B., it was resolved that the Board views with favor the earnest efforts of the many towns of the provinces to encourage the coming of tourists, & would impress on delegates the importance of the construction of summer hotels, & the more general advertisement of the natural beauties & advantages of Nova Scotia, New Brunswick & P.E. Island, from a tourist's standpoint, & that special attention should be directed to the encouragement of this class of travel from Quebec & Ontario.

It is said the Immigrant Bureau of the Western Passenger Association has been making efforts to induce the C.P.R. to join the pool. A conference was held at Chicago on the subject, but as the Bureau refused to allow the C.P.R. as large a percentage of the profits as its passenger traffic manager thought it was entitled to, he decided to keep out. He suggested that a higher offer be made to him, & if the amount be satisfactory he will consider the matter. As the Great Northern & Northern Pacific were not represented at the conference, the original proposals could not be modified.

Travel on the Ottawa & Gatineau railway this year is very much in advance of previous seasons, substantial returns being realized from the advertisement of the country by the road, by a gratifying influx of tourists. All the hotels & summer boarding houses are well patronized, the bracing atmosphere of the Gatineau hills proving an almost irresistible attraction for those who have ever visited the place. The advertisement which the northern part of Quebec received at the recent sportsman's show in New York is also expected to bring good results & a heavy influx of sportsmen during the open season, which will soon be here.

H. J. Beemer, who now controls nearly all the waters in the Lake St. John district of Quebec, in which ouananiche may be found, is taking active measures to maintain the supply of the fish in his preserves. In his hatchery

Railroad has 75,000 young ouananiche for planting in the rivers tributary to Lake St. John. Both the C.P.R. & the Lake St. John Ry. will have fish & game exhibits in the Sportsmen's Show in St. Louis, Mo. The Province of Quebec will not make a separate show, but will probably lend the C.P.R. trophies of its woods and waters which were exhibited in New York last March, & which are to be sent to Paris next year.

After Jan. 1 next a new form of clergy half-rate permits will be used by the roads running east from Chicago, on all of the lines in the United Passenger Association. In place of the present annual clergy permit each person entitled to the credential will be furnished with a book containing 100 coupons. Whenever a ticket is requested the applicant will be required to fill out one of these coupons in the presence of the selling agent. These coupons will be turned in to the auditors of the respective roads as authority for the sale of the half-rate ticket. In this way an excellent check will be kept on clergymen's signatures, & the work of auditors will be greatly simplified. A nominal charge will be made for the books.

Much is being done to make known Canada's varied attractions. On both sides of the Atlantic the C.P.R. has advertised Canada extensively as a summer pleasure ground. In the U.S. the G.T.R. has drawn attention to the Muskoka Lake district. The steamship lines running between Boston & the Maritime Provinces are developing a large tourist business, & the tourist associations of St. John & Halifax have done much to help them by distributing beautifully illustrated pamphlets setting forth the attractions of those cities & the neighboring districts. The Dominion Atlantic Ry. has made the beauties of the Annapolis Valley of Nova Scotia well known to New Englanders, & the Quebec & Lake St. John Ry. has brought many sportsmen to Quebec Province. All this is to the good. The tourist not only takes away with him a knowledge, & it is to be hoped, a favorable impression, of the country he visits; he leaves his dollars behind him.—Canadian Gazette.

Grand Trunk Betterments, Etc.

The Co. is seeking to acquire some lots at St. Lambert, probably for the purpose of building a dyke to protect the Victoria Jubilee bridge.

The galvanized iron sheeting which is to hide trains from horses, is being put in position on the Victoria Jubilee bridge, & it is expected the structure will be opened for foot & vehicle traffic during Sept.

It is reported, but not confirmed, that the Co. will improve the Port Dover division, moving the track about half a mile further east at Norwich, in order to be near the town, & altering the approaches at Woodstock.

Work is proceeding on the new stations at Arthabaska, St. Hyacinthe, St. Anne's & Vaudreuil, Que., & Galt, Ont., & will shortly be started at Pickering & Cardinal, Ont. The St. Hyacinthe & Galt buildings will be handsome structures, costing from \$15,000 to \$18,000 each.

The last relic of the first epoch of railway engineering in Canada is passing away in the form of the tubular bridge at St. Anne's. This old bridge, which spans the Ottawa near its junction with the St. Lawrence, is being removed, & a truss bridge erected in its place. This old bridge is not only the last of the tubular bridges in Canada, but the last on this continent, & its removal is a historic event.

The new round house at Sarnia has been turned over to the Co. The Co. has some piping, etc., to do, but the building will soon be ready for use. It is situated about half a mile west of the station, & is built of white brick with stone foundation & gravel roof. The length is about 760 ft., depth 76 ft. & height 20 ft. There are 30 stalls, each accommodating one locomotive. The foundation of the stalls is composed of 4 ft. of brick, & 2 ft. of cement. In addition to the round house proper there has been constructed an office & machine shop building, 56 by 32 ft., & a 70-ft. turntable. The buildings are the exact counterpart of those being erected at Port Huron.

On returning to Montreal for a recent inspection of the lines west of there, General Manager Hays said a steady improvement

has been going on during the past year, a great many of the stations having been thoroughly overhauled, redecorated, & steam-heating appliances added. The out-buildings, train sheds, baggage rooms & freight sheds have also been renovated & improved. With regard to the road bed, he said that steps are constantly being taken to ensure safety for the traveling public. New switches & semaphores have been placed in position during the past few months, & the greatest care is exercised in the matter of signaling. The work of double-tracking the main line at Murray Hill is being actively pushed forward, & will be completed in a few months. When it has been finished the whole of the line between Toronto & Montreal, with the exception of a strip extending from Newtonville to Scarboro', will be double-tracked.

The Montreal City Council has appointed a committee to confer with General Manager Hays as to the abolition of level crossings in Montreal between St. Henri & Bonaventure station. The plan proposed is to construct a viaduct between the points named. The elevation from St. Henri to Atwater avenue is estimated at about 2,860 ft. in length. The tracks from Atwater avenue would then be on a level for 200 ft., descending on a grade of 18 1-2 ft. per mile to a point half-way between Seigneurs & St. Martin streets. From the latter street the tracks would be on a level to Bonaventure station. This would somewhat alter the present station, the elevated portions of which would be reached by staircases & elevators. Into the station proper there would run from Mountain street at least eight tracks, with platforms covered in & provisions made for the handling of baggage. The scheme also includes the building of a series of arches of 20 ft. span each, & iron bridges at all the streets, & iron trestle-work at the station. It is estimated that the iron trestle-work necessary for the whole work would cost, with wooden floorings, about \$927,000, & with buckled plates & permanent filling for tracks, \$1,034,000. The proposed work on the viaduct would be most substantial. The entrance to the station would be something like the entrance to the C.P.R.

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between Guy & Aqueduct streets, that is to say, a retaining wall on each side of the right of way, sustaining the filling on which the tracks would be laid. The streets would pass under the tracks by a series of arches, which would not be all similar in design. It is expected that all masonry would have to be placed on a cement foundation on account of the unstable nature of much of the ground. An iron pipe railing would run on each side of the right of way, on the masonry coping, adding to the appearance of the work.

Canadian Pacific Betterments, Etc.

Ottawa Short Line.—The Co. is purchasing right of way for a line of 6 miles, which it is proposed to build to facilitate the handling of freight between the Co.'s Sussex St. Station, Ottawa, & the Union Station there. The new line will leave the Prescott line some distance east of the white bridge over the Rideau River, running away from the river till it reaches the Co.'s Montreal & Ottawa short line near the junction of that road with the Ottawa & New York Ry. The remainder of the distance will be covered as at present & will shorten the freight route about 8 miles as against the present haul by way of the Chaudiere Jct. No bridges will be required. It is not certain that the line will be built this year.

Montreal to Toronto Double Track. The grading is completed between Montreal & St. Anne's. The second track is being laid with 100 lbs. rails & will very soon be completed. The 72 lbs. rails on the old track are being replaced by 100 lbs. rails. It is expected the work of double tracking will be pushed on from St. Anne's westward next season.

Considerable work is being done just east of Sharbot Lake, on some 6 miles of the line, by reducing curvature & by reducing gradients from a maximum of 1% to .8%.

Fort William.—The yard sidings are being extended for about 4 miles. The new round-house is well under way, the work being done by the Co. Altogether about 300 men are employed on the local improvements. (May, pg. 139.)

Rat Portage.—The station is expected to be completed by the end of Oct., except the inside finishings, & the round-house should be completed a month later. (Aug., pg. 233.)

Winnipeg Station & Hotel.—The plans are still under consideration, & will probably be changed considerably before being finally adopted. The building will probably be 6 stories high, & will certainly be a magnificent one. It is probable work will be commenced this fall. (Aug., pg. 233.)

Winnipeg to Brandon.—Crossing sidings 2,000 ft. long are being put in at a number of stations between Winnipeg & Brandon not already served in this respect, to facilitate the shipment of grain.

Branch from McGregor.—In our last issue we gave, on pg. 236, under the head of "Great Northwest Central Ry.," particulars of a line which is being built from McGregor, on the main line of the C.P.R., 22 miles west of Portage la Prairie, to a point near Forrest or Varcoe on the G.N.W.C. We are informed that this line is being built by the C.P.R. Co., the contract having been let to A. D. McRae. It will be 56 miles in length, & it is intended to grade as much as possible this year.

Snowflake Branch.—In the middle of Aug., H. D. Lumsden, C.E., stated that work was progressing very satisfactorily, that 16 miles had been graded, & that the branch should be completed by the end of Aug. (Aug., pg. 234.)

Deloraine to Waskada.—H. D. Lumsden, C.E., reported in the middle of Aug. that contractor Egan had 100 men & 60 teams at

work, & that 20 miles of the line should be completed by Sept. 15. It runs through a splendid wheat district. (Aug., pg. 234.)

Pipestone Branch.—Track has been laid this season from Reston, 18 miles west to Antler, which is 49 miles from Menteith Jct. In the middle of Aug., H. D. Lumsden, C.E., reported grading completed 7 miles west of Antler, & that contractor Strevel hoped to complete the 50 miles from Antler by Nov. 10. This will carry the line a few miles west of Carlyle in the Moose Mountain District. (Aug., pg. 234.)

North Star Mine Branch.—Reports about this branch are conflicting. In the middle of Aug. a Cranbrook, B.C., correspondent stated that contractors Reid & McRae, & Grant & Shady were pushing work, while at about the same time a correspondent wrote from Fort Steele that work had been stopped by instructions from Montreal. (Aug., pg. 234.)

Crow's Nest Pass Ry.—The Nelson Miner asserts positively that it has information to the effect that the construction of the portion of this line between Nelson & Balfour will be gone on with this season. (July, pg. 208.)

Nelson.—The Nelson Miner asserts that that town will shortly become the divisional point for the C.P.R. lines in southern British Columbia, & that on the completion of the Crow's Nest Pass line from Kootenay Landing to Nelson, a round-house, repair shops, & probably a foundry will be erected by the Co. at Nelson.

Kaslo Wharf.—A floating wharf has been built in the Co.'s yard at Nelson, to be used at Kaslo, B.C. It is built in the form of a large scow with a square stern. At the rear is a 50 ft. frame building, to serve as a warehouse. The roof of the building projects 25 ft., terminating in a large mast, to which is affixed a chain, which, passing over a smaller mast at the bow, is attached to a movable platform fixed in front of the bow, & which can, by means of the chain, be lowered as the water of the lake falls.

Arrowhead & Kootenay Lake Branch. This line runs from the north end of Kootenay Lake, via the Duncan & Lardo valleys, to Arrowhead, on Arrow Lake, connecting there with the Arrow Lake branch & is intended to tap the rich mining districts of Duncan & Trout lakes, & Fish Creek. The distance from Kootenay Lake to Arrowhead is 78 miles, with a branch of 20 miles from the summit at Trout Lake, passing by Ferguson at the north fork of Lardo River to Gainer Creek, on the south fork of the same river. The grading from Kootenay Lake to Duncan Lake is fairly heavy, & is mostly rock & debris. From Duncan Lake to the summit at Trout Lake the work is light, & from the summit to Arrowhead rather heavy. The gradients & curvature throughout are easy, with the exception of that portion from the summit to Arrow Lake, where a 2.8 grade is necessary. The distance between Kootenay & Duncan lakes will be ready for tracklaying by the middle of Sep. There are 500 men at work. A. E. Doucet is engineer in charge. (July, pg. 208.)

Columbia & Western Ry.—On Aug. 11 the first train on the extension from West Robson to Midway, reached Cascade. Grading is completed to Midway, 99 miles from West Robson, & it is thought the rails will be laid to Midway by the end of Sept. The long tunnel through Bull Dog mountain, which is half done, or over 1,500 feet, is now progressing rapidly, & will be completed by winter. Pending its completion, the mountain is crossed by switchbacks. It has been decided not to put in false work for the span over Kettle River, at the head of the falls, but to put in the 120 ft. span itself. It is the intention to use a lighter steel from Cascade on, than the 73 lbs. rail laid in the mountains. All

the stringers for the bridges come from the Coast, & it is difficult to get rolling stock to handle them.

It is stated that the Co.'s engineers are running a line south of that previously run between Midway & Rock Creek.

Snow Sheds in the Selkirks.—Some trouble having been experienced last spring from small snow slides between Bear Creek & Illecillewaet, in the Selkirk mountains, it is said the snow sheds will be extended so as to prevent temporary interruption of traffic.

Vancouver Terminals.—As soon as the new station is completed the present ticket office, platform and all, will be moved to Heatley avenue crossing, so as to give a station to the east end of the city. Filling is proceeding for the yards along the water front. There will be a wide net-work of tracks & a system of gates will probably have to be provided for an exit to the water-front. At Gore avenue there will be a city crossing. Richards street will be extended & a bridge will be put across with a continued wharf, & of course there will be the same entrance to the larger part of the wharf as there is at present. (May, pg. 140.)

Vancouver to Steveston. When Assistant General Manager McNicholl was in Vancouver recently, he attended a special meeting of the Board of Trade to consider the subject of securing communication between that city & Steveston, on the Fraser River. He stated that the executive had the matter under consideration. He was inclined to favor a steam railway rather than an electric one, thinking it could be more easily handled, & he promised to lay the whole question before the executive on his return east. (Aug., pg. 234.)

Duluth, South Shore & Atlantic.—It is said that surveys have been completed, & that grading is to be started at once on the extension from Newtonville, Mich., to Greenland, 60 miles.

Surveys, Construction, Betterment, &c.

Algoma Central.—J. Conmee, M.L.A., Port Arthur, has been awarded the contract for building this line between Sand Beach, Michipicoton Bay & the iron mines of the Lake Superior Power Co. & has already started work. (Aug., pg. 235.)

Atlantic & Lake Superior. At the last session of the Dominion Parliament a subsidy was voted for the construction of 32 miles of railway from Paspebiac, Que., the terminus of the A. & L. S. Ry., to Gaspé. Mayor Prefontaine, of Montreal, recently had an interview with the Minister of Railways & afterwards stated that it was certain that the railway would be built from Paspebiac to Gaspé Basin, by the people interested in the coal oil fields, with the assistance of the Dominion subsidy.

At a recent meeting of the Canada Petroleum Oil Co., in Manchester, Eng., the Managing Director stated that the board was so convinced that the oil fields had a successful future that the Dominion Government was approached to secure assistance to place the property in direct communication with the Dominion railway system. He added that the railway would pass through the oil properties & give an outlet for the Co.'s products to all parts of Canada & the U.S. & that the Government had decided to erect wharves & harbor facilities at Paspebiac. The Gaspé Board of Trade recently discussed the route for the railway between Port Daniel & Gaspé. It is said to be the intention of the Co. to carry the line a distance of from 25 to 30 miles in the interior & the Board want it to run not more than 10 miles from the shore. (Aug., pg. 235.)

The Canada Atlantic will not rebuild the car shops at the foot of Elgin St., Ottawa, which were recently burned, as the shops

will be seen at Ottawa East & Stewarton that the different facilities. An addition of 9 miles is being made to the round house.

Canadian Northern.—J. Armstrong, C.E., & party at 1011 Dauphin, Man., for Winnipeg, Aug. 15, to locate the extension of this line to the Saskatchewan, which will be crossed en route to Hudson's Bay. The course of the party will be north to Dawson Bay & thence to Overflowing River & to Cedar Lake Mission. (Aug., pg. 235.)

The Caranquet Ry., N.B., has improved its track considerably recently.

Canadian Roadmasters' Association.

The 3rd annual convention will be held at Toronto Sep. 20 & 21. The meetings will be held in court room no. 2 of the I.O.F. Temple Building, starting at 9 a.m. daily, & the members will make their headquarters at the Grand Union Hotel, corner of Front & Simcoe streets, opposite the Union Station, where special rates will be given to them.

The special topics selected for discussion at the convention are the following, the names given being those of the committees appointed to prepare reports on each subject:—

1. TRACK TOOLS.—J. Drinkwater, A. McAuley, W. Shanks.
 2. EXPANSION OF DIFFERENT WEIGHTS OF RAILS.—J. Shanks, J. Graham, J. Leslie.
 3. PLACING OF TIES & TRIMMING BALLAST.—E. Murphy, T. Hickey, J. Malloy.
 4. RAIL JOINTS.—J. Drinkwater, W. Shanks.
- This matter was reported on at the last convention & partly discussed, to be again taken up at the forthcoming meeting.

A number of other subjects will, doubtless, be discussed, & exhibits will be made by railway supply manufacturers. There is every reason to believe that the meeting will be an interesting & useful one, & we hope to see a good attendance, not only of those who are already members of the Association, but of all roadmasters who can be present & who will join, as we are satisfied they will find the membership of advantage to them. Roadmasters are invited to contribute papers on

any subjects they choose, whether on the programme or not.

The reports of the above mentioned committees were published in our last issue, with the exception of one, which is given below,—

TRACK TOOLS.

The Committee, J. Drinkwater, A. McAuley & W. Shanks, report as follows:—In our opinion it is economy for any railway company to furnish its trackmen with the best & most suitable tools. They should be so designed as to enable the men using them to accomplish the greatest amount of labor without expending a superfluous amount of energy in so doing, by reason of clumsy or improperly designed tools; & they should be so constructed that the parts which require great strength & are subjected to great strain or wear, should be of a quality of steel best adapted to withstand the same, thereby reducing to a minimum the weight of certain tools where strength & not weight are desired, also decreasing the load trackmen have to carry about on their work as well as decreasing expense to the railway companies, as most tools are purchased & sold by the pound. The committee believe that these tools can be best & most cheaply obtained if concerns which make a study of these points in track tools, & which are supplied with the proper facilities to incorporate them in the same.

The Quebec Bridge Co.'s annual meeting will be held at Quebec Sep. 5.

The C.P.R. Co. has decided to devote a considerable sum per year to the improvement of live stock in Manitoba & the N.W.T.

The Hereford Ry. Co.'s annual meeting will be held at Cookshire, Que., Sep. 5. This Co.'s line is operated by the Maine Central Ry. Co.

The Canada Atlantic Ry. Co.'s annual meeting will be held in Ottawa Sep. 26, also a special general meeting on matters connected with the share & bond issues of the Canada Atlantic & the Ottawa, Arnprior, & Parry Sound Ry. Cos.

The Great Eastern Ry. was sold by the sheriff at Sorel, Que., Aug. 29, in execution of a judgment taken by R. Prefontaine against the G. E. Ry. & C. N. Armstrong purchaser. A deposit of \$1,000 had to be made by each bidder by order of the court. Mr. Prefontaine & Mr. Beauchemin were the only bidders, the former bidding \$500 & the latter \$501, & after a wait of about half an hour the road was finally adjudged to Mr. Prefontaine for \$505. (Aug., pg. 238)

The Winnipeg Western Land Corporation, application for the incorporation of which under the Dominion Companies Act, with a capital of \$1,000,000, has been made, asks for very extensive powers, including among other things the construction & maintenance of works for the improvement of river navigation, the building of tramways & works for the manufacture or utilization of electricity, telegraph & telephone. The incorporators are: W. Hendrie, Hamilton; A. M. Nanton, W. D. Matthews, J. I. Davidson, W. Carruthers, W. R. Brock & J. Hoskin, Toronto.

J. G. Aikman, for 15 years' Superintendent of the Cumberland Ry. & Coal Co., died at Parrsboro, N.S., Sep. 2, after 4 weeks' illness. He was a native of England & was 65 years of age.

Grain Elevator Notes.

John S. Metcalf & Co., Chicago, have closed a contract for the construction of a million bushel grain elevator, with an extensive conveyer system, to be built at Newport News, Va., for the Chesapeake & Ohio Ry. The power house will be equipped with 4 Geary water tube boilers, 1,000 h.p., & a pair of 22x42 Vilter Corliss engines. Belt galleries will be operated by electricity. There will be 2 Ames high speed engines, one 21x18 direct connected to a 250 kw generator, & the other an 8x10 engine, direct connected to a 20 kw generator, for the electric lighting. The Corliss engines & the 21x18 high speed engine, will both be run condensing. The Wheeler Condensing Co.'s condensers will be used. There will also be a 1,200 h.p. Excelsior heater & purifier, a 9x5½x12 Deane duplex

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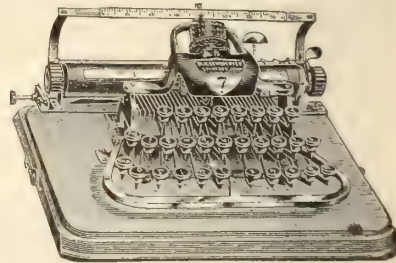
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boiler feed pump, & a 14x7½x12 Deane duplex underwriter's fire pump. The smoke stack will be of steel, self-sustaining, 170 ft. high, lined with brick. The entire elevator structure, together with belt galleries (with the exception of one 100 ft. section of the latter, built of steel), will be constructed of the finest quality of southern pine timber & lumber, covered with corrugated, galvanized iron. The rubber belting for the elevators & conveyers, together with the machinery throughout the house, will be of a higher grade than has ever been put into an elevator in America. J. S. Metcalf & Co. are building a smaller elevator for the Flint & Pere Marquette R.R. at Ludington, Mich. This elevator will be equipped with a marine leg, & will be run entirely by electricity.

SHIPPING MATTERS.

Dominion Notices to Mariners.

The Department of Marine has issued the following notices :

No. 52, July 28, British Columbia. 1. Beacon on Gabriola reefs. 2. Beacon on Danger reef. 3. Buoy off Celia reef. 4. Uncharted rock in Portier pass. U.S.A., Washington. Dangerous reef at the north end of Rosario strait.

No. 53, Aug. 1, U.S.A., Maine. 1. Intervals of West Quoddy Head fog alarm. 2. Nova Scotia, Liscomb, whistling buoy.

No. 54, Aug. 1, British Columbia. Beacon on north reef, Stuart Channel.

No. 55, Aug. 7, Ontario. Temporary stoppage of Battle Island light.

No. 56, Aug. 8, New Brunswick. 1. Richibucto Channel at entrance. 2. Liscomb Island lighthouse—orthography.

No. 57, Aug. 9, British Columbia. 1. Beacon on Shute reef, Satellite channel. 2. Beacon on Atkins' reef, Trincomali channel. 3. Oyster harbor—hydrographic notes. 4. Uncharted shoals off Halibut Island.

No. 58, Aug. 9, Ontario. Wreck of the Shenandoah.

No. 59, Aug. 14. 1. Prince Edward Island. Change in positions of Summerside buoys. 2. Nova Scotia. Sambro light station. Change in fog signal. 3. Quebec. Beacons on Island of Anticosti.

No. 60, Aug. 15, Quebec. St. Croix bar range lights.

No. 61, Aug. 17, Nova Scotia. Neal Harbor lighthouse.

Richelieu & Ontario Navigation Co.

The rumor that the Co. will build a sister boat to the Toronto is again going the rounds.

Work will probably be commenced before the end of the season on the hotel at Murray Bay which the Co. has decided to erect. It will contain some 200 rooms, & large dining & drawing rooms. The latter will be 65 by 40, while an immense verandah, 360 ft. by 24 wide, will surround the hotel.

The day service between Montreal & Quebec & the daily service to the Saguenay were discontinued at the end of Aug. The daily service to Toronto will be changed to tri-weekly about the middle of Sep. The two boats on the Hamilton route will be kept on as long as business warrants.

A Niagara Falls, N.Y., despatch of Aug. 12 said : "A rate war has been inaugurated between here & the Thousand Islands by the G.T.R. & New York Central Ry. & the R. & O. Navigation Co. A cut of \$4 has been made by the railways owing to the cut made by the steamboat company from Toronto. Round trip tickets are being sold from here & Buffalo to Alexandria Bay for \$5 via the rail lines."

It was recently stated that on account of the size of the locks in the new Soulanges Canal it is possible the steamers Spartan &

Bohemian will be lengthened 40 ft. next winter, that the dining room of the Spartan will be changed from the basement to the main deck, & that another tier of staterooms will be added to the Bohemian. The General Manager says the works indicated have not been decided on, though the reports may have emanated from employees.

In the middle of August an official stated that the receipts of the Co. were largely in excess of the receipts up to the same period last year. The total receipts to the date mentioned were about \$500,000. Owing to the lateness of the opening of navigation this season's business began about \$20,000 behind last year. This amount has not only been made up, but the amount quoted is to the credit of the earnings in addition. The total receipts for last season were nearly \$700,000, & the possibilities are that this season they will be close to the million mark.

Vancouver's Shipping Interests.

The Vancouver Board of Trade's recent annual report contains the following : The City of Vancouver is built on the southern side of Burrard Inlet, 15 miles north of the mouth of the Fraser River. The principal part of the city stands on a peninsula, bounded on the north by the waters of Burrard Inlet, on the south by a small indentation of the sea shore called False Creek, & on the west by English Bay. Burrard Inlet is always safely navigable for the deepest draught vessels & constitutes a magnificent harbor with good anchorage. The passage at the narrows or mouth of the inlet is about half a mile wide opposite the city front, however, the inlet is more than 2 miles wide, with a depth varying from 6 to 20 fathoms, & it extends about 20 miles farther inland. On the west & south sides of the harbor, English Bay & False Creek also afford accommodation for shipping. Since last year's report of this Board, a light-house has been put in operation on Prospect Point at the entrance to Vancouver harbor, known as the Lion's Gate. The continued increase in shipping during the past year has overtaken all the wharfe accommodation. The C.P.R. Co.'s principal wharf, on Burrard Inlet, has a frontage of 1,500 ft., with deep sea water sufficient for the largest ocean steamers. East of this there are a number of smaller wharfs affording accommodation also for sea-going & a large number of coasting vessels. Independent of this & in addition, the sawmill companies operating on the inlet have berths for at least 12 large ships to load at one time for foreign ports. The C.P.R. Co. has already commenced an extension to its wharfs, which, when completed, will give a further frontage of at least 1,000 ft. During the past year this Co. has built a transfer slip, & coal for the Mainland is now brought over in cars from Vancouver Island. A marine railway is under construction & almost completed, capacity 2,000 tons gross weight ; length of cradle 212 ft., which, when in operation, will afford accommodation for one large vessel or two smaller boats ; it has 3 tracks, 640 ft. long, to cost \$45,000. Exclusive of lumber & salmon fleets & in addition thereto, the following steamers sail from Vancouver :

The C.P.R. Co.'s Empress Line of Royal Mail Steamers for China & Japan. This service has been supplemented during the last year by the s.s. Tartar & s.s. Athenian.

The Canadian-Australian Line for Sydney, calling at Honolulu, the Fiji Islands & Brisbane, Queensland.

The Canadian Pacific Navigation Co.'s steamship to & from Victoria daily.

The Union Steamship Co. of B.C. despatches vessels to Shoal Bay & way ports, 3 days a week ; to Alert Bay & way ports, once a week ; to Juneau, Dyea & Skagway, Alaska, at scheduled time of sailing.

The Moodyville & North Vancouver ferry leaves Vancouver almost hourly.

The Esquimalt & Nanaimo Ry. Co.'s steamer to & from Nanaimo daily.

Vancouver is a regular port of call for all steamers engaged in the Klondike & Atlin Trade. The Pacific Coast Steamship Co.'s boats from San Francisco every 5 days, calling at Victoria.

Provisions & supplies of all kinds are plentiful & at moderate prices at the Port of Vancouver—imported goods for ships' use being re-shipped ex bonded warehouse.

A Sunday Ferry Case.

On June 22, W. H. J. Evans, J.P. for Lincoln, Ont., issued a summons against Capt. McIntyre, charging him with "unlawfully carrying on the business or work of his ordinary calling on the Lord's day, by being the captain of the steamer Ongiara, engaged on the said Lord's day in Sunday excursions, & having for their only or principal object the carriage of Sunday passengers, for amusement or pleasure only, & to go & return on the same day by the same boat." The Ongiara, owned by the Niagara Navigation Co., plies between Queenston, Ont., & Lewiston, N.Y., as a ferry boat, & evidence was taken at Niagara-on-the-Lake on July 12, the County Attorney appearing for the prosecution, & J. J. Foy, Q.C., for the defence. Several witnesses were examined & the magistrate reserved judgment. It was contended for the defence, among other things, that the Provincial Legislature, which introduced in 1882 the legislation as to Sunday excursions, has no jurisdiction to pass any such law, inasmuch as it purports to create a criminal offence not previously existing, & that the Dominion Parliament alone has such jurisdiction. At the time of Confederation a Lord's Day Act was in force, & it was contended that the Ontario Legislature cannot vary that law, so far, at all events, as to make anything criminal that was not previously so. The case of Regina v. The Dominion Electric Tram Co., decided by the full Bench in Nova Scotia, was cited as authority for this proposition. It was further contended that the local Legislature has no jurisdiction in respect of boats navigating the Niagara River, which is an international highway. The Dominion Parliament alone has jurisdiction in respect of navigation & shipping & navigable rivers, & more especially those forming the boundary of any of the provinces. It was also contended that the running of the Ongiara between Niagara & Lewiston was not for the carrying of passengers for amusement or pleasure only, but to carry travellers, & that the carrying of travellers is not a violation of the Lord's Day Act.

The Magistrate, on Aug. 11, delivered judgment for the defendant, without stating the particular grounds upon which he agreed with the contention of the defence. It is, however, understood that he conferred with the Attorney-General's Department in Toronto before giving his decision.

Maritime Provinces Shipping.

The s.s. Orinoco, running between Halifax & St. John's, Nfld., is doing the trip in from 44 to 47 hours.

W. L. Lovitt & others, of Yarmouth, N.S., are applying for incorporation under the Dominion Companies Act, as the Reform Shipping Co., Ltd., capital \$21,000.

Wm. Butler has made a contract with Smith Bros., of Quoddy, Halifax Co., N.S., for a coastal steamer to be built at once. She will be 68 ft. long, & will be delivered in Nov.

It is stated that another big steamer is to be added to the fleet plying between Boston &

ports in the Maritime Provinces. It is said the new flyer will not touch at Yarmouth but the Co. has St. John or Halifax in its eye.

The contract for carrying mails between St. John, N.B., St. Stephen & Grand Manan has been awarded to H. Cann & Sons, of Yarmouth, N.S., who will put on a steamer to take the place of the Flushing, giving a similar service.

At a recent meeting of the Maritime Board of Trade a motion was introduced asking the Dominion Government to make such increase in the subsidy as would secure daily steamboat service between St. John, N.B., & Digby, N.S. After a brief discussion it was withdrawn.

The Maritime Board of Trade has endorsed a petition to the Minister of Marine requesting that top wharfage charges at the Government pier at Digby be abolished. It is contended that the charges prevent the shipment of goods through St. John & Canadian ports & divert them via Boston.

The str. Duart Castle & Taymouth Castle, of Pickford & Black's West Indies line, will leave Halifax shortly, to be overhauled in England. They will receive considerable repairs, & will be placed on a footing which will easily enable them to comply with the conditions of the new contract, which goes in force July 1, 1900.

Deal tonnage from the provinces is in demand, & with light offerings the market is regarded as firm upon the basis of 48s 9d to 50s from St. John to E. C. Ireland or W. C. England. Lumber tonnage for the River Plate continues in request, & with no increase in the offerings, the market has retained a strong & buoyant tone. Large & medium vessels from St. John to Buenos Ayres can obtain \$9.50 to \$10, while from the outports \$10.50 has been secured in two instances.—St. John, N.B., Telegraph.

The Dominion Department of Trade & Commerce has received copies of a memorial to Lloyds & British & foreign underwriters, protesting against an increase of 1% in rates of insurance on ships & cargoes to & from the harbor of Sydney, N.S. The memorial presents irrefragable proof of the safety of the harbor as compared with New York & other Atlantic ports. It is pointed out that besides steamers calling for bunker coal, Sydney harbor is annually used by about 4,000,000 tons of shipping. The shipments of coal have increased from 147,051 tons in 1879 to 1,500,000 tons this year. The memorial is signed by about 50 master mariners of the North Atlantic trade.

At the recent session of the Dominion Parliament, \$8,000 was voted for direct steam communication between Halifax & Porto Rico. The contract has been awarded to J. T. Hamilton, Mayor of Halifax, for an 8 months' service for the amount of the subsidy voted. Mr. Hamilton will place on the route the str. Tyr, of 676 tons net, & a seagoing speed of 10 knots. The service will commence in Oct.

There will be monthly sailings, which will give a subvention of \$1,000 a trip. Porto Rico is now under the U.S. flag, but the order to enforce the U.S. coasting laws, which was given shortly after the close of the war with Spain, has been rescinded. Still, the probabilities are that when Congress meets one of its first acts will be to apply the U.S. tariff to Porto Rico, in which case the chances of keeping up Canadian trade with that island will disappear.

British Columbia Shipping.

It is not unlikely that an improved & fast steamship service will be arranged for between Vancouver & Puget Sound shortly.

The C.P.N. Co. has written the Victoria Board of Trade, answering the complaints about its northern service, which it says are unfounded. A committee of the Board has been appointed to confer with the Co. on the subject.

J. A. Thomson, Inspector of Steamboats, when recently in Nelson on his regular trip of inspection, telegraphed to Kaslo instructing the owners of all steamboats there to send them to Nelson to be inspected. Considerable indignation was expressed by the local owners at being put to the unnecessary expense & trouble of having to go to Nelson, so a meeting of the Board of Trade was held & a strong telegram sent to Ottawa complaining about the matter. As a result the Department of Marine ordered Mr. Thomson to go to Kaslo.

When present plans have been carried out, four new lighthouses will have been established on the B.C. coast this year in direct line of travel to and from Alaskan points. These lights will all have been placed in the most dangerous locations. One is situated at Turn Point, near Bella Bella, at the junction of Seaforth Channel & Lama Passage. Another has been built on Porter Island, where Fitzhugh Sound & Lama Passage join. A 3rd is on Ballinas Island, between Nanaimo & Comox; & a 4th will probably be on Lawyer Island, at the northern outlet of the Skeena river.

The C.P.N. Co.'s proposal to Victoria City Council for an improved service between Victoria & Vancouver is to put on a fast steamer with all modern appliances, first-class in every respect, costing not less than \$400,000, & capable, under ordinary circumstances, of making the trip either way in 4 hours or under. The Co. is prepared to give the following guarantees:—That Victoria shall remain the home port of the Co., & that it will continue as heretofore to purchase its supplies, make repairs & disburse its regular outgoings in the city, which on an average amount to about \$40,000 a month; that the maximum scale of rates for passengers & freight shall not exceed those now charged; that the Co. will do its best to maintain for Victoria the trade of the Northern & West Coast. In return the Co. asks \$25,000 a year for 10 years, which will be about enough to pay marine insurance.

With the passing of the British bark Nanaimo out to sea, on Aug. 9, but two vessels remain in B.C. waters to load lumber. The Nanaimo received cargo at Chemainus, & is bound for Nagasaki. Her place at the mill has been taken by the E. K. Woods, which arrived from Port Townsend, to load for Tientsin. There is but one other ship at Chemainus, the str. Tyr, she & the Woods being the only lumber tonnage in B.C. The fleet is certainly the smallest on record, & is directly attributable to the scarcity of tonnage & the high carrying rates being paid. Not a mast is to be seen at any of the big Mainland mills. The next lumber-carrier to arrive will, however, load at Moodyville. She is a big steamship, which is under a time-charter to the Pacific Export Lumber Co. of Portland, & which a few weeks ago left Port Blakely for China. As in the lumber business, so it is in the coal trade, the bark Charmer, now about loaded at Departure Bay, being the only sailing vessel in port. There are, of course, the regular fleet of coasting steamers in the coal trade, a number of which are now at the collieries.—Victoria Colonist.

Captains Troup, Gore & Forslund have not reported very favorably as to the navigability of the Columbia River above Revelstoke. They say the canyon is not practicable at all for a boat going up stream at the higher stages of water. If the people desire continuous & uninterrupted communication between Revelstoke & La Porte by the river from say May 1 to Oct. 1 it would be necessary to build a wagon road, or have other means of communication by land, from Revelstoke to a point above Nine Mile Riffle. A boat built especially adapted to the business might run probably during the months of May, Aug. & Sep., through from Revelstoke to La Porte; during June & July she would be compelled to stop at the Nine Mile Riffle, or at least above a bad place about a mile from the canyon. By having an extremely light draft boat it is possible that trips could be made in Oct. & during some seasons in Nov., & possibly during the last week in April. This would be the limit of the season of navigation on that portion of the river. The river is so rapid that light boats would be the rule going up stream, but good cargoes could be brought down stream.

General Shipping Notes.

The Canadian-Australian steamers will not in future call at the Fiji islands, as they have for several years in consideration of a mail subsidy for the purpose.

Chief Engineer Murphy, of the C.P.R. Co.'s R.M.S. Empress of Japan, has resigned to become a partner in a firm of building engineers & surveyors in Hong Kong. He has been succeeded by the ex-Chief Engineer of the Co.'s s.s. Athenian.

The Canadian-Australian line of steamers between Sydney & Vancouver has been sold by the liquidator as a going concern for £145,-

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ooo to the New Zealand Shipping Co. The mortgages will be paid, the unsecured creditors will receive a dividend, & the shareholders will get nothing. J. Huddart, the pioneer of the line, & a heavy shareholder, loses all he put into the venture, but it is stated that with characteristic energy he is promoting another company to put on a larger & better class of steamers to compete for the rapidly developing trade between the two continents.

Ontario & The Great Lakes.

Wm. Powers, well known as a ship builder, died in Kingston, Ont., Aug. 29.

The U.S. Lake Carriers' Association has advanced the wages of all men employed on the boats, from second mate down, 10%.

It is said there is now 20 ft. of water from the lake to the new elevator at Goderich, although some portion of the harbor cut is not quite 50 ft. wide.

Capt. Frank Kendall, of the str. Clipper, was drowned Aug. 24 in the Rainy River Rapids, being caught in a rope that had been thrown to land & dragged off the boat.

The str. Algonquin grounded in the Port Colborne lock recently, owing to the low stage of water, caused by prevailing north-easterly winds. After seven hours struggling the water rose sufficiently to float her off the bottom.

Good progress is said to be being made with the survey for the proposed Georgian Bay & Ottawa Canal, now being conducted between Lake Nipissing & French River. The engineers in charge are H. McLeod, H. Carre & H. G. Stanton.

The Toronto Harbor Master has been notified by the Deputy Minister of Public Works, that the \$50,000 voted by Parliament for the improvement of Toronto harbor is entirely for the diversion of the Don. The other \$75,000 voted is for improvements at the eastern gap.

Capt. John Ledger, of Buffalo, recently died at his summer residence at Oak Ridge, Ont., aged 72. He sailed the lakes for many years & was prominent in marine circles. He was very popular with vesselmen in the early days. About twenty years ago he retired from sailing.

Capt. Noonan, of the str. James Swift, which plys on the Rideau route between Kingston & Ottawa, is reported to have let a contract for another boat 110 ft. long & 28 ft. wide, with triple expansion engines & a speed of 14 miles an hour. They will enable a daily service to be given.

It is rumored in Buffalo that the Northern Steamship Co. will build two more vessels, duplicates of the Northland and Northwest, which ply between there & Duluth. The Northland & Northwest cost about \$850,000 each. It is said the new vessels will cost even more than the present boats.

The new str. India, owned by the Calvin Company, of Kingston, laden with a cargo of iron, went ashore 8 miles above Port Colborne, Aug. 20, during dense smoke, which had been hanging over the lake for days. Three harbor tugs were sent to her assistance but the captain did not need them.

The people of Fort Erie, Ont., have been dissatisfied for some time with the running hours of the ferry to Buffalo, & applied to the Minister of Inland Revenue, with the result that a 20 minute service is to be given between 6 a.m. & 10 p.m., from May 1 to Dec. 1, & from 6 a.m. to 8 p.m. during the winter.

The passenger traffic on the Northern Navigation Co.'s steamers is exceptionally heavy this season. All the steamers have their capacity taxed to accommodate the large number of U.S. tourists who are visiting Mackinac, & taking the picturesque trip

among the thousand islands on the Parry Sound route.

The str. Alice Stafford will have company on the Owen Sound-Gladstone, Mich., route, during the balance of the season, in the str. Hennepin, owned by the "Soo line." The latter vessel has a carrying capacity of fully 50% larger than the Stafford & this means an enormous increase in the quantity of freight handled at Owen Sound.

Under the regulations governing masters & pilots, no pilot has a right to take a vessel down Niagara river unless his papers mention it or specify both Lakes Erie & Ontario. It is a mistake to undertake this work unless a pilot is well acquainted with the river, as there are a great many narrow passages, & a pilot needs to be acquainted with the current as well.—Marine Record.

The Canadian steamer Ontario, bound for Nepigon with a cargo of coal, went ashore Aug. 11 near Rosport, & is a total loss. She went on the beach in a dense fog. Her crew were rescued & her consorts escaped to the beach. The Ontario was formerly a passenger steamer, & is owned by Capt. John Cornwell & others, of Sombra, Ont. She had in tow the schooners Wawanosh & Eureka.

U.S. Engineer Fitch, of Oswego, has received authority from the Chief Engineer at Washington to remove the spars of the wreck of the large schooner St. Peter, which lies in the bottom of Lake Ontario, a few miles west of the port of Sodus Point, & about 1½ miles off the shore. The wreck is in the path of the vessels plying between Sodus, Charlotte & Oswego, & the spars are a danger to navigation.

Archibald McBride, died at Kingston, Ont. Aug. 8, after three weeks illness. He came from County Antrim, Ireland, 60 years ago, with his parents, settled in Kingston, & had lived there ever since. For some years he was continuously employed by the R. & O. N. Co. as engineer, serving on all its boats. His last boat was the Corsican, on which he was working till within three weeks of his death. He was unmarried & was a brother of R. McBride, engineer on the str. Bohemian.

Attention should now be turned to the reconstruction of the St. Clair Flats canal. It is thought it should be enlarged to double its present width & a new one built of the same dimensions, so as to accommodate up & down-bound traffic. Whatever improvements are made, stone & concrete should be used, at least, the U.S. government should do clean, sightly & permanent work in these large undertakings, & not string together a line of old, decaying, rickety wooden structures.—Marine Record.

Shortly after midnight, Aug. 5, the steam barge W. B. Morley, bound up, collided with the car ferry Lansdowne, bound down, the Morley being sunk opposite the D. & M. elevator, with a large hole in her bow about 5 ft. from the stem. The damage to her amounted to some \$10,000, & her cargo of coal was damaged about \$1 a ton. The port quarter of the Lansdowne was stove in & the forward compartments rapidly filled. The cars were knocked off the track & the ferry sidled into her slip with a decided list. The wrecking apparatus was called out & the cars removed as quickly as possible. She was damaged to the extent of about \$15,000.

A collision occurred in the Detroit River on Aug. 9 at 3 a.m. between the U.S. barge Leader, bound up with a cargo of coal, in tow of the str. Point Abino, & the Canadian barge Dunmore, bound down with grain, in tow of the str. Bannockburn. As the boats were passing each other in the river just above the head of Belle Isle the Dunmore took a sheer, & struck the Leader on the port bow, causing her to sink in 5 minutes. She lies in 25 ft. of water, just

above the red stake on the U.S. side of the channel. The crew were all saved. The Dunmore had a couple of planks stove in above the water line, but a temporary patch was put on, & she left for Kingston in tow of the Bannockburn at 7 o'clock.

A Brockville despatch says:—"The Northern Transit Co. of Cleveland, Ohio, now plying on lakes Erie & Ontario, & St. Lawrence river, & running between Detroit & Ogdensburg, will in all probability run their boats to Montreal next year. The Co. is handling more passengers than it can accommodate, so that in order to give perfect satisfaction an order will be given for 2 swift side-wheeler steamers, so constructed that they will run the rapids, & will make 20 miles an hour. The reason the management of the Co. have decided to have the new boats built is so that they can compete with other lines running to Montreal. The Empire State & Badger State are too small to accommodate the trade.

The Lakeside Navigation Co. has been unable to handle all the business which came its way part of this season, so popular has the Toronto-St. Catharines route become. Next season it will be prepared for a big increase. It is its intention to build a steel vessel after the model of the Lakeside, at a cost of between \$35,000 & \$40,000. She will be 165 ft. long & thoroughly modern in all appointments. The contract has not been let, but estimates are being prepared, & she will likely be built either in Toronto or Hamilton. It is intended to have a vessel capable of going 17 miles an hour, & ready for business by May 24 next. The str. Lincoln will be taken off the route, as she is too small, & the Lakeside will be lengthened 25 ft., making her the same size as the new boat.

The water in the St. Lawrence is considerably lower than is usually the case at this time of year. At Lachine it is 3 ins. lower than it was last season, & at Kingston a foot lower. The extreme range of difference in the level of the river is 7 ft. These changes are not the immediate effects of the excessive rains but appear to be occasioned by the different quantities of rain falling, in some years more than in others, & which finds its way down months afterwards. An experienced captain says the water rises until about June 15, & then steadily falls until Oct. The present fall is accountable to the strong prevailing northeast winds blowing up the Great Lakes. This lowers the volume flowing over Niagara & the corresponding decrease in Lake Ontario & the St. Lawrence follows. Navigation is not affected by the changes, as none of the channels are so shallow that the loss in water would render them unsafe for navigation.

According to the July report of Col. Lydecker, in charge of Government international improvements at Detroit, the gross tonnage passing through the St. Mary's & Canadian canals at Sault Ste. Marie has, for the first time in the history of those waterways, exceeded the 4,000,000 ton mark. July showed an increase of more than 700,000 tons in the freight tonnage through the canals. The U.S. canals passed freight tonnage to the volume of 3,689,805 tons, & the Canadian canal 484,924 tons. The total tonnage since the opening of navigation up to July amounted to 10,433,000 tons, an increase of 865,000 tons over the corresponding months of last year. In regard to the capacity of the Soo canals, the report says the record was broken on July 15 by the passage down of the tow barge Manila with 8,205 tons of iron ore. This is the first passage through the canals of a cargo exceeding 8,000 tons. The draft of the vessel with this cargo was 18 ft. 1 in.

It is more than probable that the movement of freight of all kinds to & from Lake Superior during the present season will be close to 23,-

net tons. The aggregate for 1898 was 21,714,064 net tons. Reports from both canals at the Sault to Aug. 1 this year show a total movement of 10,433,875 tons, against 9,488,500 on the same date last year, & only 7,871,000 on Aug. 1, 1897. The principal gain this year is in wheat moving eastward from the head of Lake Superior. The wheat movement to Aug. 1 aggregates 21,070,558 bus. as compared with 10,101,450 on the same date in 1898. The shortage in bituminous coal moved through the canals is not as large as was expected. The figures are 1,227,038 net tons to Aug. 1 this year, compared with 1,030,508 on Aug. 1, 1898, or a shortage of 403,530. Of anthracite coal there was moved through the canals to Aug. 1 of this year 392,523 tons. On Aug. 1, 1898, the movement of anthracite aggregated only 103,535 tons. —Marine Review.

"I was at Amherstburg, Ont., a few days ago," says a Cleveland vessel owner, "& I am quite sure from what was said there that the Canadian light-house officials will soon refuse to maintain the line of black stakes on the west side of the channel leading up the river from Bar point light, unless vessel masters are more careful in navigating the channel. The stakes have been carried away repeatedly, & there is quite an expense attached to providing new ones. In one night recently five of them were carried off by passing vessels. There is no reason why vessels should work so far over to the westward of this channel, & it would seem that the captains should have some consideration for important marks of this kind maintained for their guidance. There are few deep-draught Canadian vessels making use of this channel, & it would not be at all surprising, if the trouble continues, to hear of an order from the Canadian government for the removal of the stakes altogether." —Marine Review.

The Marine Review thinks representatives of the Canada-Atlantic Transportation Co. seem to have made a serious mistake in not buying the Menominee steamers which they have under charter, & which go to the National Steel Co. with the close of this season. It says:—"The ships are suited in every way to the Chicago-Parry Sound service of the C. A. Company, & it would seem almost impossible to replace them for next season. In the negotiations, several weeks ago, with M. A. Hanna & Co., a price had been agreed upon for the 5 steamers, & it was undoubtedly 20% lower than they could now be bought for, but the C.A. people allowed the deal to fall through on a question of insurance for the balance of the season. They said they understood they were not to pay insurance for the balance of the season, while the owners of the vessels insisted, of course, that if the vessels were to be sold the insurance was to be paid by the purchasers from the date of sale, as

much so as provision bills or any other items of operating expense would be paid by the new owners."

The organization of the Great Lakes Towing Co., which has taken in all the leading U.S. tug lines on the lakes with the exception of a few, was perfected at Cleveland, Ohio, Aug. 22. The officials of the trust are still figuring with the owners of the lines that are not in the syndicate, & their interests will probably be centered before the close of the season. All the property that was purchased by the organization will be operated by the new company from now on. The principal officers of the company are Cleveland men, & members of the board of directors & executive committee are among the leading vessel owners on the lakes. The principal officers elected are as follows: President & Treasurer, T. F. Newman, General Manager of the Cleveland & Buffalo Transit Co.; First Vice-President, Capt. J. Davidson, of Bay City, President of the Davidson shipyards; Second Vice-President, A. B. Wolvin, of Duluth; Third Vice-President, E. Smith, of Buffalo; Secretary, H. M. Wardwell, formerly with the Inman Towing Co., of Duluth; General Manager, W. A. Collier, Manager of the Vessel Owners' Towing Co., of Cleveland; Chairman of Executive Board, Gen. G. A. Garretson. The capital stock is \$5,000,000, half common & half preferred.

Province of Quebec Shipping.

It is said tenders will be invited at once for the enlargement of the Quebec graving dock, for which Parliament recently voted \$117,000.

The revenue of the port of Montreal from the opening of navigation to the end of July was \$94,164, as against \$100,456 for the corresponding period of 1898. The report of the acting harbor master shows a decrease of 37 sea-going vessels arriving in Montreal since the opening of navigation as compared with 1898, the number in the latter year being 424 & this year 387. There is also a decrease in tonnage of 13,679 this year. Up to Aug. 1, 1898, the sea-going vessels entering the port totalled up to a tonnage of 762,276; this year they only reached 748,597 tons.

Hon. R. R. Dobell, of Quebec, presided at a meeting of the Canadian marine insurance section of the London, Eng., Chamber of Commerce on Aug. 24, to consider whether the time had not arrived for a reduction in the shipping rates of insurance to Canada. Mr. Dobell quoted figures proving the security of the St. Lawrence route. In 1898, he said, 249 ships containing large cargoes traversed the route, with but one loss; this year to date 196 steamers with no loss. The growth of Anglo-Canadian trade demanded the removal of the British North America clause from the

insurance policies. He mentioned the Canadian deck load legislation as an illustration of Canada's care for marine interests. A resolution was passed urging the underwriters to alter the conditions now favoring the U.S. as against Canadian trade.

An unusual & dangerous feat of towing was performed Aug. 17. Davis & Sons, contractors for the Montreal Waterworks, had a dredge & 3 scows working just abreast of the big chute in the Lachine rapids, known as Verdun, or the lost channel. As the dredging job was completed, they wished, if possible, to take the dredge & scows out of the rapids & use them elsewhere. The Calvin Wrecking Co. surveyed the channel & placed buoys on the shoals. Their wrecker, Capt. O'Brien, with 2 powerful steamers, was sent down & placed as near to the dredge & scows as possible without descending the rapids. From there about half a mile of steel wire cables were dropped down to the dredge & scows, & with the powerful steam winches, on one of the steamers, they were drawn one by one, until they reached the stern of the first steamer, when both steamers put on full steam & towed them up the seething current through the Lachine bridge & thence into the canal.

Canada's Spirited Canal Policy.

The St. Louis, Mo., Globe Democrat, says: "Whatever may be the faults of Canada, it has given the world a remarkable illustration of enterprise in building important canals. In a short time loaded vessels of 2,500 tons capacity will be able to pass through Canadian canals, with a depth of 14 ft. from Lake Superior to the Atlantic. The Dominion has spent upon its ship canals \$55,000,000, or \$10 per capita. A like expenditure in the U.S. would amount to \$700,000,000, or enough to build four Nicaragua canals, according to the latest estimate. The Mississippi could be deepened to 20 ft. from Minnesota to the mouth for a fraction of the amount. Canada's canals are frozen up half the year, & yet

The Canadian Pacific Railway Company.

Dividends for the half-year ended 30th June 1899, have been declared as follows:

On the Preference Stock two per cent.
On the Common Stock two per cent.

Warrants for the Common Stock dividend will be mailed on or about 2nd October to Shareholders of record at the closing of the books in New York and London respectively.

The Preference Stock dividend will be paid on Monday, October 2nd, to Shareholders of record at the closing of the books at the Company's London Office, 1 Queen Victoria Street, London, E.C.

The Common Stock transfer books will close in London at 3 p.m. on Friday, 25th August, and in Montreal and New York on Friday, 26th September. The Preference Stock books will close at 3 p.m. on Friday, 1st September.

All books will be re-opened on Tuesday, October 3rd.

By Order of the Board.

CHARLES DRINKWATER,
Secretary.

MONTREAL, 14th August, 1899.

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the people have willingly spent a vast sum to perfect a system reaching from the head of the great lakes to the sea. The money has been properly handled, the engineering is efficient, & the people are satisfied with the investment. There are no canal scandals & no anti-canal party. The whole business has been carried forward practically, honestly & steadily.

"In view of such results secured by a people not very rich or numerous, & restricted to a cold climate, it is certain that the waterways of the U.S. are destined to receive far more attention than now. The smallest Canadian hamlet on Lake Superior will soon have the advantage of a depth of 14 ft. all the way to the ocean. Imagine the Mississippi below St. Paul improved to that extent. A splendid empire would be opened up to steamships able to carry 2,500 or 3,000 tons, at the most favorable rates in the world. Canada deserves credit for pointing the way & spending its millions with far-sighted judgment & liberality."

A Richelieu River Steamer.

On this page is an illustration with deck plans of the passenger steel steamer *Majestic* recently built in Toronto by the Polson Iron Works for the Richelieu River Navigation Co., of St. John's, Que. Her dimensions are:

Length, extreme.....	112 ft.
Beam.....	22 1/2 "
Depth of hold.....	6 "
Draft aft.....	6 "

She is fitted with fore & aft compound jet condensing engines, having cylinders 14 & 28 ins. diameter respectively, with 18 in. stroke. She has 2 Fitzgibbon boilers 66 in. diameter & 13 ft. long, tested to 170 lbs. pressure per square inch of steam, & with this machinery is guaranteed by her builders to make a speed of 14 1/4 miles an hour.

The boat is a handsome model, well finish-

ed throughout, & is fitted with 9 staterooms on the promenade deck in addition to the usual day equipment of a boat of her class. She has main promenade & shade decks. The ladies' cabin, upon the promenade deck, is handsomely upholstered in maroon plush, & the general cabin is upon the main deck aft. She is lighted by electricity & has a modern

to about half the required height of 14 ft., & the foundation is being prepared for another 700 ft. of cribbing. The piers of the swing-bridge over the canal are complete on one side, & the abutment on the other side is well under way. The embankments from Cardinal down to Iroquois are all built up to the full height & width, & are being finished off.

The lock at Cardinal is complete, & the contractors are now working on the weir, which is intended to develop a water-power at that point. At Farran's Point there is a cut throughout that a vessel drawing 14 ft. can pass. The lock is also finished. Three powerful dredges are widening out the prism, & a steam shovel is taking off the slopes. In addition to this, a force is employed putting the superstructure on the cribs for the approach to the lower entrance.

Tenders have been invited for the improvements at the upper entrance of the Cornwall canal.

The work consists largely of excavation & cribwork in front of Dickenson's Landing.

High Lake Freight Rates.

The lake freight market is a vessel owners' market for the balance of the season. There is no difference of opinion on this score. Predictions as to how high rates will go are worthless, but it would seem that there is every reason to expect an advancing market up to the closing days of navigation in view of the action of the ore interests during the past 10 days. Last week not more than 3 or 4 charters were made for immediate loading of grain out of Duluth, & yet the rate was advanced to 3 1/2 c. for "spot" vessels, & one ore concern paid \$1.50 for a steamer to make 6 trips with ore from the head of Lake Superior. It is said that this particular ore house, shipping probably 3,000,000 tons in a season, had not secured up to Aug. 1 more than 20,-

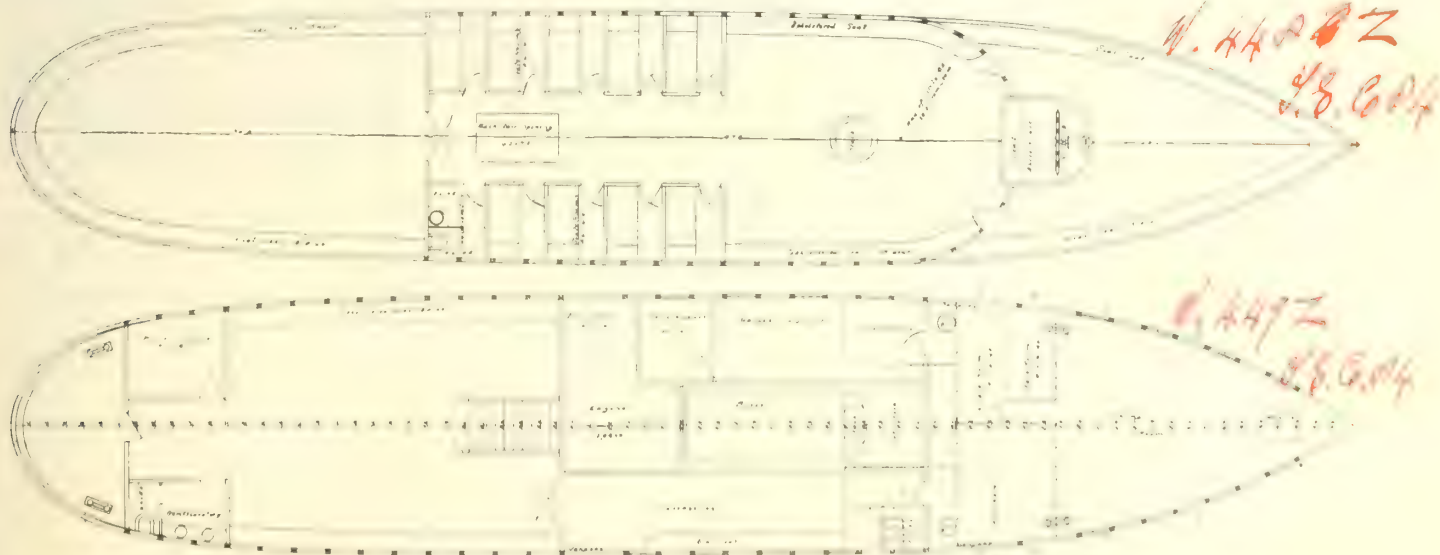


THE RICHELIEU RIVER NAVIGATION CO.'S STEAMBOAT MAJESTIC.

equipment throughout. Her passenger capacity is 400, & her route from St. John's to Lake Champlain through the Richelieu river & Chambly canal. She was designed by W. E. Redway, naval architect, Toronto, & built under his superintendence.

St. Lawrence Canal Works.

The Deputy Minister of Railways & Canals on returning to Ottawa, Aug. 21, from inspecting the work between Prescott & Cornwall, said he found the north channel, one of the most important undertakings of the route, finished except for the removal of a couple of dams, upon which work has been begun, so that the water will be let in at once. On the Cardinal section the contractors have not a great quantity of excavation to do, & are putting in the cribwork which forms the sides of the prism of the canal. About 700 ft. of this cribwork has been built up



PROMENADE AND MAIN DECKS OF THE RICHELIEU RIVER NAVIGATION CO.'S STEAMBOAT MAJESTIC.

of the vessel capacity. The great bulk of its output, of course, been covered by long contracts running over the greater part of the season, but the general demand for vessels not tied up by contracts resulted in a different situation as to the ore that was uncovered. Chicago grain shippers have noticed that if it were not for the unprecedented demand for vessels in the ore & coal trades the shipments of grain during the past month would not have warranted payment of more than 1c. a bush, out of Chicago, but, as noted above, the ore interests have been actually bidding against themselves, in order to keep their product steadily moving in advance of the grain crop that promises a big business for the fall. As a result of this condition, ore rates are up to \$1.25 from the head of Lake Superior, \$1.10 from Marquette & 90c. from Escanaba, figures which it was thought would never return again in the lake trade, & yet there is no more surplus of vessels than there was in the first days of the season when the leading ore rate was down to a 60c. basis.

Vessel men are indulging in some speculation regarding business for next season. With pig iron sold well into next year at prices that would warrant the payment of high lake freights, rather than chances being taken on a repetition of this season's experience in transportation matters, the ship owners are of the opinion that there will be a call very early for the use of their property, & some of them think that advances made to the ore interests even now might result in contracts being closed at \$1 a ton on ore. Their ideas of the market for next year are based on nothing less than the dollar figure, but there is, of course, nothing tangible as yet on this score. It is reasonable to expect, however, that contracts for 1900 will be closed up much earlier than in past years.

The few coal shippers who covered Lake Superior sales at 30c. lake freight contracts certainly have reason to congratulate themselves. There was probably 600,000 tons in all covered at the opening of navigation at this rate. Practically the entire output to Lake Superior could have been covered at the same figure if the shippers had started in early enough, but when they were willing to pay the 30c. contract rate it was too late. Now they are called upon to follow the repeated advances in ore and grain, & the Lake Michigan coal rate has reached 80c. with vessels going light to Lake Superior rather than accept anything less than 60c. to Duluth, Superior and other ports at the head of that lake. These marked advances are certainly a great hardship in the coal trade, especially with shippers who sold coal delivered, but as with other commodities, it would seem that the season is so far advanced & coal shipments so much short of requirements, that advancing rates must be expected up to the last days of navigation.—Marine Review, Aug. 17.

There is no let-up in the advance of freight rates on the great lakes. The efforts of grain shippers at Duluth to charter vessels for Sep. & Oct. at prices that are considerably better than \$1.50 on ore from the head of Lake Superior, would indicate that there is some fear among these shippers of inability to move the grain at any price. The ore companies that will be hardest pressed for the balance of the season are fortifying themselves by buying or chartering outright such vessels as they can secure. More negotiations of this kind are under way & will be announced within a few days. Lumber rates are following the advance in grain & ore, & as the owners of lumber carriers rarely make season contracts, they will all store up more money as a result of this season's business than they have earned in the past 3 or 4 years put together. From the head of Lake Superior to either Chicago or Lake Erie ports are almost anything that is asked. Charters are said to have been made at \$3.25 a thousand for the most desirable boats.—Marine Review, Aug. 24.

Yukon & Northern Navigation Flatters.

During June & July 36 vessels arrived at Dawson with an aggregate capacity of 7,285 tons.

The Empire Steamship line has built warehouses at Dawson containing 52,750 cubic feet of space.

The str. Canadian, which left Dawson July 22, made a record trip of 3 days, 21 hours & 55 minutes to White Horse, winning a purse of \$500 offered by N. McAulay to the first boat that should make the run in less than 4 days.

The Bennett Lake & Klondike Navigation Co.'s steamers Ora & Flora are reported as making their trips between White Horse & Dawson with great regularity. The Flora recently made a round trip between Dawson & White Horse in a little over seven days, including a delay on Lake Laberge loading fish.

It is reported from Seattle that another northern combine has just been effected by Manager Flockton, of the Bennett Lake & Klondike Navigation Co.; Capt. J. Carroll, of the Flyer line, operating the steamers Pingree & Low; Col. Williams, operating the Clifford Sifton; & possibly Capt. John Irving, operating the Gleaner. The compact, it is stated, will compete for the through freight & passenger business against the Canadian Development Co., & will work in conjunction with the Humboldt & the City of Seattle. The report further states that the proposed movement has the hearty approval & support of the White Pass & Yukon Ry. Co.

The steamship companies operating on the Lake Bennett & Upper Yukon route, composed of the Canadian Development Co., Bennett Lake & Klondike Navigation Co., &

the John Irving Navigation Co., have issued a notice to shippers to the effect that shipments for Dawson City & Yukon points can only be accepted subject to these conditions: That the carriers do not guarantee to effect delivery before the close of the present season of navigation, & are released by the shippers & consignees from all claims in respect of non-delivery. That freight charges to Bennett, B.C., be prepaid. The carriers will make every effort to deliver all shipments this season, but cannot undertake the responsibility of a guaranteed delivery.

Large numbers of scows are being used on the Upper Yukon. Shippers say they can save 2 to 4c. a pound on freight by scows as against steamers, & that the time consumed is very little, if any, more. The str. Kilbourne of the Upper Yukon route is towing scows to Miles canyon, where they shoot the rapids to White Horse, & are there taken in tow by the str. A. J. Goddard, of the same line, which tows them down to Thirty Mile river or any other point desired. This Co. has a monopoly of the towing below the canyon. Considerable freight, in from 4 to 15 ton lots, goes down by the scows, & now that the water is falling all along the route, many shippers predict that it is the safest way, as large steamers below White Horse will be in danger from now on of grounding. According to recent reports Lake Lindeman has fallen a foot & a half, but Bennett continues to rise slowly.

The steamers Tyrrell & Anglian, the former owned by the British America Corporation & the latter by the Canadian Development Co., were wrecked in July—one below White Horse & the other at Five Fingers. The Tyrrell, the larger of the two, struck a rock at Thirty-Mile. The Anglian struck a snag 9 miles below Big Salmon. She left White Horse July 23, with about 30 tons of freight, all of which, except about 2 tons, was saved. The Anglian is the smallest of the Canadian Development Co.'s fleet of four steamers, & was very fast, having recently undergone extensive repairs, including a new boiler. She was only on her

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D. Douglas, Proprietor. Rooms en suite with baths and all modern conveniences. Rates \$2 to \$4 a day. Special rates for families and large parties, according to accommodation and length of time. Though moderate in price the Leland is first-class in every respect. It is especially adapted to please the commercial trade. It is in the centre of the wholesale and retail district. It is in direct communication with all parts of the city by car lines. It is supplied with the purest spring water from flowing well on the premises.

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A Single One Gives Relief.

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A case of bad health that R. I. P. A. N. S. will not benefit. R. I. P. A. N. S. 10 for 5 cents, or 12 packets for 48 cents, may be had of all druggists who are willing to sell a low-priced medicine at a moderate profit. The banish pain and prolong life. One gives relief. Accept no substitute. Note the word R. I. P. A. N. S. on the packet. Send 2 cents to Ripans Chemical Co., No. 10 Spence St., New York, for 10 samples and 1,000 testimonials.

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Burlington Elevator, St. Louis, Mo.	Capacity	1,300,000 Bushels
Grand Trunk Elevator, Portland, Me.	"	1,000,000 "
Export Elevator, Buffalo, N.Y.	"	1,000,000 "
J. R. Booth Elevator, Depot Harbor, Ontario	"	1,000,000 "
Cleveland Elevator Company's Elevator, Cleveland, O.	"	500,000 "
Erie R. R. Transfer & Clipping House, Chicago, Ill.	"	100 cars in 10 hrs.
Manchester Ship Canal Co.'s Elevator, Manchester, Eng.	"	1,500,000 "
Burlington Elevator Co., Peoria, Ill.	"	500,000 "
Canada Atlantic Railway Elevator, Coteau Landing, Que.	"	500,000 "
Northern Grain Co., Manitowoc, Wis.	"	1,350,000 "
Union Elevator, East St. Louis, Ill.	"	1,100,000 "
Montreal Warehousing Co.'s Belt Conveyor System	"	"

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PLANS AND SPECIFICATIONS.

second trip. The Tyrrell is a composite vessel of wood & iron, & was built last year by the Polson Iron Works, Toronto, & put together at Vancouver for the C.P.R. Co. to ply on the Stikine. She was a very good vessel, & like the Anglian, equipped with all modern conveniences. When the Stikine business fell off she was taken to the Yukon, & has only completed one or two trips on the river. She was probably worth on the lakes \$80,000, although of course she did not cost that to build. At the latest advices both steamers had been raised & left on Aug. 6 for Dawson, neither being very badly damaged.

On July 31, the Alaska Commercial Co.'s str. Louise was wrecked on the Yukon, a short distance above St. Michael, resulting in the total loss of a government cargo, amounting to about \$100,000. She was chartered by the U.S. Government to haul 3 barges, containing cargoes of government supplies for Rampart & Circle City, up the Yukon. She left St. Michael on the day before the disaster, with one barge lashed to each side, & fastened by means of guy-ropes in front. When 24 hours out one of the guy-ropes broke & the barge swinging around loosened the others. The shock in striking the side of the boat turned one of the barges upside down, & the entire contents were lost. The other two barges, after drifting about among the rocks, were finally beached. A fraction of the cargo had gone into the river, & what still remained on board was so thoroughly damaged as to be of little or no value. In the meantime the big steamer, while trying to save the barges from destruction, went on a rock. A huge hole was punched through her bottom, & she settled rapidly in 10 ft. of water. When the str. Alliance left St. Michael on Aug. 6 the Louise had been raised, & a crew was engaged in pumping her out. Beyond the water damage to her appointments, & the hole in her bottom, she was all right. No effort had been made to pick up a salvage on the cargo, as it was not considered worth the trouble.

Lowering the Lake Levels.

F. J. Firth, of Philadelphia, President of the U. S. Lake Carriers Association, recently wrote the Marine Record as follows: During the many years in which the important questions of lake levels has received much intelligent consideration there has been a practically universal assent to the conclusion that the governing factors are rainfall & evaporation. It is also well understood that these factors cause wide variations in levels between seasons & between different periods in the same season. Of late years new factors have called for investigation & careful consideration. The construction of the American & Canadian locks at the "Soo" with no remedial works in the river to offset their draft upon Lake Superior; the "Soo" power canals upon the Canadian & U.S. sides of the river; the power canals at Niagara Falls; & the Chicago drainage canal; all, separately

& unitedly, present questions of grave, national & international importance in connection with the economical navigation of the Great Lakes, their connecting waterways & harbors. An able U.S. engineer estimated that the Chicago drainage canal alone would cause a reduction of 7 ins. in the Lake Erie levels. In almost all of the communications upon the subject it is assumed that small lowerings of levels caused by such works as the Chicago drainage canal, for example, are unimportant because the changes in level due to natural causes are so much greater. This may be a serious mistake. The important lake levels to the modern navigator are the lowest levels resulting from natural causes. Vessels are so loaded as to utilize every inch of available

whatever in comparison with the uncertainty & variability & the great importance of the rainfall & evaporation." The latest of the proposed projects affecting lake levels appears to be an open cut canal from Lake St. Clair to Lake Erie. It is time for those interested in maintaining, and, if possible, increasing the lake levels, to advocate & obtain the appointment of an international commission of able U.S. & Canadian engineers to carefully investigate & consider this entire question, recommending to their respective governments a permanent policy that may protect the interests of lake navigators without needlessly restricting important private enterprises desiring to utilize for power or other useful purposes the waters of the Great Lakes. It is a

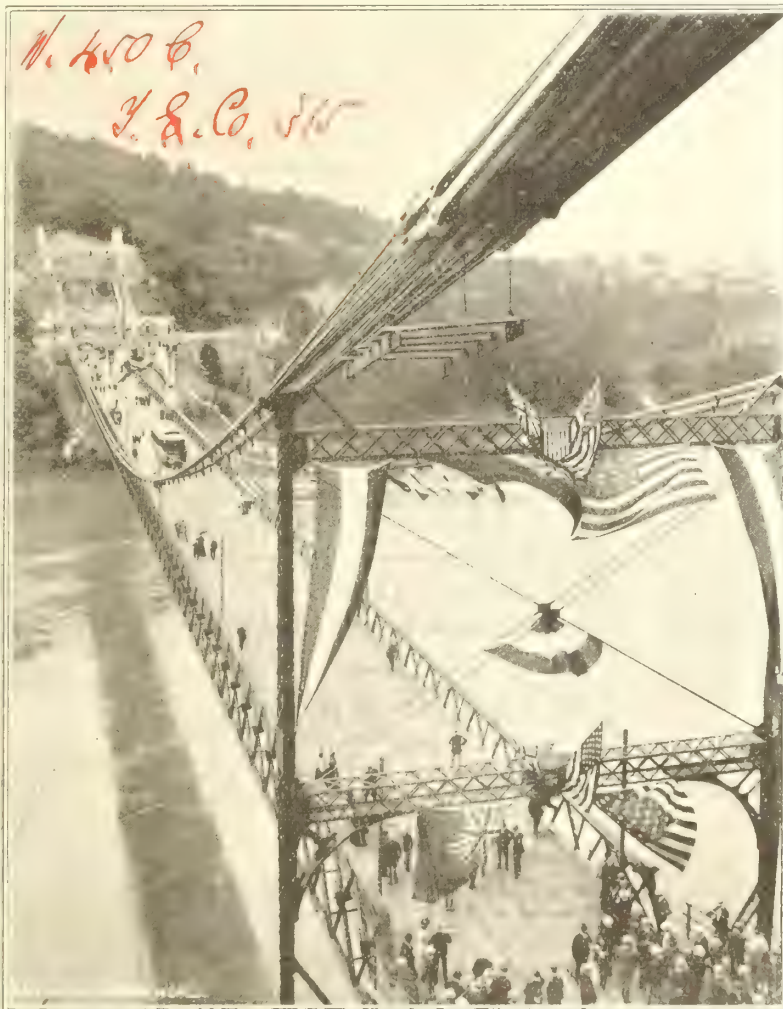
question affecting all the producers & consumers of grain, ore, lumber, coal & other staples depending upon the Great Lakes for their cheap movement to the home & foreign markets.

Commenting on the foregoing, Col. W. P. Anderson, Chief Engineer of the Dominion Department of Marine, writes: "I am sorry I have not time at present to go fully into this important subject, but I endorse most emphatically Mr. Firth's view, that comparatively small reductions in lake levels are of vital importance, especially to modern U.S. lake freighters, & I also agree with Mr. Firth in urging a permanent policy which may protect the interests of lake navigators without needlessly restricting private enterprises."

Q., H. & F. W. Navigation Co.

The directors of this recently incorporated company are A. T. Wood, M.P., R. A. Lucas, W. Southam, C. E. Doolittle, C. S. Wilcox, W. D. Long & A. B. McKay, all of Hamilton. The prospectus is as follows: This Co. is being formed for the purpose of constructing, acquiring & navigating steam & other vessels for the conveyance of passengers, goods & merchandise between the ports of Canada & any port of any other country, & of carrying on the business of common carriers of passengers & goods, & of forwarders, wharfingers & warehousemen, & of dealing in goods, wares & merchandise. The new canals between Prescott

& Montreal are expected to be opened this autumn. These waterways will allow steamers to go down to 14 ft. instead of to 9 which is the present capacity of the canals. It is believed there is a good opening for a line of large steel vessels to run in connection with the railways operating between Quebec, Montreal, Fort William & Duluth & other intermediate ports, carrying grain & ore down & general merchandise up. The down cargoes of grain & ore are unlimited & the return loads only require the boats to work up the business, because every year increases the quantity of goods passing westward from Montreal. This tonnage is increasing from 10 to 20% a year, & with the opening of the new canals, when large vessels can go through from Fort William to the



THE QUEENSTON-LEWISTON BRIDGE OVER THE NIAGARA RIVER.

The photograph, taken from the U.S. side, shows the first electric car crossing on July 21. A full description & plans of the bridge appeared in our Aug. issue, pg. 248.

depth of water. Lowering of levels from natural causes will often hold a fleet of deeply laden vessels at the head of a strait or the entrance of a harbor, until the conditions change & there is a sufficient depth of water to enable the vessel to proceed with safety. If artificial constructions, such as drainage & power canals, are to still further & permanently reduce the lowest natural levels it becomes a very serious matter, & one that may involve hundreds of thousands of dollars added each season to the cost of carrying the ore, grain or other staple products of our country.

It is a mistake to assert, as was done in a recent communication on lake levels in your paper, that comparatively small reductions in lake levels are "of no practical importance

without lightering at Kingston a tremendous impulse should be given to the freight carrying business.

At present it is only intended to build 2 large vessels to carry grain, iron, ore & coal between Fort William or Duluth, Montreal & intermediate ports. It is estimated these will each cost from \$120,000 to \$130,000. It is therefore intended now to issue only \$175,000 of stock, & the balance required for the Co.'s purposes will be raised by issuing debentures. The following is an estimate of the operating expenses of such a vessel as the Co. will build, namely, one of 2,200 tons burden (75,000 bus. of wheat), & 14 ft. draught, per day.

Insurance, freight	\$ 4 00
Port dues, loss	1 00
Stowage (provisions)	5 00
Taxes, dues & Customs	1 00
Crew	25 00
Food	2 00
Light	25 00
Loss, wreck	25 00
Other	5 00
	\$91 00

The following is an estimate of the earnings of such a vessel in a season of 236 days, with no return cargo:

6 trips of 11 days each with ore, with 1,000 gross tons of \$1.00, Duluth to Hamilton, \$1.00	\$17,100 00
Less canal tolls, \$52 x 9	\$ 468 00
Less expenses for 99 days at \$90 a day	8,910 00
	9,728 00
	\$7,722 00
8 trips grain, Lake Superior to Montreal, 16 days each, 75,000 bus. at 4c. \$3,000	\$24,000 00
Deduct handling charges	\$ 2,120 00
Loss on cargo	1,800 00
Tolls on vessels	640 00
Expenses 130 days at \$90 each	11,700 00
	16,260 00
Profit	7,740 00
Add profit on grain trips	7,722 00
Total profit for season	\$15,462 00

Estimate of earnings of grain & ore down, & return cargoes of coal, from Lake Erie ports to Fort William:

6 trips of ore, 15 days a trip, with return cargoes of coal, 1,000 tons of ore a trip, at \$1.00 Duluth to Hamilton, \$1,000 x 9	\$17,100 00
2,400 tons of coal a trip at 25c (\$600)	5,400 00
	\$22,500 00
Less canal tolls	\$ 468 00
Expenses 132 days at \$90	12,150 00
	12,618 00
Profit on ore & coal trips	\$ 9,882 00
6 trips grain from Lake Superior to Montreal 75,000 bus. a trip at 4c. (\$3,000)	18,000 00
6 trips coal Lake Erie ports to Fort William 2,400 tons a trip at 25c	3,600 00
	\$21,600 00
Less handling charges	\$1,590 00
Tolls on grain	1,350 00
Tolls on vessel	480 00
	3,420 00
	\$18,180 00
Less expenses 108 days at \$90	9,720 00
	\$9,460 00
Profit on grain & coal trips	\$ 8,460 00
Add profit on coal & ore trips	9,882 00
Total profit for season	\$18,242 00

Designedly the above estimates of profits have been made on a much lower rate of freight than that prevailing now, in order that the estimates will stand the most critical examinations by those who are familiar with the transportation business. At present there are not more than 4 vessels, Canadian & United States combined, capable of taking 75,000 bushels through to Montreal, & it is not to be expected that such a low average as 4c a bus. will prevail on this route for some years to come. This season the average has been 6c a bus. through to Montreal. At this date they are offering \$1.50 a ton on ore from Two Harbors on Lake Superior to Deseronto, & the rate on coal from Lake Erie ports to Fort William is 60c. Therefore at present rates

the total profit for the season on each of these vessels, instead of being as in the 1st of the above estimates, \$15,462, would be \$36,000, & on the 2nd estimate instead of being \$18,342 would be \$47,000, but on either basis of freight the Co. should earn good dividends. If the Hamilton Steel & Iron Co. succeeds in obtaining ore from the north shore of Lake Superior, it will be absolutely necessary for it to have Canadian vessels of a sufficient tonnage, as no U.S. vessel can trade between Canadian ports. So far as competition is concerned, it would take 6 vessels of the above tonnage to deliver from Fort William at Hamilton, during July & Aug., 100,000 tons of ore, and it would not pay the Co. to keep its vessels employed upon ore in spring & fall when the rates on grain are high. Recollecting that this Co. may reasonably expect to carry the ore for the Hamilton furnaces, that there are between 30,000,000 & 40,000,000 bus. of Canadian grain to be transported during the season, without considering the vast quantity of U.S. grain, the question of competition is a matter of no particular concern to the Co.

ELECTRIC RAILWAYS.

Quebec Electric Railways.

Montreal Park & Island Ry.—At a recent meeting of Montreal City Council it was decided that the cars of the Park & Island Co. must not enter the streets of the city, & a resolution was passed ordering the City Attorney & the City Surveyor to take action to prevent it. These officials have decided to ascertain just what cars bearing the name of the Park & Island Co. belong to that Co., & just what cars bearing this name are owned by the Street Ry. Co. It is known the Street Ry. Co. has rented the Park & Island Co. a

A Popular Route to New York

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Leaving Toronto in the evening at 5.20 p.m. in one of the through sleeping cars of the Wagner Co., you are landed at Grand Central station, in the very heart of the City of New York, 4th Avenue and 42nd Street, at 8.15 next morning, adjacent to all hotels and business houses and avoiding the annoyance of transfer.

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number of cars, which the former Co. claims are its own, & which are allowed to use the city's streets. The City Surveyor says it may be necessary, in order to put the resolution of the Council into force, to employ the aid of the police to stop Park & Island cars, if any enter the city, from doing so. The legal aspect of the case is being considered by the City Attorney.

Montreal St. Ry.—The gross earnings are:

	1898-9.	1897-8.	Increase.
Oct.	\$133,419.09	\$116,093.09	\$17,326.60
Nov.	125,126.10	110,698.98	14,427.12
Dec.	127,678.00	113,029.33	14,648.67
Jan.	125,276.04	110,155.96	15,120.08
Feb.	113,838.02	102,425.99	11,412.03
Mar.	123,754.11	114,476.98	9,277.13
April.	130,405.96	110,619.27	19,786.69
May.	145,466.38	123,368.08	22,158.30
June.	156,858.34	132,964.61	23,893.73
July.	154,048.07	143,986.63	10,061.44
	\$1,335,870.71	\$1,177,758.92	\$158,111.79

The Montreal Terminal Ry. Co.'s annual meeting will be held at Montreal Sep. 20. This Co. was formerly known as the Montreal Island Belt Line Ry. Co.

The Quebec Ry. Light & Power Co.'s annual meeting will be held in Quebec Sep. 12.

The Lines in Western Canada.

British Columbia Electric Ry.—Application has been made to the London Stock Exchange Committee to appoint a special settling day in & grant a quotation to this Co.'s 20,000 ordinary shares of £10 each; 12,000 non-cumulative 5% preference shares of £10 each, & £250,000 4½% 1st mortgage debentures.

General Manager Buntzen has written the New Westminster Board of Trade, explaining delay in building the extension of the New Westminster city service to Sapperton, & stating that the Co.'s engineers have been instructed to survey the proposed line, construction on which is to be commenced early next spring.

Nelson Electric Tramway.—The following officers have been elected: President, F. W. Peters; Vice-President, T. J. Duncan; other Directors, C. S. Drummond, E. Garcke, W. A. Macdonald, J. Laing; Secretary, T. C. Duncan. It has been decided to push on construction as fast as possible, & it is said the two miles of track required by the city by-law will be exceeded. (Aug., pg. 247.)

Winnipeg Electric Ry.—The Portage Avenue line has been extended. The Co. has notified the city council that if insisted on a line will be built on Sherbrooke St., but it would prefer to make some other arrangement.

Ontario Electric Railways.

Brantford Electric Ry.—The City Council has called the attention of the Co. to a number of clauses in its franchise & agreement with the city, which it is alleged has not been observed, notably in regard to the repair of tracks & the running of a 15 minutes' service on all lines, with the exception of the Park extension, from 6.30 a.m. Commenting on the matter the Courier says:—"Citizens who complain about the car service, perhaps, should not forget the fact that it is entirely owing to outside enterprise that Brantford, for so many years now, has had an electric car service. We think we are right in saying that there is not a dollar of Brantford money in the enterprise. Ratepayers should also not forget that it is thanks to the enterprise of the Co. that Mohawk Park was inaugurated, & the park is undoubtedly one of the best advertisements Brantford ever had, bringing thousands of people to the city. We are of the opinion that if an up-to-date service was inaugurated in Brantford it could be made a dividend getter. We believe that a 10 minute service on the Brant Ave. & East Ward loop could be made

to pay better than a 15 minute service. We believe, in fact, that it would be to the advantage of the street railway to have a well ballasted track, the latest & most up-to-date cars, a service running on scheduled time, & live up to the letter of its agreement all through with the city, or even go it one better."

Manager Barron has written the Council claiming that the tracks & wires are in good shape.

On Brantford's civic holiday, Aug. 14, the Co. carried over 9,000 passengers to Mohawk Park.

Chatham.—It is expected another project for the establishment of an electric street railway will be submitted to the City Council in the near future.

Fort Erie to Chippawa.—Messrs. Frenyear & Hatmeyer, of the Westinghouse Electric Co. at Buffalo, & E. Baxter, of Fort Erie, called on the Chairman of the Niagara Falls Park Commissioners, in Toronto, recently & talked over a plan for building an electric railway along the Canadian bank of the Niagara River from Fort Erie to Chippawa. They are anxious to secure the privilege from the Ontario Government of running along the chain reserve, & are endeavoring to make terms & conditions in order that a company may be formed for the carrying out of the project. The matter will be brought up at the next meeting of the Park Commissioners, when a proposition will be submitted. The railway, if completed, would form the last link in the chain of electric roads along both sides of the river. Mr. Baxter is the owner of a line of ferries which operate between Buffalo & Fort Erie, & these would probably be used to convey the trolleys to Buffalo, where connection with the lines of the International Traction Co. would be secured.

The Hamilton Consolidations.—A meeting of shareholders of the Cataract Power Co. was held at Hamilton, Aug. 9, Hon. J. M. Gibson presiding, to ratify by-laws for the absorption of the Hamilton St. Ry., the Radial Ry. & the Hamilton & Dundas Ry. The action of the directors in buying stock in these companies was approved of, & the necessary assent was given to the carrying out of the big deal. All the financial arrangements have been made, & as soon as details are settled, these systems will pass into the hands of the Cataract Power Co. Then the systems will be operated by power from Decew Falls. Another transmitting wire will be put up between Hamilton & Decew Falls. It is not known what change of management will be made. It was decided to increase the capital stock of the Co. from \$250,000 to \$4,000,000. The other companies will be merged into the Cataract Co. The question of the building of the lines to Galt & Guelph did not come up, but this scheme will be taken up as soon as the big deal is completed.—Spec-tator.

London St. Ry.—The strike still continues. The following London despatch of Aug. 20 shows what the Co. has to contend with:—"One of the St. Ry. Co.'s cars ran off the track at the Pottersburg loop, 2 miles from the city, about 9.30 last evening & was badly wrecked by a crowd numbering between 150 & 200. A coupling pin had been placed on the track. The car was no. 96, in charge of Motorman Rogers & Conductor Clough, both of whom ran away when the crowd gathered. The car windows were all broken, the seats smashed into kindling wood, & fire started in two or three places in the car. The mob dispersed on the arrival of two carloads of special police, & the wrecked car was taken to the barns without trouble. The point at which the trouble occurred is outside the city limits. No arrests have been made."

The conduct of a large portion of London's citizens in connection with this strike has been disgraceful, & of course the city is suffering in

consequence. It is said some business men are working quietly towards securing united effort to break the boycott of the street cars which is damaging business materially.

Metropolitan Electric Ry.—The extension from Richmond Hill to Newmarket was opened Aug. 14. The time from North Toronto to Newmarket is 1½ hours, 4 round trips being made. As soon as the power plant at Bond's Lake is completed, which is expected to be early in Sep., the service will be increased & baggage cars will be put on. The Postmaster-General recently went over the line & it is said the Co. is likely to receive a mail contract.

Ottawa Electric Ry.—The line to Britannia will start about 500 ft. from Holland Avenue, Hintonburg, & will run parallel to the Richmond Road & at a distance of 300 yards from it. The line will be 4½ miles long, & the terminus will be at the beach about an eighth of a mile past Britannia. A station will be erected at the village & another at the lake shore. E. E. Perreault, C.E., is laying out the line. The construction work will be very solid, the rails being 70 lb. These will be ordered forthwith. Construction will be started as speedily as possible, & the line will be in operation this autumn. The line will be double track giving direct connection with all parts of the city. The beach to which the line runs is an ideal one for bathing. No steps have been taken to arrange for the laying out of a park which will be undertaken later.—Citizen.

Owen Sound.—J. H. McLauchlan says work will soon be started on the projected electric street railway, & that he anticipates no difficulty in disposing of all the stock necessary to build & equip the road. This year's experience with the park prompts the expectation that there will be sufficient traffic to meet running expenses, & that in two or three years the road would be a paying concern. No finer route could be desired than one skirting the water's edge along the bay shore.

Queenston-Lewiston Bridge.—The illustration on page 275 shows the first car crossing on July 21. The photograph was taken from the U.S. side of the river. (Aug., pg. 249.)

The Queenston Heights Bridge Co.'s annual meeting will be held at Niagara Falls, Ont., Sep. 12.

Toronto Railway.—The gross earnings are:

	1898.	1897.	Increase.
Jan.	\$95,690.12	\$86,502.36	\$9,187.76
Feb.	91,860.30	82,100.19	9,758.11
Mar.	103,243.88	92,418.42	10,825.46
April.	95,211.37	86,868.83	8,342.54
May.	104,806.62	92,670.35	12,136.27
June.	109,603.18	94,006.37	15,596.81
July.	116,824.94	104,402.95	12,421.99
	\$716,692.41	\$639,214.39	\$77,478.02

On Aug. 7, the Civic Holiday, the Co. carried 139,000 passengers, exclusive of transfers, an increase of 18,000 passengers over the Civic Holiday of 1898. For the quarter ended June 30 the Co. paid the city \$1,934.39 percentage & \$1,854.90 mileage.

Maritime Provinces & Newfoundland.

Halifax, N.S., to Annapolis or Digby. At a recent meeting of the Maritime Board of Trade W. V. Brown moved.—Whereas the need of a second & competing transportation railway line between Halifax & St. John, through Western Nova Scotia, is generally recognized, & whereas certain London & Berlin capitalists have intimated their willingness to construct an electric railway from Halifax to Annapolis or Digby provided certain concessions be offered; therefore resolved, that in the opinion of this board every encouragement should be given towards the furtherance of this enterprise by our Government, boards of trade, municipal & town council & the press. After discussion the motion was withdrawn for this year.

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(For \$1,000 Mortuary Benefit.)

Initiation fee (minimum)	\$1.00
Constitution fee	1.00
Registration fee	1.00
Monthly Examination fee	1.50

Total minimum cost.....\$4.50

(For more than \$1,000 Mort. Benefit.)

Cost to take \$2,000 Mort. Benefit.	\$6.00
" " \$3,000 "	7.00
" " \$4,000 "	9.00
" " \$5,000 "	10.00

Sick benefits, when required, cost extra.

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- 1.—Social and Fraternal Privileges of the Court Room.
- 2.—Free Medical Attendance by Court Physician where not dispensed with by Court by-law; also trained nurses in certain cases.
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- 4.—A Total and Permanent Disability Benefit of one-half of face value of policy, with exemption from further payment of premiums or Court Dues.
- 5.—An Old Age Benefit consisting of exemption from payment of premiums and Court dues after age 70.
- 6.—An Old Age Disability Benefit of one-tenth of face value of policy payable yearly for ten years, on being declared totally and permanently disabled by infirmities of age after the seventieth birthday.
- 7.—An Old Age Pension payable during disability, which may be taken as a substitute for the Old Age Disability Benefit.
- 8.—A Burial benefit of \$100 at death of a Pensioner.
- 9.—A Funeral Benefit of \$50 at death of a member enrolled in Sick and Funeral Benefit Department.
- 10.—The Mortuary Benefit of \$500, \$1,000, \$2,000, \$3,000 \$4,000 or \$5,000.

The Members, the Benefits, and Their Assurance

At 31st December Each Year.

Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300 00	\$ 4,568 55	\$ 4 48	4.59
1882	1,134	12,058 86	2,967 93	2 61	11.09
1883	2,210	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	59,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 81	5.85
1890	21,604	181,846 79	283,967 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.49
1892	43,021	344,748 82	580,597 85	13 49	6.25
1893	54,484	392,185 93	858,857 89	15 76	5.47
1894	70,055	511,162 30	1,187,251 11	16 94	5.47
1895	86,521	685,000 18	1,500,733 16	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.30
1897	121,685	992,225 60	2,558,832 78	20 52	5.56
1898	144,000	1,176,125 14	3,186,370 36	22 12	5.67

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Or Any Officer or Member of the Order.

Moneton, N.B., St. Ry.—It is said the Co. has plans prepared for considerable extensions of its system & the establishment of a park at the outskirts of the town.

St. John's, Nfld.—The contract for this line provides for its running from the cross-roads, Riverhead, through Water St., to a distance convenient for running up to Duckworth St., thence along past the railway station up Military Road around Prescott St. to Queen's Road, thence down Playhouse Hill, along Gower Street to Patrick St. It is probable that a track will also run along Le Marchant Road connecting with the main line, & thus practically bringing the whole city within a block or so of the cars.—Nfld. News.

The New York, New Haven & Hartford Ry. has put in service on the line from Braintree, Mass., to Cohasset a combination passenger & baggage car fitted with electric motors, with which it can propel itself & 4 or 5 other cars. The car has four motors of 160 h.p. each, & it is claimed it can draw 7 others at the rate of 50 miles an hour.

General Telegraph Matters.

The cable rates between South Africa & England will be reduced to 4 shillings a word in Sep.

The following offices have been opened on the government line to Yukon: Bennett, Caribou Crossing, Tagish, Whitehorse, Lower Laberge, Hootalinqua.

It is said funds have been raised at Juneau, Alaska, for the construction of a telegraph line to Skagway, to connect with the line to Dawson, & that it is hoped to have the line in operation by October.

A London cablegram says, that on Aug. 16, Marconi, in his experiments with wireless telegraphy at Dover, made a complete success, the messages passing through several miles of cliffs, upon which Dover Castle stands and 12 miles across the sea.

A certificate of reduction of the capital stock of the Pacific Postal Telegraph Cable Co. of New York City from \$1,000,000 to \$100,000 has been filed. The amount of the company's capital actually paid in is \$1,000,000 & the liabilities are less than \$5,000. Among the directors are J. W. Mackay, the Bonanza millionaire, & C. R. Hosmer, of Montreal.

Telegraph & telephone matters in the Kootenay district of British Columbia continue to make progress. The Vernon & Nelson Telephone Co. now has telegraphic as well as telephonic communication between its Greenwood office & Rossland. It is stated though, that when the C.P.R. telegraph is extended to Boundary Creek, the V. & N. Co. will confine its operations to the telephone, leaving the telegraph to the C.P.R. Another report is that a branch of the Corbin telegraph system now connecting Nelson & Rossland with Spokane, Wash., is to be constructed from Marcus, via Cascade City, Grand Forks & Greenwood to Midway, & be afterwards extended thence back across the International Boundary line to Republic, Wash. The Columbia Telegraph & Telephone Company, which lately opened a telephone office at Midway, is completed to Camp McKinney, which camp has the advantage of telephone connection with all the Boundary towns & with Rossland & Spokane.

It is said in connection with the announcement that Marconi, the inventor of wireless telegraphy, will shortly visit the United States, that he will in all probability be asked to confer with officials of the Light-House Board with reference to the use of the invention in marine work generally. Experiments with wireless telegraphy have been carried on for

some time past at the U.S. light-house depot at Tompkinsville, Staten Island, by William F. Clarke, a New York electrician, under the direction of Col. D. P. Heap, engineer officer in charge of the third light-house district. These experiments have been made with a view to determining the availability of wireless telegraphy for purposes of communication between light-houses, light-ships, merchant vessels and light-house stations. The interest of the Light-House Board in the present efforts will be readily appreciated when it is understood that the board has sought for years for some method of establishing communication between the shore and moving ships. Some years ago a telephone system was tried but it proved impracticable.—Marine Review.

At a recent meeting of the Maritime Board of Trade, Mr. Hassard, of Charlottetown, introduced the question of improved telegraph communication between Prince Edward Island & the mainland. He said the Anglo-American Telegraph Co. was subsidized to the extent of \$2,000 a year. It is an old monopoly in existence since 1855. For some reason or other the Government seemed to have the opinion that P.E. Islanders would be satisfied with anything. One complaint was that there was no communication with the mainland after 8 p.m. It was also complained that rates from the Island were double that from other points of Canada. A telegram to Boston cost \$1, for instance. He moved a resolution to the effect that the Dominion Government be memorialized to either take over the service or insist on a readjustment of rates. The Government had a right to demand better service from the Co. The closing of the offices at 8 p.m. was a grievance to the newspapers of the Island and their readers. They wanted the offices open till midnight. There are 9 miles of cable. It was exceedingly inconvenient not to be able to send a message after 8 p.m., & visitors to the province wonder at the Island people putting up with such inconvenience. The papers could not get late press despatches & the public were prevented from getting the latest news in a reasonable time. The matter was referred to a committee for the purpose of communicating with the Dominion authorities.

Wireless Telegraphy at Sea.

The Marconi system did marvels in the recent Imperial naval manoeuvres. Admiral Domville's fleet was hastening to a rendezvous, to pick up the convoy of food ships which Canada was supposed to have sent to the mother country, & was all on fire with eagerness to learn whether the opposing fleet, which simulated the predatory ships of France, had been beforehand. A flying squadron steamed ahead of the laboring battleships 17 knots an hour to the big ships' 11. It found the convoy, & then by means of 2 ships disposed between the squadrons the battle fleet was told the news. Eighty-six miles separated the two squadrons, & communication could have been established in storm, in darkness or in fog, as easily as in fine weather. The news anticipated by 4 hours the actual juncture of the two squadrons, which were approaching each other at a combined speed of 21 knots an hour.

The tactics of the fleets throw a strong light upon modern naval warfare. Sir Compton Domville had a strong but rather slow battle squadron of 10 battleships, which, when working together, could go at best 11 knots an hour. He also had a score of cruisers, some fast, some of medium speed, & 28 torpedo boat destroyers. A couple of slow ships, representing a food convoy from Canada, were approaching the British Isles. In theory the convoy had been sent from Halifax, our easternmost port & safely-guarded harbor, had presumably been escorted for part of the way

by the warships on our coast, & had then steered across the Atlantic, trusting to the immensity of the ocean to elude discovery by hostile warships of strength or numbers superior to the one big cruiser which escorted it. Approaching the narrow seas, where all ocean routes converge & where discovery would be easy, it was to be met at a previously arranged rendezvous by the big British fleet of Sir Compton Domville & escorted home. That is, no doubt, very much the way in which our wheat, our cattle, our bacon, our exports generally would be sent to Britain if the Empire were at war with an enterprising naval foe. Meanwhile a lighter but swifter fleet, under Admiral Rawson, 8 battleships, which could easily make 14 knots an hour in company & 19 cruisers, backed by 24 torpedo boats, disposed along what represented the French coast, was eagerly looking for this convoy, even as the high seas would in time of war swarm with squadrons & single cruisers bent on crippling Great Britain's huge foreign trade. The "French" fleet had the speed & the start; the British fleet had the strength to win any battle in which it might engage, & knew exactly where the convoy was. Moreover, it had the Marconi system to aid its search.

Admiral Domville steered for the rendezvous, arranging a series of other rendezvous so as to make it next to impossible to miss the convoy fleet. One of his 1st class cruisers, the Galatea, was already with it as escort. His other 1st class cruisers were sent on ahead at high speed to pick up the convoy at the earliest possible moment; the 2nd class cruisers were sent out in a cloud to search for the opposing fleet, so that, if it were getting near the convoy, it could be fended off. The Juno, on which was Signor Marconi, with the installation of his wireless telegraphy system, kept some 30 miles ahead of the battleships. In due time the big cruisers found the convoy, all safe. One, the Europa, immediately turned back, & soon was some 25 miles from the convoy & 30 from the Juno. Then the two ships got into communication. From the Europa to the Juno, from the Juno to the fleet went the news; & Sir Compton Domville, 86 miles from the convoy, was in definite touch with it & had won the game. Meanwhile, the opposing fleet was desperately searching an immense area of blue water & had for hours at a critical moment been paralyzed by a fog so dense that ships might have passed within a mile of it without detection.

To understand the full value of the feat performed when the fleet & the convoy, invisible to each other, practically conversed, we may assume France & Great Britain to be at war, & need to arise for a close watch upon, say, Brest. From Brest to the Lizard is 110 miles, & from the Lizard messages can be sent to British naval stations. A cruiser could remain outside the harbor mouth, 2 or 3 more could be disposed at equal distance intervals between there & the Lizard. Whatever the advanced cruiser might see would be known in Plymouth in an hour. With flag signalling a chain of 8 or 9 cruisers would be needed & they could communicate only in clear weather. With the Marconi system the news would go in fog or sunshine, storm or calm. If a French ship were to leave Brest, within an hour or two a British ship could be leaving Plymouth, 130 miles away, to look after her. Such a system of intelligence would greatly lessen the dim uncertainty as to the enemy's movements which someone has called "the fog of war."

Defects in the system there are as a matter of course. Two showed themselves during the manoeuvres. It is slow work transmitting the messages, & signals from other transmitters may disturb the process. For instance, the Juno was once taking a message from the flagship when suddenly a despatch began to come in which was being sent from Alum Bay in the Isle of Wight, 50 miles away, to Poole,

on the English coast, some 25 miles away from the Isle of Wight. The sector through which the ray is sent can be limited to a certain degree, but at a range of 30 miles would spread out to a width of seven miles. An agency would be sure to set his transmitters so as to interfere with signals to the utmost, while his receivers would be adjusted to take in signals from any fleet he was watching. Thus all messages would have to be in cipher, & in cipher constantly changed, as no cipher is undecipherable. It is obvious, however, that the discovery is in its infancy, & with further improvements marvels may be accomplished in the direction of keeping touch between ships that to the eye are solitary upon the face of the waters. *Globe.*

General Telephone Matters.

A. F. Sise, President of the Bell Telephone Co., & Mrs. Sise, returned to Montreal Aug. 14, from a short holiday spent at St. John, Nfld.

Some information about the telephone lines in the Kootenay district will be found under the head of General Telegraph Matters on page 179.

The Eastern Telephone Co. has built a line between the Dominion Iron & Steel Co.'s office, at Sydney, N.S., & the International pier, for the private use of the Dominion Co.

On Aug. 1 the Bell Telephone Co. made a sweeping reduction in rates on all its long distance lines for night messages. Between the hours of 6 p.m. & 8 a.m. the rates have been reduced to one-half the day rate, except where the tariff is 25c. or under, no rate being reduced below 25c. The following are a few examples:—

	Day rate.	Night rate.
Toronto... Montreal	\$2.00	\$1.00
"... London	.60	.30
"... Kingston	1.00	.50
"... Brockville	1.25	.65
"... Morrisburg	1.50	.75

The only cases where the night rate is not one-half the day rate, is where the day rate

is less than 50c., as seen by the following cases:—

The 45c. day rate would be 25c. at night,	
" 40c. " " 25c. "	
" 25c. " " 25c. "	

and anything under 25c. remains unchanged.

Among the Express Companies.

The Canadian Ex. Co. has closed the Montreal & St. Laurent route.

The Canadian Ex. Co. has opened offices at Anson, Ont.; Carmel, Que.; Depot Harbor, Ont.; Dunbarton, Ont.; Norwich Jct., Ont.; St. Nicolas, Que. Summer offices have been opened at Niagara-on-the-Lake & Queenston, Ont.

On Aug. 15 there was received at Joliette, Que., by Dominion Express, \$7,000 in bills for the local branch of the Banque Nationale. As the safe in the local express office had been out of order for several days, the Co. sent an inspector at once to open it & arrange for the safe storage of the money. After working until nearly midnight the inspector was forced to give up the task, & the \$7,000 was handed over to the C.P.R. agent, who put it in the chimney in the cellar. In the morning he found the chimney vacant & the money gone, & it has not been recovered.

The shipment of two wives by express from Issaquah, Wash., to their husbands at Dawson City, by the Nugget Express Co., is something of a novelty in the express business. Mrs. L. T. Mullarkey & Mrs. L. T. Jones are the ladies who constitute the novel consignment. An express messenger accompanies them to look after their baggage, etc., & he will take a receipt from the respective husbands on delivery of the goods. Precisely what would happen if either of the husbands was dead or could not be found, & where the liability of the Co. would end, is not stated.—*Express Gazette.*

A recent despatch from Seattle, Wash., said:—"Some of the wealthiest capitalists of Pittsburg, Toronto, Ont., & Denver are in-

terested in the passenger & express line to be established from the Yukon River, in Alaska, to the Klondike mining region. J. T. Cornforth, of Denver, is the Western guiding spirit. J. H. Ruse, a Toronto capitalist, is President. The company will be known as the Yukon Overland Express & Transportation Co. Mr. Cornforth stated that work on the line would be commenced inside of two weeks. He is hiring large gangs of men for the construction work. A thousand will be needed." There is no J. H. Ruse in the Toronto directory, & we are not aware of any such "capitalist" in this vicinity. Perhaps the balance of the despatch is equally reliable.

Advertising Express Business.

The Commercial Appeal of Memphis recently contained a large advertisement of the Southern Express Co., which suggests the thought that express companies are losing an opportunity in not keeping their advantages before the public. Particularly is this true in the case of express money orders, which have undoubted advantages over post office orders. Nor do the majority of people know of all the things one may get an express company to do; take, for instance, this summary from the advertisement mentioned:—

"The Southern Express Co. receives & forwards freight, valuables, money, etc., to all points accessible by express. Collects bills, with or without goods. Carries free any orders sent for goods to be returned by express, when enclosed in a government stamped envelope, & goods are called for & brought on return train. Deeds may be sent through this Co. to be recorded & returned to the sender. Baggage checks taken & baggage obtained & shipped to owner. Goods in pawn redeemed. Money orders sold on all accessible points in the U.S. & Canada—also payable in Cuba. A receipt is always given, & you can get your money back if the order is lost. There is no cheaper way to send money than by Southern Express Co.'s money orders."

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Air Brakes & Fittings
Westinghouse Mfg. Co. Hamilton, Ont.

Ales
E. L. Drewry Winnipeg.

Aluminum
Rice Lewis & Son Toronto.

Anchors
Rice Lewis & Son Toronto.

Asbestos
Eureka Min. Wool & Asbestos Co. Toronto.

Axles
Rhodes, Curry & Co. Amherst, N.S.

Babbitt
Rice Lewis & Son Toronto.

Badges
John Martin, Sons & Co. Montreal.

Beams
Rice Lewis & Son Toronto.

Bellows
Rice Lewis & Son Toronto.

Bells
Rice Lewis & Son Toronto.

Belting
Eureka Min. Wool & Asbestos Co. Toronto.
Rice Lewis & Son Toronto.

Blankets and Bedding
The Hudson's Bay Company

Block & Tackle
Rice Lewis & Son Toronto.

Blocks
Rice Lewis & Son Toronto.

Boat Fittings & Hardware
Rice Lewis & Son Toronto.

Boiler Covering
Eureka Min. Wool & Asbestos Co. Toronto.
Mica Boiler Covering Co. Toronto.

Boilers
Polson Iron Works Toronto.

Boiler Tubes
Rice Lewis & Son Toronto.

Bolts
Rice Lewis & Son Toronto.

Bridge Numbers
Acton Burrows Co Toronto.

Buckets
Rice Lewis & Son Toronto.

Bunting
Rice Lewis & Son Toronto.
The Hudson's Bay Company

Carpets
The Hudson's Bay Company

Cars
Rhodes, Curry & Co. Amherst, N.S.

Car Wheels
Rhodes, Curry & Co. Amherst, N.S.

Castings
Rhodes, Curry & Co. Amherst, N.S.

Chains
Rice Lewis & Son Toronto.

Cross Arms, Top Pins & Side Blocks
The Firstbrook Box Co. Toronto.

Curtains
The Hudson's Bay Company

Cuts
Acton Burrows Co Toronto.

Door Signs
Acton Burrows Co Toronto.

Dry Goods
The Hudson's Bay Company

Electric Car Route Signs
Acton Burrows Co Toronto.

Electric Car Trucks
Baldwin Locomotive Works Philadelphia

Enameled Iron Signs
Acton Burrows Co Toronto.
Rice Lewis & Son Toronto.

Engines, Stationary & Marine
Polson Iron Works Toronto.

Engraving
Acton Burrows Co Toronto.
Toronto Engraving Co. Toronto.

Express Office Signs
Acton Burrows Co Toronto.

Fencing
Page Wire Fence Co. Walkerville, Ont.

Ferry Signs
Acton Burrows Co Toronto.

Flags
Rice Lewis & Son Toronto.
The Hudson's Bay Company

Foghorns
Rice Lewis & Son Toronto.

Forgings
Rhodes, Curry & Co. Amherst, N.S.

Gas & Gasoline Engines
Northey Manufacturing Co. Toronto.

Gates
Page Wire Fence Co. Walkerville, Ont.

General Supplies
The Hudson's Bay Company

Grain Elevators
John S. Metcalfe & Co. Chicago, Ill.

Grease
Eureka Min. Wool & Asbestos Co. Toronto

Groceries
The Hudson's Bay Company

Half Tones
Acton Burrows Co Toronto.

Hardware
Rice Lewis & Son Toronto.
The Hudson's Bay Company

Headlights
Noah L. Piper & Sons Toronto.

Hose
Rice Lewis & Son Toronto.

Illustrations
Acton Burrows Co Toronto.

Iron
Rice Lewis & Son Toronto.

Iron Signs
Acton Burrows Co Toronto.

Japans
McCaskill, Dougall & Co. Montreal.

Lager Beer, &c.
E. L. Drewry Winnegig.

Lamps
Rice Lewis & Son Toronto.
Noah L. Piper & Sons Toronto.
The Hudson's Bay Company

Lanterns
Rice Lewis & Son Toronto.

Launches
Polson Iron Works Toronto.

Life Insurance
Independent Order of Foresters Toronto.
Travelers' Insurance Co. Montreal.

Linoleum and Floor Coverings
The Hudson's Bay Company

Locomotives
Baldwin Locomotive Works Philadelphia.

Lubricators
Rice Lewis & Son Toronto.

Matches
E. B. Eddy Co. Hull, Que.
The Hudson's Bay Company

Milepost Numbers
Acton Burrows Co Toronto.

Mohair
The Hudson's Bay Company

Numbers
Acton Burrows Co Toronto.

Oakum
Rice Lewis & Son Toronto.
The Hudson's Bay Company

Oils
Eureka Min. Wool & Asbestos Co. Toronto.
Galena Oil Co Franklin, Pa.

Office Signs
Acton Burrows Co Toronto.

Packing
Eureka Min. Wool & Asbestos Co. Toronto.

Pipe
Rice Lewis & Son Toronto.

Pipe Covering
Eureka Min. Wool & Asbestos Co. Toronto.
Mica Boiler Covering Co. Toronto.

Plushes
The Hudson's Bay Company

Porter
E. L. Drewry Winnipeg.

Portland Cement
Rice Lewis & Son Toronto.

Printing
The Hunter, Rose Co. Toronto.
Mail Job Printing Co. Toronto.

Pumps
Rice Lewis & Son Toronto.

Rails
Rice Lewis & Son Toronto.

Rivets
Rice Lewis & Son Toronto.

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Semaphore Arms
Acton Burrows Co Toronto.

Shafting
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Ship Carpenters' Tools
Rice Lewis & Son Toronto.

Ships
Polson Iron Works Toronto.

Shovels
Rice Lewis & Son Toronto.
The Hudson's Bay Company

Signal House Numbers
Acton Burrows Co Toronto.

Signals
Noah L. Piper & Sons Toronto.

Signs
Acton Burrows Co Toronto.

Snow Ploughs
Rhodes, Curry & Co. Amherst, N.S.

Speed Indicators
Rice Lewis & Son Toronto.

Spikes
Rice Lewis & Son Toronto.

Springs
Rhodes, Curry & Co. Amherst, N.S.

Station Name Signs
Acton Burrows Co Toronto.

Steamboats
Polson Iron Works Toronto.

Steamboat Signs
Acton Burrows Co Toronto.

Steam Whistles
Rice Lewis & Son Toronto.

Steel
W. G. Blyth Toronto.
Rice Lewis & Son Toronto.

Switch Targets
Acton Burrows Co Toronto.

Telegraph Office Signs
Acton Burrows Co Toronto.

Telegraph Spoons
Rice Lewis & Son Toronto.

Telephone Office Signs
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F. E. Came Montreal.

Tobacco and Cigars
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Toilet Paper
Rice Lewis & Son Toronto.
The Hudson's Bay Company

Tools
Rice Lewis & Son Toronto.

Track Jacks
Duff Manufacturing Co. Allegheny, Pa.
A. O. Norton Coaticook, Que.

Track Tools
Rice Lewis & Son Toronto.

Trucks
Rice Lewis & Son Toronto.

Typewriters
Creelman Bros. Typewriter Co. Georgetown.
Creelman Bros. Typewriter Co. Toronto.

Uniforms
John Martin, Sons & Co. Montreal.

Uniform Caps
John Martin, Sons & Co. Montreal.

Valves
Rice Lewis & Son Toronto.

Varnishes
McCaskill, Dougall & Co Montreal.

Vessels
Polson Iron Works Toronto.

Waste
Eureka Min. Wool & Asbestos Co. Toronto.
Rice Lewis & Son Toronto.
Noah L. Piper & Sons Toronto.

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The Engineer & the Road to the Yukon Gold Fields.

By Harrington Emerson.

[The following article, which was written in March last, deals with matters from a United States standpoint, which makes all the more forcible the remarks about the difference between the policies of the Canadian & U. S. governments in regard to aids to navigation & in attention to frontier matters. The admission that the White Pass & Yukon Ry. will divert the trade of the Yukon from U. S. to Canadian channels is significant. We are inclined to think Mr. Emerson is misinformed as to what he terms the annoyances & extortions of the Canadian customs officials at Log Cabin. If such abuses existed formal complaint would undoubtedly have been made. Since the article was written the W. P. & Y. Ry. has been completed to Lake Bennett, 41 miles from Skagway, & is now in operation, giving connection at Bennett with the river steamer service to Dawson. —EDITOR.]

He who leaves what is generally termed the Pacific Coast for the Klondike & the Alaskan gold fields, enters another world when he boards the north-bound steamer. It is not that the vessel differs from steamers of the same tonnage on the Atlantic Coast, for the engineer's handiwork must be more perfect for voyages to the outlying places of the earth where there are no repair shops. It is the passengers who make a different world, or perhaps it is fairer to say that among them the conventions of civilized life lose their force, & the sordidness & other elemental & unlovely instincts which civilization hides but does not eradicate, crop up unblushingly. A good part of the men northward bound are miners, animated not by patriotism nor hope of homestead, not by dream of glory, nor love of science, not by pride of conquest nor religious enthusiasm, not even by the pleasure of adventure, but impelled northwards solely by lust of gold. Dogging the footsteps of these pioneers is the motley horde of human parasites & beasts of prey, both male & female, & these & their ways emphasize the difference between the lust for gold & the pursuit of immaterial riches. No one tries to rob Dewey of his laurels nor Nansen of the honor due his adventures & discoveries, but if a man has secured an ounce of gold a thousand rise up in his path & try to take it away from him.

Owing to the absence of parasites, industrial, criminal & governmental, it was cheaper & safer to go to the Yukon ten years ago

than it was when the great work was on, & were it not for the works of the engineer, the passage down or up the Yukon would to-day be lined with as many robber roosts, levying blackmail, euphemiously called toll, on all the travel & traffic, as was the Rhine in the Middle Ages. But the engineer, with his ocean steamers, wharves, railroads, aerial cableways, river boats, etc., came & converted what was once an expedition of extreme physical danger & hardship, & what next became a journey of extreme pecuniary danger & expense, into a rapid, safe, convenient & also



C. F. SISE,
President the Bell Telephone Company.

cheap trip to the Arctic Circle. It is this cheapness that above all else will develop the resources of that far off region, making profitable great numbers of mines to-day unworkable. In California gravels containing as little as 5¢ of gold to the cubic yard are washed at a profit, but in the Klondike region all gravel that yields less than \$15 a cubic yard is mined at a loss. It is too much to expect that far northern gravels can ever be worked as cheaply as in California, but it is not too much to expect that with cheaper labor, cheaper supplies, & above all, better appliances, five dollar gravels will in time have value.

The most remarkable part of the long road to the new gold fields is the short link which crosses the backbone of the continent. Elsewhere, the continental divide lies in Colorado, Wyoming, Idaho, but in southeastern Alaska, it is a rampart rising direct from the sea. At its base lie the blue waters of an arm of the Pacific. Fourteen miles inland is the summit, & immediately beyond are the head waters of the Yukon. A few coast passes are the only feasible highroads to the interior, & this gives them very great political as well as commercial importance. Further north between the

Yukon & the ocean are those stupendous snow giants, Mount Saint Elias & Mount Logan, towering about 18,000 ft. in height.

The profiles here given, showing the two lowest passes from ocean to river, were drawn from his own surveys by Frank Reid, the engineer, who, at Skagway, in 1898, in the cause of decency, order & law, shot & killed "Soapy Smith," the leader of all the crooks & thugs with which the place was infested, & was in turn killed by him. Of all the many dead claimed by the dangers & diseases or the murderous trails, Reid alone rests under an imposing monument, erected in the forlorn little cemetery to show the gratitude of the citizens & as a permanent warning to evil-doers. The man was honored who had saved the town from a reign of terror, but the engineer began a greater work in his surveys, which were the beginning of a development, that in 18 months replaced the Indian hunter's foot-path with aerial cableways & a steam railway.

The profiles are worth studying. Lynn Canal is an inlet or fjord of the Pacific Ocean, & the lakes over the summits are the head lakes of the Yukon River. Although these summits are but 14 miles from the ocean, the distance down the Yukon to Bering Sea is 2,000 miles. Nowhere else in the world are the navigable head waters of a great river so near the same ocean into which it finally empties. It is as if the headwaters of the Ohio River were but 14 miles from New York Bay.

From Panama to the Fuca Straits there are but few harbors, but from Puget Sound northwards a whole coast system of mountains & valleys sank, in a former geologic age, several thousand feet, & thus formed the present sounds, canals, channels, inlets, bays, harbors, a land-locked water-way of marvelous beauty & danger stretching a thousand miles north of the sound cities, Tacoma, Seattle, Victoria & Vancouver. So smooth & placid is this water-way that Indians, in their dugouts, undertake trips of 1,000 & more miles along the coast, yet so dangerous is it that scarcely a week passes without some steamer striking or stranding on the dark

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shores or sunken rocks. At the northern end
of this inside passage & 90 miles from the sea
is the head of Lynn Canal, which is 7 miles
wide & from 135 to 413 fathoms deep, but the
Wrangel Narrows, 100 miles further south,
are only $\frac{1}{4}$ of a mile wide & 18 miles long, &
so shallow that rarely a steamer passes
through them without scraping on the bottom.
At another point in the long inside passage
conflicting tide currents swirl & rush 30 miles
an hour, & this place can only be passed at
slack water, either high or low.

At the head of Lynn Canal is Taiya Inlet,
14 miles long & but 1 mile wide, & into the
head of Taiya Inlet empty the Taiya & Skag-
way Rivers, each making a long mud delta
covered at high water, bare at low tide; &
here the tidal range is very great, 16 or more
feet. The Taiya & Skagway Rivers both
flow rapidly down from the summits of the
coast range of mountains. They are but tor-
rents, only 14 miles long from source to del-
tas, & within a few feet of their head-waters
are the head-waters of the Yukon; thus nat-
ural passes are formed from the coast to the
interior. By no other route is the distance so
short as up the Taiya River. There has al-
ways been an Indian village at Dyea, which
is doubly favored by being at the extreme head
of ocean navigation & nearest to the series
of lakes, Crater, Long & Deep, which empty
directly into Lake Lindeman. This lake in
turn empties into Lake Bennett, which is
but 40 miles from Dyea. From an engineer-
ing point of view the Skagway route is the
better, as the White Pass at the head of Skag-
way River is 600 ft. lower than the Chilkoot
Pass, but neither Indians nor miners used it.
Its series of lakes, Summit, Middle & Shallow,
are separated from Lake Bennett by a high
divide, & flow by long & shallow streams into
other lakes not so immediately available for
reaching the Yukon. Although the distance
to Lake Bennett is the same by survey over
each pass, the most enthusiastic backers
of the White Pass route have always consid-
ered it at least 10 miles longer, owing to its
extreme & lasting difficulty for foot & horse
travel. In former years at two seasons of the
year only was travel possible over the Chil-
koot Pass, in late winter when the snow was
hard & the lakes frozen, & in late summer
when the lakes were open for rafts & canoes.
It is strange that this easy & natural highway
for the Indian up the coast in a canoe, over
the pass with a pack on his back & down the
river on a raft, should have presented almost
insuperable obstacles to civilized travel.
The Indian in his dugout cared not for nar-
rows, shallows & currents, tides & flats. He
did not try to force them, but accommodated
himself to conditions as he found them, & was
governed by the seasons in his trips over the
pass, as was also the early gold seeker, who,
drifting north in 1877, made his way with In-
dian help over the Chilkoot Pass to the Yukon
River.

Between the final triumph of modern en-
gineering, the railroad, & the natural high-
way of the savage, there were many stages
of improvement which were more toilsome,
dangerous & expensive than the conditions
they are supposed to better. There was no
longer easy & sympathetic acquiescence in
nature's whims when the great gold rush
to the Yukon began in Aug. 1897. Just as
the engineer has substituted his work for
all other instruments or vehicles of trans-
portation over the White Pass, so also it is
the engineer who with his ocean steamers has

supplanted the Indian canoe, the sailboat, the
little coast steamers, but with the difference
that whereas the land engineer makes his own
road on which he safely runs his engines, the
naval engineer can only build a good steamer,
which too often is wrecked owing to the
culpable negligence of the U.S. government,
quick enough to install revenue collectors, but
exceedingly slow to chart, buoy and light
dangerous channels.

Nearly 5,000 people a month make the pas-
sage from Seattle & other Puget Sound cities
to south-eastern Alaska, & many thousand tons
of freight are also carried, yet aside from
a few buoys in Wrangel Narrows there is ab-
solutely nothing provided by the government
to aid the mariner in navigating those waters.
The Canadian government, both on land and
sea, is more prompt to act & to provide pro-
tection. It has a light-house on the Sister
Rocks in the Gulf of Georgia, another at
Cape Mudge at the entrance to Discovery
Passage & yet another at Egg Island. The
disastrous wrecks almost without exception
have occurred in U.S. waters. As canoes
gave way to ocean-going vessels in these un-
buoyed & unlighted channels, the government
pilot charts were improved with pasters sug-
gesting that the chart was not more than 5
miles out of the way. Steamer after steamer
was lost, the Mexico sank in Aug., 1897, on
her return trip from carrying the first load of
gold seekers, the Corona stranded in Nov. of
the same year, the Clara Nevada ran on a
rock & burned or blew up with a loss of all
on board in the following Feb., & since then
a dozen other steamers have either grounded
or been totally wrecked. These dangers &
losses continue to date. On Feb. 15, 1899,
the Humboldt, a fine California steamer, went
on the rocks between Juneau & Wrangel, &
was in gravest danger; early in Mar. the
Dirigo stranded but was finally dragged off
with severe damage; later in Mar. the Tees,
a Canadian steamer, was reported fast on the
rocky Alaskan coast & on Mar. 29 the City
of Topeka of the Pacific Coast Steamship Co.
went fast on a ledge in Wrangel Narrows.

As the engineer was not able to take the
survey & improvement of the sea highway
out of the hands of the government he turned
his attention to terminals for the carriers both
by land & water which his skill had evolved,
& here also the transition from the perfectly
safe landing of the Indian canoe on the flat
beach above high water to the equally safe
landing of the ocean steamer at a deep sea
wharf, beyond the fall of the lowest tide, has
been through intermediate steps expensive &
dangerous. The first load of gold seekers in
Aug., 1897, found no wharves at Dyea or
Skagway, & the hastily gathered mining out-
fits were either lightered ashore at great ex-
pense, or at low tide dumped off the steamers
to be submerged by the returning waters un-
less rapidly moved by waggons whose owners
charged extortionate rates. Prices for pack-
ing over the pass had been 12 to 15c. a pound
in the old days of Indian-back, but they rap-
idly rose to 47c. by the Dyea or Chilkoot trail &
to sixty cents by the Skagway trail. Block-
ades occurred, paths turned into bottomless
pits, & pandemonium was everywhere. It is
a curious illustration of the fallibility of in-
telligent human judgment that nearly all the
capitalists organized transportation com-
panies to reach the Klondike by way of the
mouth of the Yukon, leaving the nearer &
obvious road in the hands of men without
capital but with plenty of energy & ready
quickness.

A comparison of the two routes to Dawson,
down & up the river, should have been suf-
ficient to convince one as to their relative
values. Dawson is 1,600 miles from the Puget
Sound cities. Of this distance 1,000 miles
are by inland sea, 40 are by mountain pass,
the balance down lakes & rivers. This route
is open 8 months in the year. By the other

route it is over 4,000 miles to Dawson, 2,700 miles of North Pacific Ocean to St. Michaels, & about 1,500 miles of treacherous river touching the Arctic circle, with bars at mouth & elsewhere. Boats are limited to a 3 ft. draft, & the river mouth is open but 3 months in the year. The extent of the transportation delusion is evidenced by the increase of steamboats on the lower Yukon from scarce a dozen in 1897 to 110 by the summer of 1898. These boats represented capital. The gold seekers went the other way & the only real rivalry that there has ever been for a permanent Yukon route is between Dyea & Skagway, between the Chilkoot & White passes. When the rush began, one of these was an Indian path, the other nothing, but what it lacked in merit Skagway made up in boisterous advertising. The Indian village at Dyea developed into a town, the U.S. speculation on the Skagway flats was platted & the city of Skagway started. It first succeeded in building a wharf to deep water & this was the beginning of its supremacy, because it became easier & safer to land there. Beyond the landing this trail was utterly unfit for travel, but the first arrivals were too busy pushing on to warn those who might follow, & both town boomers & steamer lines assured ticket buyers that whatever might have been true last week, now the trail was indeed open.

Above its delta, the Skagway River, a mountain torrent, occupies nearly the whole width of the valley. The mountains rise steeply on each side & every spot that is not washed bare of earth is overgrown with heavy timber. If in rare places the river has a shore, it is covered with boulders & loose rock, either terminal or lateral moraines of the former Skagway glacier, or the result of landslides. For 10 miles from the sea, the fall of the Skagway River is not rapid but above the last fork, the stream rushing down from the summit of the White Pass is a rocky torrent, in a deep canyon bed. The rise in the last four miles below the divide is about 2,000 ft. Over 12,000

Six to seven horses or mules made a string under the care of one man, the driver riding on an extra animal, sometimes in front, often behind. Rates for packing fell to 20¢ & then to 12¢ a pound & fortunes were made, & squandered, in the business. Six horses carried 1,500 lbs. of net freight & earned gross \$180 to \$300. Expenses for a round trip were \$40 in wages, \$12 hotel bills, \$25 for horse feed, \$20 wear & tear & \$15 toll, making a total of \$112. Some packers who had 40 to 50 horses on the trail put in their own boarding camps, thus reducing expenses, & the most energetic & successful & reliable earned for several months over \$1,000 a day net on an investment of \$2,000 to \$3,000. One energetic man interviewed the arriving Klondikers at Seattle, contracted to deliver their freight at Bennett, required a part payment in cash, used the cash to buy his horses & pack-saddles & went north on the same steamer with his customers & fulfilled his contract.

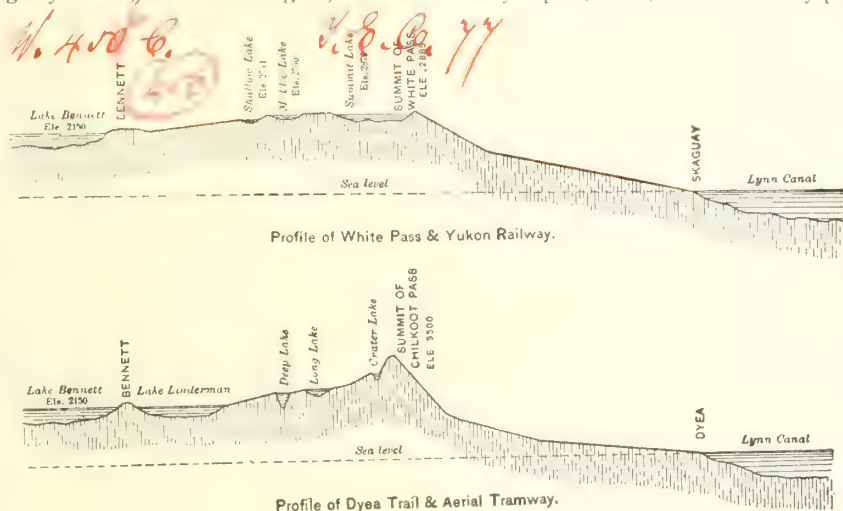
But the enormous amount of freight going to Dawson by way of the passes, nearly 20,000 tons, prompted G. M. Brackett, an experienced & energetic railway contractor, to begin a wagon road from Skagway to the summit. He started early in the fall of 1897 and pushed the work with great energy, hoping to be ready for the great spring rush, but in this he was disappointed. The remoteness of the region, with mails 10 days apart, labor,

Mr. Brackett had built his wagon road without authority & there was indeed no time to wait for it, as the U.S. Government is always several years behind requirements in frontier matters. Very great friction developed between the wagon road company & the packers. The latter drove their pack horses up the frozen bed of the river & thus avoided the new road, but Brackett completed a short piece of road around which it was impossible to go and there he erected his first toll gate. While the struggle was going on in Alaska Brackett was not idle in Washington & secured the passage of a resolution by Congress giving the Secretary of the Interior jurisdiction over Alaskan roads with authority to grant toll privileges. From the Secretary of the Interior Brackett obtained authority to levy a toll of 2¢ a pound on all freight, \$10 on each wagon, \$1 on each foot passenger, horse, sheep, dog or other animal. These rates were excessive. This wagon road, owing to its heavy grades, was none of the best. In building it Mr. Brackett had in many places simply improved the previously existing trail made by the packers themselves. The road was only built for 11 miles, yet without proper investigation, without any comprehension of the actual conditions or of the equities, the privilege was granted to levy prohibitive tolls on all the enormous traffic using this pass. There was not even any possibility of appeal, as no court

had any jurisdiction over tolls placed by act of Congress at the discretion of the Secretary of the Interior. The wagon road, however, experienced difficulties. The Chilkoot Pass route had not been idle, & from the first as a man pack route it had been preferred to the White Pass because shorter, with better approaches & with more direct waterways to the head of Yukon navigation. The first improvement on this pass was made when a horse whim was anchored at the summit of Chilkoot, & by this means loads of over a ton could be hauled up on sleds, thus putting this route far ahead of the Skagway trail for heavy

freight as well as for single loads. After the first season the horse gave way to a gasoline engine, his last act being to wind his own successor to the top. The gold seekers could drag their own loads on sleds to the foot of the summit, there turn them over to the whim, be hauled up, coast down the other side & go on their way rejoicing over the frozen lakes & smooth trail to Bennett.

In Aug., 1897, work was started on the Chilkoot R.R. & Transportation Co., on the Alaska R.R. & Transportation Co., & on the Dyea Klondike Transportation Co., all three of them aerial cable trams. These three were ultimately consolidated into the Chilkoot Pass route, & but one line finished in April, 1898. A large force of men was kept busy all winter, but very little beyond shoveling snow was accomplished from Dec. 10, 1897, to Mar. 15, 1898. The tram begins 9 miles from Dyea at Canyon City, to which place a wagon road is almost without grade. There are 2 loops, 1 from Canyon City to Sheep Camp, 4 miles, & the other from Sheep Camp over the summit, & $\frac{1}{2}$ mile down the other side. This loop is $4\frac{1}{4}$ miles long. The trolley automatically switches from one loop to the other, & the load is limited to 400 lbs., generally carried in boxes 40 x 20 x 24 ins. With its level wagon road & these trams in operation, the Dyea trail should & could have beaten its rival Skagway as to rates, but it



people landed at Skagway in the first year after the rush, or between Aug., 1897 & July, 1898. Most of these unfortunates crossed the pass dozens of times carrying their goods in relays, a man load at a time, a slow way of transporting a ton or two of supplies a distance of 30 miles over almost impassable trails. Most of the packing was done on man back & extraordinary loads were carried. One of the Indians on Chilkoot carried in one load 247 lbs. over the summit, & on the whole, nothing is so generally efficient as a man. Dogs were fitted with pack saddles & given loads of 10 to 30 lbs., & this was worth while, at 60¢ a pound. Goats were used, rafts, canoes, rough boats, any & everything that could be impressed into service. Horses were shipped to Skagway by the hundred, & there, on the worst trail in the world, they died also by hundreds, but during this first summer a horse was not able to carry as much as a man. It was the packers, the owners of the horse trains who made the first trail, for the gold seekers had no time to join in any "good road movement," but the packers organized, instituted compulsory service & by the spring of 1898 had succeeded in opening a very fair bridle path, making this trail from this time on essentially a horse trail, & thus scoring a second triumph over Dyea. The horses between Skagway & Bennett each carried 250 lbs. besides feed for the round trip of 4 days.

climatic & financial difficulties all combined to prevent rapid work. Nevertheless Mr. Brackett succeeded in building an excellent road for about 10 miles, marring it however, and from an engineering point of view ruining it, by the fearful grade over Porcupine Hill, a grade so steep that 2 horses with a single sled loaded with only 400 lbs. could scarcely climb it coming towards Skagway. Going down this same hill sled runners are generally wrapped with heavy chains, in addition to the very effective automatic brakes used on all Skagway sleds. This brake consists of 2 sharp steel prongs bolted underneath the back end of the shafts & pointing downwards. When the horse pulls these are lifted off the ground or snow, but when on a down grade, the sled runs forward on to the shafts & presses the prongs deep into the ice or snow. Another effective form of brake is a dragging hook, bolted loosely through the back end of the runners. Ordinarily it is turned up & rests on top of the runner, but on down grades it is turned down so that the sharp end of the hook sticks into the runners' track. On this hook the driver will stand, and thus hold almost any load. In Jan., 1899, a 4 horse double bob sled, not being equipped with these brakes, rushed the teams down the steep grade of Porcupine Hill & forced the leaders over the precipice, several hundred feet to the river below.

could not handle the freight offered, & there were long delays, charges of favoritism, & through freight was secured at the Skagway rates of 8c. & up to keep the trains busy, so no reduction was made. It was, nevertheless, this Dyce competition which forced a reduction of tolls on the Brackett road from Skagway. The rate being lowered to 1c. a pound from Skagway to Summit, & 3/4c. a pound to those who made their way up the river bed. Some packers also threatened to build a new trail of their own, & one energetic man with over 100 tons of freight to carry, was bribed from so doing by a free pass for his stuff.

All these transportation, financial & competitive struggles were around & about the passes, the stretch from salt water to lakes. From the head of Lake Bennett down to Dawson, "over the ice" as it is called, the travel in winter is only by dog team, although this year one mule & one horse made the trip out. The Yukon sleds are 16 ins. wide, 6 ft. long, 8 ins. high, & strongly braced. Some are made with a gee pole on the right side, & the driver straddles the rope or chain by which the dogs pull. The preferred sled this year is the basket pattern with plow handles behind to which the driver clings. Four to eight dogs make a team. On a good smooth trail the native dogs, "insiders," as they are called, one-quarter, half, or even three-quarters wolf, will drag 100 lbs. to the dog. These animals are thickly furred, & seem to enjoy extreme cold. They are fed on boiled rice, corn-meal & bacon, & will not eat dog-biscuit. Outside dogs cannot stand the extreme cold, are not as a rule as good pullers, & are miserably unhappy. At Skagway good insiders are worth from \$50 to \$100; outside dogs can be bought for \$10 to \$20. Up the White Pass & through fresh snow dogs cannot pull 15 lbs. The extreme difficulties of the White Pass make a dog team trip from

Dawson to Skagway much easier than from Skagway to Dawson, as the dogs are not worn out before they are fairly started.

The rapidity of travel with a good dog team is remarkable. T. Crahan left Dawson Jan. 28, 1899, at 9:45, & reached Skagway Feb. 12, at 4:45 p.m. He had 2 in his party, & a 4 dog team to haul the equipments. While on the trail he fed his dogs once in the 24 hours, at night, each dog receiving 2 1/2 lbs. of food, which consisted of 1 1/2 lbs. of thoroughly boiled bacon, 3/4 lb. of well-cooked rice, & 1/4 lb. of cooked corn-meal. The distance is full 600 miles, but although the dogs averaged more than 40 miles a day they were in good condition. On Jan. 29 I turned over to M. A. Mahoney, at Tagish 2,000 lbs. of U.S. & Canadian mails. He had 4 sleds with 5 fine dogs to each sled, & on each sled he loaded 500 lbs. of mail or 100 lbs. to each dog. He reached Dawson on Feb. 26. Returning he left Dawson Mar. 21 at 9 a.m. with one passenger, the contract being to land him in Skagway in 14 days for \$700, or to forfeit \$100 for every day over that time. He pulled into Skagway on the afternoon of Mar. 31 at 5 o'clock, having made the trip in 10 days & 8 hours, or at the rate of 55 miles a day. The team consisted of 6 huskies (Arctic dogs), & he carried no supplies with him, buying everything for himself & dogs at the bunk houses along the river. If a dog team has to carry its own food & that of the driver, & 30 to 40 lbs. of blankets, robes & other equipments, its radius of travel is very limited. Mahoney's teams could barely have reached Dawson carrying their own supplies & no extra freight whatever. It is because there is no food for horses along the trail that these animals or mules are not used. A good horse can drag about 2,000 lbs. over a fair trail on a food allowance of 40 lbs. a day. He can travel through fresh snow that would stall any

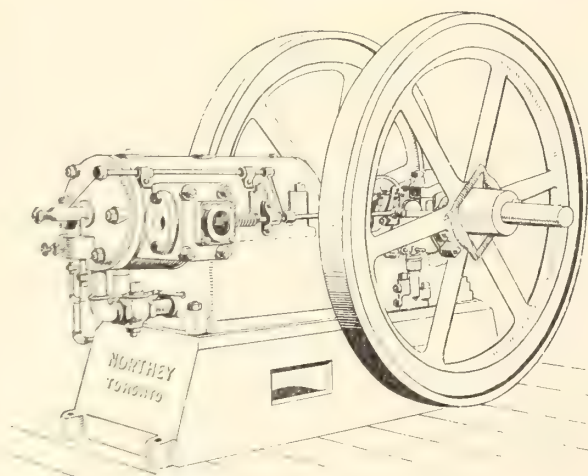
dog team, but the latter can travel over crusty snow that would break under horses. Wherever the food supply permits, freighting is done with horses & mule teams, as between Skagway & Tagish 100 miles towards Dawson, but for light & rapid running from place to place dogs are preferred. Each dog is as much trouble to care for, & more trouble to feed than a horse.

During the summer of 1898 pack trains were in full action over the White Pass, & the trains over the Chilkoot, & the healthy rivalry between them prevented too great extortion. About this stage of development civilized modes of transportation may be said to have overtaken in convenience & cheapness the primitive savage methods. It was just about as cheap to send goods over in July, 1898, as in July, 1897, before the rush had begun, but a new competitor now appeared in the field that was for all time to settle the supremacy of Skagway. This new comer was an international railroad, whose survey ran 20 miles through U.S. territory from tide water at Skagway to the summit of the pass & the international boundary, & thence 325 miles to Fort Selkirk, on the Yukon River, below White Horse Rapids & other dangers, & but 174 miles above Dawson. This railroad is now in operation to the summit of White Pass, & much of the grading is done for 20 miles more to Lake Bennett. If it should stop here the aerial tram could still prove a dangerous rival, because the capital charges are so much less, operating expenses less, & its capacity could be easily increased to 100 tons a day. The difficulty has been, not in transporting, but in handling the freight at the two termini, where accumulations caused almost inextricable confusion & long delays.

Freight rates from Dyce to Bennett by way of the tram are, in Mar., 1899, 3 1/2c. a pound, & the same by the railway. From the summit

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the railway company has opened one of the best snow roads in the world. It was made by sending team after team through the snow drifts, packing down the snow until the hard bed rose above the level of the snow field & was thus swept clear by the wind. It is staked with saplings on both sides & can be followed in the darkest night or severest storm. Log Cabin, the Canadian custom house & mounted police station, is 12 miles from the summit & boundary, & is also at the end of the White Pass series of lakes, Summit, Middle & Shallow. The former trail from Log Cabin to Bennett was difficult both winter & summer, as it passed over a high & rocky divide, winding steeply up & down along the slopes. The new railway trail was opened by cutting down trees, grubbing out stumps, blasting away boulders, packing down snow drifts, and is a beautiful & model road. Freight carried to the summit by the railway is there transferred to double bob four-horse sleds with wide runners, & each such sled can be loaded with half a ton. Three or four of the freighting firms have formed a through freight line in connection with the railway, & through bills of lading are issued. A big freighters' camp is established near Log Cabin half way between the summit & Bennett, & each morning except Sunday (for the mounted police will not allow freighting on Sunday), teams start in both directions, thus giving the horses 10 miles of load down grade, & 10 miles empty.

The railway hauls to the summit of the pass for 1c. a pound, or one-half of the toll authorized by U.S. Secretary Bliss for the privilege of dragging one's own freight over the toll road. The freighters carry for 2 cents a pound from the summit to Bennett. The expenses of the round trip are about \$20; receipts under best conditions, which are the exception, may amount to \$200. If there were a sufficient quantity of freight there would be a bonanza in the business for a freighter with 10 or more four-horse teams. As it is, the freighters alternate between excessive earnings & inability to pay their teamsters or other bills, none of them being organizations with large capital. The snow trail is not in good condition until Feb., & begins to soften the latter part of April. The lakes are deep & well warmed during the long summer days, but in early winter the first sharp frost covers them with a thin crust of ice. On this a blanket of snow falls, which delays further freezing & presses the thin ice below the water, so that beneath the snow there is oftentimes slush 2 or 3 ft. deep. Horses & men break through the upper snow, & the resulting wetting is dangerous with the thermometer 20° or more below zero & the wind blowing.

The railway is a great example of engineering & constructive skill. It would have been a great feat to grade 40 miles & build twenty over a similar rocky pass under the most favorable conditions, but this work was done in seven months, in a region without laborers, 1,000 miles from supplies, 3,000 to 4,000 miles from rolling mills & car shops, & against fearful climatic conditions. Day after day fresh snow drifted over the road-bed & day after day it had to be shovelled off, sometimes to a depth of 6 to 8 ft. Supplies, bridge timbers, fire-wood even, for the enormous camps had to be carried over almost impassable snow trails. There were days when men could not work on account of the storms or the intense cold, but they had to be fed & warmed.

The road begins on deep water, a mile from Skagway. A shelf is blasted along the face of the cliff, & this beginning is typical of the 20 miles to the summit. High above the valley, on a maximum grade almost the whole distance, the road sweeps around two different forks of the Skagway River, adding 6 miles to its length, but making it possible to reach the summit of 2,885 ft. without switch back. It has, however, been questioned by able engineers whether this was the best loca-

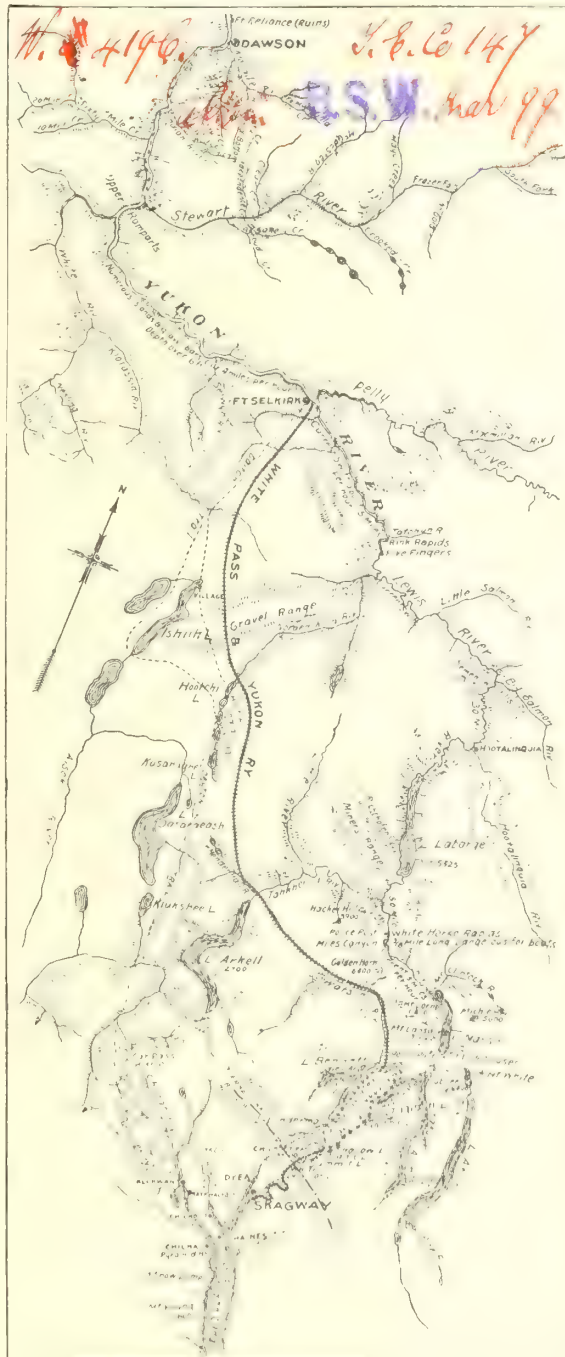
the coming city of Alaska, & thus ended the race between the older Indian Dyea & the younger U.S. city. It will do more. It will change the freight route to Dawson from an up-river to a down-river movement. Even this year barges to carry 20 tons can be bought at Bennett for \$300, or competent men will contract to deliver freight with their own barges for 4c. a pound to Dawson. Contracts are now being made from Seattle & Tacoma, from Victoria & Vancouver to Dawson via the White Pass for \$160 a ton, or 8c. a pound. This through rate may fall to 6c. when the railway reaches Bennett. Even 8c. is lower than the rates hitherto charged by the long mouth-of-the-Yukon route. Passenger travel will all take the shorter road & freight will inevitably follow passengers.

Another & more serious result of the completion of this railway to the summit is the inevitable diversion of a trade thus far almost exclusively in U.S. hands to Canadian points & houses. Last year the high duties imposed by the Canadians were fully off-set by the extortionate charges made for bonding & conveying Canadian goods through the U.S. strip. This year the railway furnishes the bond for a nominal charge, & ships Canadian goods in bonded cars, delivering either at summit of pass, in British territory, or at Log Cabin or Bennett. It is not possible for U.S. merchants to stand 30% duty & also the Canadian custom house delays, annoyances & extortions at Log Cabin. Last year United Statesers made these annoyances an off-set for a 30% duty, but hereafter the Canadians are protected by both duty & annoyances, & even if U.S. meats & hardware are taken to the Yukon they will enter Canada elsewhere & go through in bond. Happily, however, this possible loss of Klondike trade will be more than offset by the very sensational discoveries of gold made near the shores of Bering Sea, at Golovin Bay & Cape Nome. The climate at these points is comparatively mild, they are most easily accessible by boat for five months in the year & the region is described by those who know it as an Arctic paradise.

The Klondike madness is past. In two short years the savage trail with a dozen Indian packers has been replaced with transportation facilities with a capacity exceeding the requirements of the Yukon basin for years to come. This excess will stimulate further developments. The country offers the widest field, for it is inexhaustibly rich. Nowhere else as on this gold trail has the genius of engineers wrought such beneficent and rapid change in so short a time. The evolution from hunter's path to railroad, through the intermediate steps of pilgrim path, mule trail, wagon road, was 2,000 years in making in the St. Gotthard Pass, the great high road between the most civilized portion of the ancient world & of the mediæval world, the road that led from the gloomy north to the rich south, rich in treasures, in food, in spiritual tradition & comfort.

Two short years as against 2,000 have evolved the same succession of improvements on the highway over the White Pass back to a north, hideous in climate, without history, without sentiment, without food, but abounding in gold. Engineering Magazine.

The wife of Dr. J. A. Hutchinson, Chief Medical Officer of the G.T.R., died in Montreal Sept. 5, suddenly.



ROUTE OF THE WHITE PASS AND YUKON RAILWAY.

tion. The strata dip from east to west, & the other side of the valley would give a stable instead of unstable ledge. The west side is also the sunny and protected side, freer from ice & snow, but on this side a switch back could not have been avoided. The road is narrow gauge, but the road bed & construction are adapted for standard gauge. It is one of the most solid & substantial road beds in America.

This railway has already made Skagway

C.P.R. Earnings & Expenses.

Gross earnings, working expenses, net profits and increases over 1898, from Jan. 1, 1899.

	Earnings.	Expenses.	Net Profits.	Increase.
Jan.	\$ 8,311,281.25	\$ 1,111,281.25	\$ 7,200,000.00	\$ 1,000,000.00
Feb.	8,311,281.25	1,111,281.25	7,200,000.00	1,000,000.00
Mar.	8,311,281.25	1,111,281.25	7,200,000.00	1,000,000.00
Apr.	8,311,281.25	1,111,281.25	7,200,000.00	1,000,000.00
May.	8,311,281.25	1,111,281.25	7,200,000.00	1,000,000.00
June.	8,311,281.25	1,111,281.25	7,200,000.00	1,000,000.00
July.	8,311,281.25	1,111,281.25	7,200,000.00	1,000,000.00
Aug.	8,311,281.25	1,111,281.25	7,200,000.00	1,000,000.00
Sept.	8,311,281.25	1,111,281.25	7,200,000.00	1,000,000.00
Oct.	8,311,281.25	1,111,281.25	7,200,000.00	1,000,000.00

Approximate earnings for Sept., \$2,600,000, as against \$2,311,000 in Sept., 1898; increase, \$289,000.

SUBSIDIARY LINES.

DETROIT, SOUTH SHORE & ATLANTIC.—Approximate earnings for Sept., \$221,428; increase over Sept., 1898, \$51,780.

Net earnings for 6 months to June 30: \$350,300, as against \$281,800 for corresponding period.

MINERAL RANGE, HANCOCK & CALUMET.—Approximate earnings for Sept., \$46,450; increase over Sept., 1898, \$11,086.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Approximate earnings for Sept., \$499,466; increase over Sept., 1898, \$10,513.

Net earnings for 12 months to June 30, \$1,885,262, as against \$1,894,188 for corresponding period.

Canadian Pacific Railway Land Sales.

	Acres.	Amount.	1899.	1898.
Jan.	11,718	\$ 10,411.35	\$ 7,924.83	
Feb.	13,747	43,371.00	66,399.00	
Mar.	24,045	74,430.00	109,010.00	
Apr.	30,000	110,835.00	140,276.00	
May.	39,573	125,862.00	137,335.00	
June.	54,223	160,234.00	160,200.00	
July.	47,402	149,546.00	123,010.00	
Aug.	35,214	110,795.00	63,911.00	
Total.	295,550	\$826,474.35	\$873,565.83	

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.:

	1899.	1898.	Decrease.	Increase.
Jan.	\$ 1,936,281	\$ 1,916,432	19,849	30,949
Feb.	1,824,434	1,674,453	149,981	
Mar.	2,086,359	2,048,970	37,389	
Apr.	1,694,533	1,918,477	223,944	24,066
May.	2,090,209	1,910,080	180,129	98,259
June.	2,062,137	1,880,402	181,735	
July.	2,015,403	1,860,884	154,519	244,519
Aug.	2,031,559	2,002,802	28,757	
Sept.	2,048,520	2,261,148	212,628	227,681
Total.	\$18,996,784	\$17,594,448	\$1,402,336	

The following figures are issued from the London, Eng., office:

GRAND TRUNK RAILWAY.

Revenue statement for July:

	1899.	1898.	Increase.	Decrease.
Gross receipts.	£350,147	£388,481	£41,066	
Working expenses.	235,115	207,573	27,542	
Net profit.	£115,032	£100,908	£14,124	

CHICAGO & GRAND TRUNK RAILWAY.

Revenue statement for July:

	1899.	1898.	Increase.	Decrease.
Gross receipts.	£58,655	£57,630	£1,025	
Working expenses.	51,172	46,605	4,567	
Net profit.	£ 7,483	£11,025	£3,542	

DETROIT, GRAND HAVEN & MILWAUKEE RY.

Revenue statement for July:

	1899.	1898.	Increase.	Decrease.
Gross receipts.	£19,704	£16,261	£ 3,443	
Working expenses.	12,811	12,897	86	
Net profit.	£ 6,893	£ 3,364	£ 3,529	

DETAILS OF G.T.R. RECEIPTS JULY 1 TO AUG. 31.

	1899.	1898.
Passengers, number.	1,476,085	1,440,684
" amount.	£ 258,486	£ 217,674
Immigrants, number.	2,412	2,178
" amount.	£ 1,851	£ 1,275
Mails, express, &c.	36,205	34,520
Freight, tons.	1,691,169	1,325,221
" amount.	£ 433,912	£ 397,392
Miscellaneous receipts.	£ 22,191	£ 21,163
Total receipts.	£ 752,645	£ 642,024
Increase.	£ 110,621	

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, July 1 to Aug. 31.

	1899.	1898.	Increase.	Decrease.
Grand Trunk.	£ 752,645	£ 642,024	£ 110,621	
Chicago & G.T.	123,902	113,115	10,787	
D., G. H. & M.	41,372	36,715	4,657	
Total.	£ 917,919	£ 791,854	£ 126,065	

On Sept. 19, the London Financial Times commenting on increases in G.T.R. earnings for July to Sept., said: "This is certainly a noteworthy record, for last year was considered an exceedingly successful one, it will be remembered. The market, however, is not satisfied with remarkable traffic returns on the G.T.R. It expects them to be sensational. Yesterday it was expecting an increase of £20,000, and getting only £14,300, prices dropped, the second preference losing two points."

A London cable says the G.T.R. report to June 30 is quite a colorless document, concerned alone with the satisfactory figures for the half-year and the text of the agreement with the Dominion Government concerning the Intercolonial Ry. The half-year's operations show a net improvement of £29,752.

Passenger receipts improved £50,988, the average fare received increasing from 2s 11¼d to 3s 5¼d. The freight carried increased 440,807 tons, but the increase of low rate through traffic caused the average receipt per ton per mile on the entire freight traffic to decrease from .66 of a cent to .58. The annual meeting will be held Oct. 12.

RAILWAY FINANCE, MEETINGS, &c.

The Alberta Ry. & Coal Co.'s annual meeting will be held in London, Eng., Oct. 25.

American Railway Earnings.—The compilation of gross earnings of the railroads for the first half of this calendar year, as made by the Financial Chronicle, has been revised & extended. The earnings of 166,599 miles of road amounted to 600 million dollars. It is estimated that the increase for all the railways of the U.S. would amount to 40 million dollars, or perhaps to two or three million dollars more. This follows an improvement in the first half-year of 1898 of 70 million dollars. In this gain in gross earnings the Pennsylvania (lines east end & west of Pittsburgh) leads with an increase of 3½ millions. The Lehigh Valley comes next with 2½ millions, & the Milwaukee & St. Paul next with 2¼ millions. The Reading, the North-Western, the Southern, the Canadian Pacific, & the Central of New Jersey each gained over a million. In fact, the Reading, with its coal & iron companies, would have shown over two millions had its figures been reported for six months, those given being for only five months. All of which is pleasant reading.—*Railroad Gazette.*

Atlantic & Lake Superior.—The Baie des Chaleurs railway litigation has entered upon a new phase, a petition for a writ of injunction having been filed in Montreal on behalf of the curators to the H. Macfarlane estate. The petitioners allege that they believe the Baie des Chaleurs Ry. is to form part of the system of the A. & L.S. Ry., & they are informed that steps are being taken for the removal of portions of the rolling stock, etc., of the B. d. C. Ry. Under these circumstances, & considering the action now pending before the courts between the Macfarlane estate, the B. d. C. Ry. Co. & C. N. Armstrong, for over \$180,000, they ask the issue of a writ of injunction to prevent the removal of rolling stock, etc., as above mentioned, the right of retention of Macfarlane as builder of the B. d. C. Ry. being affected thereby.

The Bedlington & Nelson Ry. Co.'s annual meeting will be held at Kaslo, B.C., Oct. 18.

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Montreal, Toronto & London Eng.

The B.C. Yukon Ry. Co.'s annual meeting will be held at Victoria, B.C., Oct. 11.

Brockville, Westport & Sault Ste. Marie.—A report comes from Brockville, Ont., that R. G. Hervey, of Halifax, N.S., a former resident of Brockville, who spent some days there recently, is about to enter an action against the Philadelphia Investment Co. to recover possession of the Brockville, Westport & Sault Ste. Marie Ry., of which he was the chief promoter. It is contended that when this Co. took the road it was understood that it was to be put through to Sault Ste. Marie, to be equipped with first-class rolling stock, & to have a good train service. These conditions Mr. Hervey contends have not been fulfilled, & he thinks the Co. is not entitled to hold the road under the circumstances. He also states that if the court should decide the matter in his favor no difficulty would be experienced in procuring the necessary capital to put the road through to the points it was originally intended it should reach. Its present terminus is Westport, 45 miles from Brockville.

Buffalo & Lake Huron Ry. Co.—The English Association of American Bond & Share Holders, notifies that it is prepared to receive for payment coupon 39 of the 1st mortgage bonds, & coupon 52 of the 2nd mortgage bonds of this Co. for the half-yearly interest due Sept. 1, 1899.

Calgary & Edmonton.—Net earnings for July \$6,605.26 as against net loss of \$1,190.06 for July, 1898.

Canada Central 5% 1st mortgage bonds, comprising 16 bonds of £500 each & 54 bonds of £100 each, will be paid at the rate of £105 per £100 bonds on Oct. 2, at Speyer Bros., 7 Lothbury, London, E.C.

Canadian Railway Securities.—In a recent issue the London Outlook, after warning readers against U.S. railway stocks, said: "As regards Canadians, the case is different. We believe that new capital will be wanted for the C.P.R., but both that line & the G.T.R. are doing splendidly. Why G.T.R. guaranteed is not taken up more as a speculative investment, destined to reach 'par,' it is difficult to see, & Trunk seconds are a good speculative purchase. These & Canadas should certainly go higher in the long run & they have not Mr. Bryan, with his quack remedies for all the ills, to worry them."

Canadian Yukon Ry.—An Ottawa despatch of Sep. 13 to a Conservative paper said: "It was generally expected that at the last session of Parliament the Government would suggest an appropriation to compensate Mackenzie, Mann & Co. for their expenditure in connection with the Yukon railway contract. A doubt exists in some quarters as to whether the contractors have in this matter a legal claim against the Government. The contract was subject to the approval of Parliament, & as Mackenzie, Mann & Co., entered into it on this understanding, & as Parliament did not ratify the contract, some authorities contend that the whole thing falls to the ground. There is a disposition, however, in Ministerial circles to recompense Mackenzie, Mann & Co. for their expenditure, but it has not been determined what method to pursue. A Government accountant was recently despatched up the Stikine as far as Telegraph Creek, with a view to securing evidence of the actual expenditure incurred by the contractors, & it is expected that it will shortly be determined by the Minister of Railways whether Mackenzie, Mann & Co. shall be offered a certain sum without prejudice to get rid of their claim, or whether they shall be granted a fiat to have the amount of the compensation determined by the Exchequer Court."

Chicago Great Western.—A. B. Stickney, who was the first General Superintendent of the C.P.R., & is now President of the Chicago

Great Western, is making a success of the latter. In the past year it earned enough balance over the 4% payment on the debenture stock (which represents half of the first mortgage bonds of the old Chicago, St. Paul & Kansas City) to pay 4% dividends on the preferred stock A, which represents the other half of the old bonds. The gain in gross earnings in the year was \$481,696, or 9%, & in net earnings, after taxes, was \$284,552, or about 20%. The totals for 929 miles of road were \$5,867,740 for gross & \$1,720,223 for net. The per mile for the first time exceeded \$6,000, being \$6,313, while net per mile was \$4,243. Mr. Stickney says the rebuilding of the line, which has been going on under a systematic plan since 1894, will be completed by the end of the present year, when, he says, "the physical condition of the roadway & the equipment will compare favorably with the excellent condition of competitive lines, while in point of easy grades & curvatures, it will have no superior west of Chicago." He points out that the improvements carried out permitted the operating ratio to be reduced from 77½% of gross receipts in 1895 to 67.21% in 1899, & he thinks the figure will be reduced to 60% or less.

Chignecto Marine Ry.—Mr. Provand, M.P. for Glasgow, recently met the Amherst, N.S., Board of Trade, in regard to the Board acquiring running powers over the Co.'s railway & the use of its wharf, which are lying idle. Mr. Provand promised to recommend to his board the granting of the request. As showing the importance of Amherst as a shipping point, President Curry, of Rhodes Curry & Co., stated that his firm alone brought in over 60 cargoes last year, nearly all of which could have been imported via Fort Lawrence had the proposed arrangement been in force.

Crow's Nest Pass Ry. Suits.—Thirty-four laborers who were engaged in Montreal, in Oct. 1897, to work on this line are suing the C.P.R. Co. for damages. Sixteen of them, whose claims range from \$150 to \$250 each, have been authorized by a judge to proceed in forma pauperis. The other 18 have entered suits in the Circuit Court, the amounts they claim being smaller.

Dominion Atlantic Earnings for 8 months to Aug. 31 were \$440,370, against \$375,892 for corresponding period.

Edmonton, Yukon & Pacific.—It is said that the charter for this line, granted at the last Dominion session to G. McAvity & others of St. John, N.B., has been acquired by Mackenzie, Mann & Co., in the interest of the Canadian Northern, so as to give that line an outlet to the Pacific Coast. A Dominion subsidy for 50 miles of the line, from South Edmonton via North Edmonton towards the Yellow Head Pass, was voted last session.

Esquimalt & Nanaimo. In the case of the E. & N. Ry. Co. vs. the New Vancouver Coal Co., the suit involving the valuable mining rights in Nanaimo Harbor, B.C., a new & very important phase of the question has been commenced by the commencement of a new suit, the Attorney-General of B.C. & the New Vancouver Coal & Mining Co. vs. the E. & N. Ry. Co. This action has been instituted for the purpose of ascertaining whether the coal in a certain portion of Nanaimo harbor is vested in the Province, subject to the right of the N.V.C. Co., & is in consequence of the action pending between the E. & N. Ry. Co. & the coal company relative to the claim of the railway company to the coal opposite Newcastle Townsite, Nanaimo harbor. By the Settlement Act, the Province agreed to transfer to the Dominion, for the purpose of constructing the E. & N. Ry., the land usually known as the railway belt, together with the coal, etc., thereunder. The Dominion Government added to this part by including the "foreshore rights in respect of such lands as aforesaid,

which are to be granted to the said company (the E. & N. Ry. Co.) as aforesaid, and which border on the sea, together with the privilege of mining under the foreshore & sea opposite any such land, & of mining & keeping for their own use all coal & minerals, under the foreshore or sea opposite any such lands in so far as such coal & foreshore rights are vested in Her Majesty as represented by the Dominion Government." The Federal Government granted to the railway company the said land & mining privileges & the foreshore rights, & in the beginning of 1898, the railway company commenced proceedings against the coal company to establish that the railway company was entitled to the coal opposite Newcastle Townsite reserve, which the railway company claims is included in the letters patent, & if so the railway company wants compensation for the coal abstracted. The coal company distinctly challenges the right of the railway company to Newcastle Townsite reserve, & pleads that the grant by the Federal Government of the coal under the foreshore & under the sea opposite such lands is ultra vires of the Federal Government, as neither by virtue of any grant of the Province nor by the B. N. A. Act was any title conveyed to the Federal Government.

G.T.R. Accident Award.—A. F. Beatty, a mail clerk, who had his spine injured in the disaster at Murray Hill, about a year ago, entered suit against the Co., which has been settled by agreement, he receiving \$3,650.

Great Northern of Canada.—A special general meeting will be held at Quebec, Oct. 24, to authorize the issue of bonds upon the whole mileage of the Co.'s road, constructed & under contract to be constructed, & upon the bridge over the Ottawa River, such bonds to replace pro tanto the bonds already issued or authorized.

Hereford Ry.—At the annual meeting, Sep. 5, Hon. F. Jones, Portsmouth, N.H., was elected President, with the following other directors: C. Page, Portsmouth, N.H.; G. Van Dyke, & Hon. I. W. Drew, Lancaster, N.H.; P. H. Whittemore, Brookline, Mass. As the road is leased for 999 years to the Maine Central there was no business before the meeting except of a routine nature. The line runs from Beecher Falls, Vt., to Lime Ridge, Que.

Intercolonial Ry. Extension to Montreal.—A proclamation of the Governor-General-in-Council has been issued, declaring in effect from Sept. 26, the Act passed in the last Dominion session, to confirm the agreement between Her Majesty & the G.T.R. Co., for the purpose of securing an extension of the I.C.R. to Montreal.

Inverness & Richmond.—Suit has been entered by L. G. McKam, a Nova Scotia contractor, against P. Ryan, of Toronto, over the sale of the charter for this line to Mackenzie, Mann & Co. Mr. McKam claims he was a partner in securing the option & in making the sale last June, & that as owner of one-eighth share in the concern, he obtained from the owners of the other seven-eighths a deed of their interest for the purpose of a sale that he negotiated with Mr. Ryan, who afterwards sold the whole thing.

The Kaslo & Slocan Ry. Co.'s annual meeting will be held at Kaslo, B.C., Oct. 11.

Kingston & Pembroke.—It is stated that the receipts for Aug. increased 26½% over Aug., 1898.

Miles Canyon & Lewes River Tramway Co.—M. St. John is suing this Co. for \$1,000, amount of promissory note unpaid.

Ottawa & Gatineau Ry. & Pontiac Pacific Jct. Ry.—There has been deposited in the Office of the Secretary of State a mortgage deed from these companies to A. J. Ferguson & J. Elliot, of Montreal, as trustees, to secure a bond issue made by the companies.

The Pembroke Southern, which was built 80 years from Pembroke, Ont., to Golden Lake, on the Canada Atlantic Ry., 21 miles, has been leased to the latter Co. for 5 years, the C.A.R. paying a percentage of the earnings as rent. The C.A.R. thus gets connected with Pembroke, where it will compete with the C.P.R.

Pullman Palace Car Co.—A Boston director is quoted as saying that this Co. will not make any extra distribution to stockholders until another liberal surplus has accumulated.

Qu'Appelle, Long Lake & Saskatchewan.—Net loss in operating for July, \$3,677.77, as against \$4,676.59 for July, 1898.

Quebec & Lake St. John earnings for 4 months to July 31, were \$15,646 more than for corresponding period.

Quebec Central. The directors recently gave notice that a majority of the 5% prior lien bonds had been exchanged for the new 4% debenture stock. Unexchanged bonds are not now received on the terms set forth in the circulars issued in May & June, the cash bonus of £3% mentioned therein having been reduced.

Following is the traffic statement for Aug.: Gross earnings for Aug., \$57,385.85, against \$50,309.60 in Aug., '98; working expenses: \$33,291.28, against \$28,262.82; net earnings: \$24,094.57, against \$22,046.78.

Gross earnings Jan. 1 to Aug. 31, \$333,009.39, against \$299,065.74 for corresponding period; working expenses: \$214,504.14, against \$201,739.85; net earnings: \$118,505.25, against \$97,325.89.

Rutland & Noyan. At the annual meeting at Noyan Jct., Que., Sept. 6, the following

were elected: President, F. H. Button; Clerk & Treasurer, H. G. Smith; Engineer, J. W. Burke; other directors, P. W. Clement & C. L. Pierce.

St. Lawrence & Adirondack. At the annual meeting at Montreal Sep. 6, the following directors were elected:—W. S. Webb, H. L. Sprague, C. M. Depew, J. J. Astor, E. VanEtten, J. H. Purdy, New York City; M. E. McClary, Malone, N.Y.; G. H. Burnett, Utica, N.Y.

White Pass & Yukon.—The following documents have been deposited in the office of the Registrar-General of Titles at Victoria, B.C.:—A deed of covenant & a deed of agreement dated October 7, 1898, & of June 20, 1899, both made between the British-Yukon Mining, Trading & Transportation Co., The British Columbia-Yukon Ry. Co., The Pacific & Arctic Ry. & Navigation Co., The Pacific Contract Co., The White Pass & Yukon Ry., F. Pavy & C. C. Macrae, & The Railway Share Trust & Agency Co.

Traffic receipts week ended Sep. 7, \$63,800.

RAILWAY APPOINTMENTS, Etc.

Canadian Pacific.—C. R. Hosmer, who has been Manager of the Co.'s telegraphs since their inception, has been elected a director of the Co.

A. C. Henry, Purchasing Agent, has been promoted to the position of General Purchasing Agent. E. N. Bender, who has been his chief clerk for some years, has been appointed Assistant General Purchasing Agent.

H. L. Penny, heretofore Auditor of Disbursements, has been appointed General

Auditor, necessitating the following appointments: J. Leslie, Auditor of Disbursements; A. A. Goodchild, Assistant Auditor of Disbursements; C. J. Black, Auditor of Agencies.

In reference to the change in the superintendency of the C.P.R. between Fort William & Winnipeg, we are officially informed that J. A. Cameron specially requested to be relieved of that division on account of ill health. He recently returned from California & has been appointed Superintendent of the Crow's Nest Branch, including the line from Dunmore Jct. to Kootenay Landing, vice M. H. MacLeod, assigned other important duties. Mr. Cameron's office will be at Cranbrook, B.C.

General Superintendent Marpole, of the Pacific Division, gives notice that the portion of his circular of July 1, relating to the appointment of L. R. Johnson, is amended to read as follows: "L. R. Johnson has been appointed Superintendent Engineer of the Co.'s shops at Vancouver, reporting to and taking instructions thereof from the General Superintendent. He will also, as hitherto, have general supervision of the engine departments of the Co.'s Steamships, in connection with which he will report to & take instructions from the Superintendent of that Department, A. Piers."

R. J. E. Scott, of Montreal, has been appointed Chief Inspector of Time Service.

G. M. Sherlock, of the train despatching staff at Winnipeg, has been appointed Chief Train Despatcher at Rat Portage, Ont.

W. Manson, Local Auditor at Vancouver, has been transferred to other duties in the Co.'s Montreal offices.

W. H. Brodie, Chief Clerk in the Assistant

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$4 to \$4.50 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

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F. T. CRIFFIN, - Asst. Land Commissioner,
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Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
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BRANCH OFFICE—197 Lombard Street, Winnipeg, S. A. Erskine, Resident Agent.

General Passenger Agent's office at Toronto, has been promoted to be Chief Clerk in the General Passenger Agent's office at Winnipeg. J. J. Brignall, heretofore in charge of advertising at the Toronto office, succeeds him as Chief Clerk there.

G. W. Lawson, Report Clerk in the City Ticket Department at Toronto, has gone to Montreal as Assistant Travelling Auditor.

J. S. Lawrence, Train Master & Agent of the Nakusp & Slocan branch, has been appointed Trainmaster on the West Robson-Midway branch. He is succeeded at Nakusp by A. F. McCully, formerly Despatcher at Nelson.

Central Vermont.—W. B. Hatch having resigned, J. B. Laurie has been appointed purchasing Agent & General Storekeeper.

Duluth, South Shore & Atlantic.—The following officers have been elected: President, General S. Thomas, New York; First Vice-President, T. G. Shaughnessy, Montreal; Second Vice-President & General Manager, W. F. Fitch, Marquette, Mich.

Grand Trunk.—W. F. Cookeson, who has been Ticket Clerk in the Dearborn St. station, Chicago, for the past 10 years, has been appointed Chief Clerk to First Assistant General Passenger Agent Bell, at Chicago.

Great Northern (U.S.A.)—C. P. Adams, Superintendent of Telegraph, with headquarters at St. Paul, Minn., has resigned.

Intercolonial.—Several changes have recently been made among the trackmasters. J. McGovern, formerly G.T.R. Roadmaster at Brockville, Ont., has been appointed Trackmaster of the Campbellton & St. Flavie section. J. Henfield succeeds P. J. Comeau, retired, between St. Flavie & Riviere du Loup. J. Yeo, jr., succeeds his father, J. Yeo, sr., on the Riviere du Loup & Levis section, the latter retiring on account of age.

J. H. Brossard, has been appointed Chief Train Despatcher at Riviere du Loup, succeeding C. Belleau, assigned to other duties.

Michigan Central.—W. Macmillan, heretofore Assistant General Freight Agent at Buffalo, N.Y., has been appointed Assistant General Freight Agent, with headquarters at Chicago, Ill., succeeding B. E. Hand. F. Zimmerman has been appointed Assistant General Freight Agent, with headquarters at Buffalo, N.Y., succeeding Mr. Macmillan.

United Counties.—Vice-President L. F. Morison has issued a circular announcing the appointment of A. Ouellette as General Traffic Manager, with headquarters at St. Hyacinthe, Que., vice H. Upton, resigned. He will also have control over all the other departments of the road. P. Evans, heretofore of the G.T.R. Audit Department, has been appointed Accountant & Auditor, vice H. Upton.

White Pass & Yukon.—S. Irwin has been appointed General Traffic Manager, with headquarters at Skagway, Alaska, succeeding L. H. Gray, resigned. W. B. King, formerly Travelling Auditor of the Great Northern (U.S.A.) has been appointed Assistant Auditor of the W.P. & Y., succeeding S. Irwin.

Mainly About People.

General Manager Teall, of the Tilsonburg, Lake Erie & Pacific Ry., is suffering from fever.

T. R. Secord, late Deputy Superintendent of the Welland Canal, died at Port Colborne, Ont., recently, aged 69.

Mrs. T. G. Shaughnessy & family returned to Montreal early in Sep., after spending the summer at St. Patrick, Que.

C. R. Hosmer, Manager C.P.R. Co.'s telegraphs, returned to Montreal Sep. 14, after a two-months' visit to Europe.

W. R. MacInnes, General Freight Agent, C.P.R., Winnipeg, has been elected a member of the Winnipeg Board of Trade.

Mr. Hibbard, until recently of the Ottawa & New York Ry., has purchased the Hancock Iron Mine near Ironsides, Ont.

The residence of W. B. McKenzie, Chief Engineer of the I.C.R. at Moncton, N.B., was considerably damaged by fire, Sep. 7.

Cornelius Vanderbilt, head of the Vanderbilt family, & of the Vanderbilt system of railways, died in New York Sep. 12, of paralysis.

Collingwood Schreiber, Deputy Minister of Railways, has gone to British Columbia to inspect the Crow's Nest Pass and other railways.

At the recent convention of the National Railroad Blacksmiths' Association, in Milwaukee, D. B. Swinton, Montreal, was elected Second Vice-President.

Miss Amy Price, only daughter of the Chief Train Despatcher of the I.C.R. at Campbellton, N.B., was married there Sept. 20, to Dr. A. H. Hall, of Quebec.

G. H. Ham, of the Literary Bureau of the C.P.R. Passenger Traffic Manager's office, is making an extended tour between Lake Superior & the Pacific Coast.

E. A. Donkin, recently appointed Superintendent of the Dakota Division of the Great Northern (U.S.A.), is a Nova Scotian, & was once a despatcher at New Glasgow.

On leaving Stratford, Ont., recently for Hamilton, J. H. Hanna, Division Freight Agent of the G.T.R., was presented with an address, etc., by a member of citizens.

Miss Margaret Whyte, eldest daughter of the Manager of the C.P.R. Western Lines, was married at Winnipeg Sep. 16, to F. Fisher, barrister, son of Jas. Fisher, M.L.A.

Mrs. T. Tait, wife of the Manager of the C.P.R. Eastern Lines, has returned to Montreal after spending the summer with her parents, G. R. R. & Mrs. Cockburn, at Birch Point, Muskoka.

Mrs. Leonard, mother of the General Superintendent of the C.P.R.'s Ontario & Quebec Division, died Sep. 28 at Toronto Jct., where she lived with her daughter, Mrs. Fair. She was 80 years old.

G. F. Evans, formerly Manager of the Westinghouse Mfg. Co., at Hamilton, Ont., who went to Russia last year in the Westinghouse interests, has entirely severed his connection with them.

G. McL. Brown, Executive Agent of the C.P.R. in British Columbia, had a serious illness at Rossland early in Sep., from the effects of blood poisoning caused by the extraction of a tooth.

On leaving Windsor, Ont., recently, to take the General Agency of the C.P.R.'s freight department in Chicago, W. A. Kittermaster was presented with a handsome cut-glass punch bowl & glasses.

On leaving Medicine Hat, Assa., recently for Calgary, Alta., his new headquarters, Superintendent Niblock, of the C.P.R., was entertained at a public dinner & presented with an address & diamond ring.

A. E. Kirkpatrick, Resident Engineer of the C.P.R. at Smith's Falls, Ont., recently resigned to accept a position as engineer on the Egyptian Government Railways, under Major Girouard, with headquarters in Cairo.

S. J. Chase, Commercial Agent of the Michigan Central, having resigned, has been succeeded by J. F. Morris, now Travelling Freight Agent. W. J. Leahy, Travelling Freight Agent for Canada, succeeds Mr. Morris.

On being transferred from the roadmaster-ship of the C.P.R. between Cartier & North Bay to a similar position on the Sault branch, W. Kelly was presented with a silver tea ser-

vice & address by the foremen & men of his old district.

I. Deyell, formerly foreman of the T. H. & B. locomotive department at Hamilton, Ont., is suing Master Mechanic Christopher for damages for slander, claiming that Christopher stated that he had been in the habit of being intoxicated while on duty.

T. D. Sheridan, who was connected with the G.T.R. for 30 years, the greater part of which time was spent in Buffalo, N.Y., where he was Northern Passenger Agent until 3 years ago, when he resigned on account of ill health, died at Buffalo recently.

J. P. Dowling, formerly secretary to D. McNicoll, of the C.P.R. at Montreal, has been appointed Manager for the shipping house of Dodwell & Co., Ltd., at their Tacoma, Wash., office. Mr. Dowling was with them for eight years in Hong Kong, China.

Jas. Baker, of Cape Cove, Que., one of the Government representatives on the directorate of the Atlantic & Lake Superior Ry., & a prominent Gaspesian, was stricken with apoplexy on the str. Admiral, Sept. 30, & was landed at Port Daniel, where he died a few hours later.

The employes of the Southern Division of the G.T.R. & the Buffalo Division of the Washash have presented a cabinet of sterling silver, containing 149 pieces & costing \$500, to G. C. Jones, formerly their superintendent, & now Superintendent of the Middle Division of the G.T.R. at Toronto.

In a private letter received at Ottawa towards the end of Sep., D. D. Mann stated that he would return to Canada from China immediately. After having looked over the ground he has come to the conclusion that there is nothing to be secured there in the way of paying railway contracts.

Mrs. W. R. MacInnes, wife of the General Freight Agent of the C.P.R. at Winnipeg, & her daughter, arrived in Montreal early in Sept. from Cap a L'Aigle, & are the guests of Mrs. MacInnes' mother, Mrs. Cross, Cote des Neiges Road. They will probably spend the winter in Montreal, going to Winnipeg in the spring.

J. N. Hill, eldest son of J. J. Hill, has been elected third vice-president of the Great Northern Ry. Co., (U.S.A.) L. W. Hill, the second son, has been elected vice-president of the Eastern R.R. of Minnesota, the position recently held by J. N. Hill. Both sons are college graduates of only six years' standing, & have spent several months in each department of the road, from construction & grading to the general manager's place.

It is rumored that President Lucius Tuttle, of the Boston & Maine R., will become president also of the Maine Central R.R., on the retirement of President Wilson, of the latter road. Mr. Tuttle will thus be at the head of the two large systems & G. F. Evans will remain as vice-president of the Maine Central. Mr. Tuttle was from 1887 to 1889, Passenger Traffic Manager of the C.P.R., leaving to become Commissioner of the Trunk Line Association, passenger department, afterwards becoming General Manager & Vice-President of the New York, New Haven & Hartford & then President of the Boston & Maine.

The Right Hon. W. J. Pirrie, who designed & constructed the new Atlantic liner, the Oceanic, was born in Quebec in 1847. After completing his education at the Royal Belfast Academical Institution, he devoted himself to engineering & shipbuilding. He is now chairman & principal of Harland & Wolff, Ltd., which has designed & built some of the largest & fastest steamers afloat, including the Majestic, Teutonic, Canada, Cymric & Pennsylvania. The firm's tonnage output for 1896 was the highest on record, namely 18,316 tons.

Mr. Pirrie, besides being a J.P. for the city of Belfast & for the counties of Antrim & Down, holds various other titles to distinction. He is a member of the Privy Council in Ireland, & has been Lord Mayor of Belfast. This year he is on the roll for High Sheriff for County Down. Although a busy man, he always finds time to receive & converse with visiting Canadians, & he corresponds regularly with many old friends in Quebec, Montreal & Ottawa.

The C. N. R.'s Superintendent.

The Dauphin, Man., Press has this to say of D. B. Hanna, whose portrait was published in our Aug. issue. "Though the early frosts have whitened the Superintendent's hair somewhat he is still a young man, and even what is better than youth, he possesses a good constitution. In early life he received a sound commercial training in one of the business centres in England. This has stood him in stead in his after life in Canada. Several years ago he caught the immigration fever & crossed the Atlantic with the intention of becoming a farmer. This purpose he carried out, & for a time devoted his energies to making the prolific soil of Manitoba blossom with wheat. But what was said of Grant may be applied to Supt. Hanna, that 'you can't make a tanner out of a man who is destined to be a general.' His natural bent was businessward, & it was not long before he entered the offices of the M. & N.W.R. at Portage la Prairie. Though it is not on record that he made any phenomenal rise, he occupied the post of Treasurer of the Co. at the time he severed his connection from it. In 1896, at the time the first section of the Dauphin road was completed, the promoters, Mackenzie, Mann & Co., were casting about for a man to take the management of the road. For various reasons the choice fell on D. B. Hanna. At that time the Dauphin road was an unknown quantity. It commenced nowhere & practically ended at the same destination. Three years ago William Mackenzie was not such a well-known man as he is to-day. There were misgivings as to the road's success. Predictions were freely made that it would be thrown back on the hands of the government. But the fertile brain of Mackenzie was at work. The Dauphin road was a link in a chain it would be hard for even an optimist to predict the length or breadth of.

"But to return to Mr. Hanna. From the day he assumed control the road was in cap-

able hands. It was not only able to pay the interest on its bonds, but had a good balance on the right side of the ledger after all liabilities were met. The importance of the Dauphin road as a factor in the province's development may be gleaned from the fact that the road carried nearly a million bushels of wheat last season. Outside of Mr. Hanna's thoroughness as a business & railway man, much of his success is due to his genial disposition. Busy man that he is it is rarely that he hasn't time to receive a caller or listen to the grievance of a shipper. Of course, with the ever increasing volume of business & the vast projects the Co. has in view the personal relations of the patrons of the road with the Superintendent must cease to a great extent. When complaints have got to run the gauntlet of red tape it will then be learned what the true loss is.

"And now for a peep into the future. The writer is no prophet & does not lay claim to be blessed with the vision of a seer. A few things, however, appear within the range of possibility. Firstly, the Canadian Northern Ry. will be one of the great transcontinental lines. Secondly, it will have termini on three continents, America, Europe & Asia. In the development of this picture there will be no more interesting figure to watch than that of D. B. Hanna."

Grand Trunk Subsidiary Companies.

The annual meetings of the following companies have been held recently, & officers elected as mentioned below:

INTERNATIONAL BRIDGE at Buffalo, Sep. 30, President, C. M. Hays; Vice-President, J. Bell; Sec.-Treas., C. Percy; other directors, H. W. Sprague, G. F. Brownell, F. H. McGuigan, E. W. Meddaugh.

ST. CLAIR TUNNEL at Detroit, Mich., Oct. 2, President, C. M. Hays; Vice-President, J. Bell; Superintendent of Tunnel, F. H. McGuigan; other directors, E. W. Meddaugh, W. J. Spicer, A. Vidal, C. Mackenzie; Sec.-Treas., C. Percy.

MICHIGAN AIR LINE at Detroit, Oct. 2, President, C. M. Hays; other directors, W. J. Spicer, J. H. Muir, E. W. Meddaugh, J. Bell; Sec.-Treas., C. Percy.

CHICAGO, DETROIT & CANADA GRAND TRUNK Jct. Ry. at Detroit, Oct. 2, President, C. M. Hays; Vice-President, J. Bell; Sec.-Treas., C. Percy; other directors, W. J. Spicer, E. W. Meddaugh.

DETROIT, GRAND HAVEN & MILWAUKEE Ry. at Detroit, Oct. 2, President & General Manager, C. M. Hays; other directors, J. Pridgeon, Jr., C. Buncher, E. W. Meddaugh, G. B. Reeve, J. Hobson, W. J. Spicer, C. Percy, F. H. McGuigan; Sec.-Treas., J. H. Muir.

TOLEDO, SAGINAW & MUSKOGON Ry. at Detroit, Oct. 2, President & General Manager, C. M. Hays; other directors, C. J. Church, E. W. Meddaugh, G. B. Reeve, F. H. McGuigan, W. Cotter; Sec.-Treas., J. H. Muir.

CINCINNATI, SAGINAW & MACKINAW R.R. at Detroit, Oct. 2, President, A. W. Wright; Vice-President & General Manager, C. M. Hays; other directors, W. R. Burt, G. M. Stark, L. O. Fisher, E. W. Meddaugh, F. H. McGuigan; Sec.-Treas., J. H. Muir.

CHICAGO & GRAND TRUNK Ry. at Chicago, Oct. 3, President, C. M. Hays; other directors, F. A. Howe, E. W. Meddaugh, W. J. Spicer, G. B. Reeve, D. F. Skinner, A. Dixon; Sec., C. Percy; Treas., J. H. Muir.

GRAND TRUNK JCT. Ry. at Chicago, Oct. 3, President, C. M. Hays; other directors, F. A. Howe, E. W. Meddaugh, G. B. Reeve, W. J. Spicer; Sec., C. Percy; Treas., J. H. Muir.

Railway Committee of Privy Council.

Bedlington & Nelson Ry. & C.P.R.—On Sep. 1 two orders were issued by the Committee, the 1st giving the Bedlington & Nelson Ry. Co. power to connect its railway at two points on the Crow's Nest Pass branch of the C.P.R., & the 2nd granting to the Bedlington Co. running powers over the C.P.R. between these two points, a distance of 8½ miles. The application was made to the Committee several months ago by J. A. Gemmill, Counsel for the B. & N. Co., at Ottawa. The charter granted the Co. by the B. C. Legislature authorized it to construct a railway from the foot of Kootenay Lake, southwards to Bedlington, on the international boundary, whence the line continues to Bonner's Ferry, Idaho. Its construction is nearly completed. When the C.P.R. obtained a subsidy from Parliament in 1897 towards the construction of the Crow's Nest Pass branch, provision was made in the Act that the Committee might grant running powers over such road to any other company applying for the same upon such terms as the Committee might fix. The C.P.R. Solicitor opposed the application upon several grounds, but after three differ-

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ent hearings, during which Counsel for the B. & N.R. contended that the portion of the route in question was of such a mountainous character that another track could not be constructed except at enormous expense, the Committee granted the application.

The terms of the second order are that it is made for the purpose of relieving the B. & N. Co. of the expense of building about 8½ miles of track parallel to the C.P.R. The B. & N. Co. obtains the right jointly with the C.P.R. of using & enjoying the road, road-bed, track, side tracks, switches, bridges & cattle guards of the section of 8½ miles & the station at Sirdar & all the fixtures pertaining thereto & to run its trains & locomotives over the section, subject to rules & conditions which are set out. The use of the section is for 10 years & thereafter until the C.P.R. shall require the use of it, & in case of dispute as to whether the C.P.R. does require it, the same shall be settled by the Committee. The expense of maintaining the 8½-mile section is to be borne jointly, & in addition the B. & N. Co. is to pay the C.P.R. a monthly rental of \$336.50, or \$4,038 a year, which represents the interest on half the cost of constructing the 8½ miles, after deducting the Dominion subsidy of \$6,400 a mile. Differences are to be settled by arbitration. The order contains several other provisions, but as these relate more particularly to the operation of the 8½ miles by both companies it is not necessary to give them here.

Northern Pacific & C.P.R.—At a meeting of the committee on Oct. 7 two applications of the N.P.R. to cross C.P.R. lines in Manitoba were taken up. The first was for permission to make a connection, for the purpose of exchanging freight, with the C.P.R. South-western Branch at Methven. The obligations which rested upon both companies to make this connection were set forth by J. S. Ewart, Q.C., who represented the N.P.R. G. M. Clarke and C. Drinkwater were present for the C.P.R. Mr. Ewart pointed out that in the order already granted in this case by the committee it was provided that interlocking & derailling switches be used, while there was no necessity for such, as all that was wanted was a siding, so that both companies could use it for dropping off and picking up freight cars. The committee granted an order for a connection by means of an ordinary switch. At the suggestion of the Minister of the Interior the following was incorporated in the order: "And each company shall, with reasonable diligence & expenditure, remove from the said switch and forward by its line the freight cars & freight placed for that purpose upon the said switch by the other company."

An interim order was also granted the N. P.R. to cross the C.P.R. on Pacific avenue, Portage la Prairie, until Nov. 15 before the installation of the interlocking appliances referred to in a previous order.

Canadian Ticket Agents' Association.

A large number of members, many of whom were accompanied by their wives, the party numbering over 160, left Ontario, Oct. 7, in six sleeping cars placed at their disposal by the C.P.R. management, the special train also containing a dining car and a baggage car. The cars were hauled to North Bay by the G.T.R. as a special, & were taken from there by the C.P.R., Winnipeg being reached on the morning of Oct. 9. The party was received at the Winnipeg station by local railway officials, the Mayor & others, a hearty welcome being given. In the afternoon the visitors assembled at the City Hall, where they were formally welcomed by the Mayor. The afternoon was spent in seeing the sights of the city, & in the evening a reception was held at the Clarendon Hotel, where the annual dinner also took place. The business meeting was

held Oct. 10, when the following officers were elected: President, E. W. Churchill, Collingwood; 1st Vice-President, W. Jackson, Clinton; 2nd Vice-President, M. McNamara, Walkerton; 3rd Vice-President, W. H. McKay, St. John, N.B.; Secretary-Treasurer, E. de la Hooke, London; Hon. Counsel, J. H. Flock, Q.C.; Auditor, H. Palmer, St. Thomas; Executive Committee, C. E. Morgan, Hamilton; W. H. Harper, Chatham; T. Long, Port Hope; J. W. Tierney, Arnprior; C. C. Young, London.

It was decided to hold the next annual meeting at Hamilton, Ont., on Oct. 10, 1900. Vancouver, Victoria, & London, Ont., were proposed, but were withdrawn in favor of Hamilton. Vancouver and Victoria seemed to be favored for 1901.

On Oct. 11 the party left Winnipeg by special Northern Pacific train for St. Paul, stopping over at Grand Forks. Milwaukee & Chicago were also visited on the return journey.

Time Service on the C.P.R.

Manager Tait has issued a circular stating that it is proposed to reorganize the time service of the Co. on the lines east of Fort William. R. J. E. Scott is appointed Chief Inspector of Time Service, with office at Montreal. He will have general supervision of the Co.'s clocks & of the standard watches to be carried by employees, & his instructions in connection therewith must be observed.

Train masters, road foremen of locomotives, roadmasters, bridge & building masters, conductors, engineers, train baggagemen, brakemen, firemen, yard masters, & yard foremen must each carry a standard watch when on duty.

The minimum standard of excellence adopted by the Co. is a grade known among American movements as 17 jewelled, Breguet hair spring, patent regulator, adjusted to temperature, isochronism, & at least three positions, & corresponding to Waltham "Appleton, Tracy & Co. nickel," Elgin "B. W. Raymond nickel," Hampden "New Railway," Illinois "Bunn," Hamilton "936," & all grades equal or above, the variation of which must not exceed 30 seconds a week.

Employees required to carry standard watches must submit them for half-yearly inspection within the months of January & July of each year, to the various watch inspectors appointed at local points, a list of whom is given.

Grand Trunk Betterments, Etc.

It is expected that the Victoria Jubilee Bridge, already open for railway traffic, will be completed during Oct., & open for vehicular & pedestrian traffic. Good progress is being made with the approaches & the iron screens & guards.

The Co. has acquired some land at St. Lambert, opposite Montreal, for the purpose of constructing a dyke to protect the piers of the Victoria Jubilee Bridge.

The hanging bridge over the tracks at the Point St. Charles yard, Montreal, which has been used for many years, is to be removed to make room for the additional tracks that the increased traffic requires.

Work has been commenced on improvements to Bonaventure station, Montreal. The wooden sidewalk at the eastern front is to be replaced by asphalt. In front of the station a fountain will be erected, & at either end of the rectangle a grass plot will be laid down & flowers planted, while the entrance & exit for vehicular traffic will be regulated by the placing of stone posts at each end. The canopy that at present runs the length of the building & extends over the sidewalk will be extended out another 15 ft., so as to afford protection against the weather to passengers entering or leaving cabs or buses. Some important

structural changes are also to be made to the station building, which will, it is said, include the removal of the second-class waiting-room & closets. The changes, when carried out, will enable the I.C.R. officials, who are at present inadequately housed in a room belonging to the Customs Department at the station, to take up quarters of a more commodious character. Arrangements will be made for their occupying two large rooms, one of which will be utilized as an office & the other for the stores of the parlor, sleeping & dining cars.

The yards at York, near Toronto, are being remodelled for the purpose of forming a west-bound yard south of the main track. There will be 7 or 8 long tracks, capable of containing 80 cars each, while a new shunting track will be constructed to permit shunting without fouling the west-bound main line.

The daily papers have recently stated that the Co. will discontinue the use of the I.C.R. station at Levis & build one of its own, as the I.C.R. station is much overcrowded & that the G.T.R. will operate its own ferries between Levis & Quebec. This is very misleading. The G.T.R. passenger trains have heretofore made joint use of Levis station with the I.C.R., but owing to its crowded condition the G.T.R. has discontinued running its passenger trains into it & now stop them at its own station at Point Levis, from which station its own ferries have hitherto run & continue to run to the city of Quebec. The only change in the situation is that the G.T.R. interchanges its business with the I.C.R. at Point Levis, & ferries from there to Quebec, instead of from the lower station.

On the Middle Division about 120 miles are being relaid with heavy steel rails this year. More than 500,000 ties have been replaced & some 80 miles have been rebalasted.

A contract has been let for substituting a heavier superstructure for the old bridge over the Magog River, Que. The old piers & abutments will be utilized.

The surveys for the improvement of grades & the laying of double track between Hamilton & Niagara Falls is about completed, & it is said contracts for the work will be let at an early date, though nothing definite has yet been decided on.

Sarnia rate-payers have passed a by-law granting \$2,550 for building a switch from the G.T.R. yards to the Dominion Wire Manufacturing Co.'s works.

Canadian Pacific Betterments, Etc.

Hotel at Ste. Agathe.—An unconfirmed press report says that the Co. is about to erect an hotel at Ste. Agathe, on the Labelle branch, 63 miles from Montreal. The Co. has purchased 350 acres, 15 of which has a frontage on Lake Sable. The hotel, which will be on the shore of the Lake, surrounded by charming mountain scenery, will contain 200 rooms. It will supply a want of first-class hotel accommodation which has long been felt by the numerous visitors to that picturesque resort.

Montreal to Toronto.—Owing to increased traffic & the heavier tonnage of trains, it has become necessary to make improvements in the permanent way. With a view to improving the alignment & grades on the Harrow section between mileage 148, near Bathurst, & mileage 210, near Tweed, surveys were made during 1898 at 17 different points aggregating in length about 31 miles, which includes alternative changes at different points. During July & Aug. of this year a portion of the foregoing, between mileage 154 & 180 (Maberly & Ardendale), was taken up & several desirable deviations re-surveyed with cross-sections, & estimates of cost made. Two of these changes are proposed to be carried out this year, viz. at mileage 154 & mileage 159-161. The work consists chiefly

of cuts & fillings & embankments to be widened with entirely new road bed in places, & it is remembered that the line was first built with a view to economy in construction, & a reduction of quantities in cuttings & embankment, it is obvious that in making these changes a large surplus of excavation must be met with, & this material will be utilized towards grading the road-bed for prospective double track. The deviation at mileage 154 involves an expenditure of \$6,000, & will take out a double reverse curve, of which the total curvature is $16^{\circ} 06'$, substituting a tangent, without any appreciable change in the existing gradient (17 ft. per mile) & reducing the length of line by 15 ft. The second change is between mileage 159 & 161, involving an expenditure of \$30,000. This has been under construction since Aug., & the following gives an idea of the improvement to be accomplished. This alteration necessitates crossing the present track at 5 different points. The length of track is reduced 50 ft. The number of curves taken out is 6. The total degree of curvature removed is 114° , & there is substituted a tangent of $1\frac{1}{4}$ miles, with 2 light curves of 11,460 ft. radius, with a total angle of $3^{\circ} 50'$, & 1 curve 5,730 ft. radius, with a total angle of $7^{\circ} 45'$, while the gradient is uniform for the whole distance (43 ft. per mile) the same as existing with the original alignment. The Co. has at work 150 men & 12 teams, & it is expected that this work will be completed by Nov. 30. Owing to the interference with traffic on the present track it was thought desirable to do the whole work under the Co.'s road-master, instead of letting it by contract.

Fort William.—In order to accommodate the vastly increased traffic, between 3 & 4 miles of additional track have been laid in the yard this year, raising the capacity of the yard tracks to 16 miles. (Sep., pg. 267.)

The round house to replace the one burned last spring will be entirely stone. It will have 18 stalls. For the present the old round house will be used as an auxiliary. (May, pg. 139.)

Fort William to Winnipeg.—The work of extending the sidings to 4,000 ft., thus doubling their length & making them available for part of the second track which will soon have to be built, is about completed. (Aug., pg. 233.)

Rat Portage.—The basement of the station building has been completed, & work is being pushed on the superstructure. The old station is to be moved down the track near to the Central School building & will be devoted to the use of the local operating officers.

Work is also proceeding on the 20-stall round house. (Sep., pg. 267.)

Bonnett Lake Branch.—In Aug. Manager Whyte, of the Western lines, stated that it had been found that the first line run by the surveyors was unsuitable for the railway. It was, therefore, necessary to revise it, a work that can be better done in winter than at the present season; consequently the line would be revised next winter, & everything got in readiness for the construction of the road next spring. Mr. Whyte added that if the production of the Bonnett Lake Co.'s yards came up to the standard of the samples the success of the enterprise was assured, & the brick, if up to the specimen quality, would probably be used in the construction of the C.P.R. hotel at Winnipeg. In the middle of Sep. it was announced in Winnipeg that A. C. Smith had been given a contract for grading the branch. (June, pg. 172.)

Winnipeg Terminals.—It is not likely that much, if any, work will be done on the station & hotel buildings this year, but there is little doubt work will be started early next spring. It is said the building will be 320 by 208 ft., & 6 stories high, with towers, & that it will contain not less than 350 bedrooms. A report that the Co. was buying land near the post office for an hotel site has been contradicted. A combined station & hotel will be erected on & near the site of the present station. (Sep., pg. 267.)

An addition of 10 stalls is being made to the east end round house. Some other improvements to the shops, etc., have received consideration, but will not be proceeded with at present.

The Snowflake Branch. which starts from the first siding on the Pembina Mountain Branch, 118 miles southwest of Winnipeg, is about completed to its terminus at Snowflake, & will be open for traffic this fall. (Sep., pg. 267.)

Deloraine to Waskada.—The grading of this branch has been completed. Track will be laid at once, & it is to be ready for traffic this fall. (Sep., pg. 267.)

North Star Mine Branch.—In reference to the conflicting reports about this British Columbia branch, mentioned in our last issue, we are officially informed that construction is being proceeded with. (Sep., pg. 267.)

Revelstoke Shops.—It is said the capacity of these shops is to be considerably increased. All the work for the main line between Laggan & Kamloops, & for the Kootenay branches, is now handled at Revelstoke.

Vancouver Terminals.—The handsome new station has been completed & is now in use. The various officials have moved into the office portions of the building.

New Westminster.—The exterior of the station is about finished, & work is going on in the interior. (June, pg. 172.)

Columbia & Kootenay Branch.—It is said an appropriation of \$30,000, in addition to the \$50,000 made early in the year, has been provided for the further improvement of this branch, & that Tierney & Co. will receive another contract to go on with the work. Next spring the filling in of the wooden trestles will probably be gone on with. (July, pg. 208.)


Arrowhead & Kootenay Lake Branch.—On Sept. 24 grading was reported as nearly finished between Lardo & Trout Lake, & track-laying was expected to be started very soon. It was also stated that trains would be running to Duncan City by Nov., & that construction would be continued all winter. It is said that in addition to the country traversed being rich in minerals, the agricultural lands are of considerable value. (Sep., pg. 267.)

Columbia & Western Ry.—On Sep. 26 President Shaughnessy said:—"The grading of the road into Midway has been completed, & there remains only some 25 miles of iron to be laid before we shall have our trains running into Midway. The work on the big tunnel 30 miles west of Robson, where we have pierced for 3,000 ft. the side of the mountain, is not quite completed, but the state of the work there will not prevent the running of trains from Robson to Midway this autumn. In addition to the main line, we have constructed some 30 miles of sidings along the line into mining camps, where the development has been sufficient to warrant us in going to that expense. This road is by all means the most expensive the C.P.R. has ever constructed. The country throughout the entire distance is exceedingly difficult, & the engineering difficulties very great. The entire line has cost the Co. in the neighborhood of \$40,000 a mile, or a total expenditure of nearly \$4,000,000 for 100 miles of line." (Sep., pg. 267.)

H. B. Smith, C.E., of Victoria, recently inspected the line from West Robson to Grand Forks for the B.C. Government. He says he found the line in excellent condition. Regular train service has been established between West Robson & Grand Forks.

It is stated that the C.P.R. engineers are running a line south of that previously run between Midway & Rock Creek. Leaving Rock Creek about a mile above its junction

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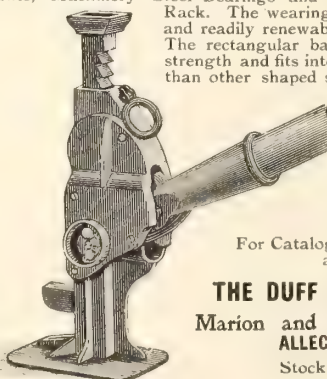
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with Kettle River, a south-easterly course is taken to Meyers Creek, & passing south to the big mountain that rises at the junction of Meyers Creek & Kettle River, the former stream is followed down to Jackson's ranch, thence to Midway, about 4 miles. The original survey line will be pretty closely adhered to.

It is also said that surveys are to be begun soon for a spur from a point on Brown's Creek, the north fork of Kettle River, to run to Pathfinder mountain, on the east side of the river. The Pathfinder mine is a shipping basis for ore & a number of promising mining properties in the vicinity are to be developed.

Spur from Rossland.—A report has appeared in some papers to the effect that a spur is being built from Rossland, B.C., to connect the C.P.R. with the Great Northern Ry. (U.S.A.). This is evidently incorrect, as we are advised from the C.P.R. head offices in Montreal that nothing is known of the matter there.

Duluth, South Shore & Atlantic.—Contractor M. J. Peppard, of Minneapolis, is reported to have commenced grading on the extension from Newtonville, Mich., to Greenland, about 65 miles. (Sep., pg. 267.)

Railway Construction in Manitoba.

The railway mileage in Manitoba will be increased considerably this year, the work under contract for completion before winter sets in exceeding 300 miles. Some of the lines under construction will in the no distant future form sections of important systems, & their progress is being watched with much interest by the people. For instance, there is the Canadian Northern with two objective points, the one Fort Churchill, on Hudson's Bay, & the other Prince Albert, through the fertile Saskatchewan valley, & ultimately, no doubt, the Pacific coast. Then there is the Manitoba & Southeastern, which will form part of the new line to Lake Superior, & furnish additional transport facilities for the annually increasing wheat traffic, besides opening up & materially assisting in developing the mineral & agricultural districts of north-western Ontario. The Northern Pacific, too, is reaching out into the wheatfields of central Manitoba by the extension of its Portage la Prairie branch with an objective terminal yet undetermined. The C.P.R. McGregor-Varcoc branch will connect with the Great Northwest Central, & ultimately extend well into the Territories. The C.P.R. Reston branch, now being extended to the Moose Mountain region, is an important colonization road, & its construction has already attracted hundreds of settlers to the country which it traverses & also stimulated the old settlers to largely increase their agricultural enterprises. The Snowflake & Waskada branches, in southern Manitoba, will fill a long felt want in the respective districts by giving convenient transport facilities to the large number of farmers settled there. The construction of the Gilbert Plains branch of the Canadian Northern will in a like manner benefit the settlers living west of Dauphin. Should the influx of immigration continue to be as great as it has been this year much railroad building will have to be done every year to keep pace with the settlement & development of the country, & railway contractors believe there are equally as good times in store for them as there appear to be for all other classes of people. The lines now under construction in the province, which are expected to be completed & ready for operation this fall, are as follows:

Manitoba and Southeastern.....	50
N.P.R., Portage extension.....	25
Lake Manitoba branch.....	8
Saskatchewan and Western extension.....	3
Great Northwest Central extension.....	20
Canadian Northern extension.....	75
Gilbert Plains branch.....	25

The above, added to the present mileage, will make 2,200 miles of railway in Manitoba, a remarkable showing when it is remembered that 19 years ago there was not a rail west of the Red River.

Surveys, Construction, Betterment, &c.

Algoma Central.—J. Conmee, M.L.A., who has the contract for the Michipicoton branch of this line, says every effort is being made to construct the 12 miles between Michipicoton Harbor & the Lake Superior Power Co.'s iron mine before navigation closes. (Sep., pg. 267.)

The U.S. Commercial Agent at Sault Ste Marie reports as follows:—"The Algoma Central Ry., which is one of the roads granted a subsidy of \$3,200 per mile by the Canadian Government, is to run from Sault Ste Marie, Ont., northerly to Dalton on the C.P.R., about 160 miles, with a branch from Dalton southwesterly, about 40 miles, to Michipicoton, a harbor on Lake Superior. The Lake Superior Power Co. owns the franchise, & I am informed that the branch running from Lake Superior to Dalton, on the main line of the C.P.R., is under construction, & that it will be completed as far as the Helen hematite iron mines, about 12 miles, by Nov. 1, & the balance of the branch will be completed next summer. It is understood that the Ontario government has promised an additional land bonus of 6,400 acres a mile. The country through which this road runs shows outcroppings of minerals, principally iron & copper, with some gold, & it is expected that valuable mines will be developed. The ore of the Helen mines is brown hematite iron, & is claimed to be very high grade. The Co. has done considerable development work, & claims that by the time the road is finished to the mines this fall, it will be able to ship 1,000 tons of ore a day. It is constructing large docks at Michipicoton for loading the ore into vessels. The same Co. also informs me that it has completed arrangements for building large smelting works here, for treating all kinds of ores (said to be by a new electrical process), to be completed within a year. The stock of this Co. is owned principally by citizens of the U.S."

Atlantic & Lake Superior.—A London, Eng., correspondent writes:—"In a previous letter I referred to the re-construction of the Canadian Steamship Co., whose steamer, the Paspebiac, had such an eventful voyage on her first & only trip under the management of that Co. I also referred to the Bagnall Oil Co. as being largely interested in the forming of the new company. It is now announced that the Bagnall Oil Co. have secured from the Dominion & Quebec governments guaranteed subsidies of \$10,000 on every mile of the new railway which is to connect the Canadian oil fields with the A. & L.S.Ry. The Chairman of the Bagnall Co. has been given power to reorganize the A. & L.S.Ry., & the Quebec government will guarantee 4% on the million sterling worth of debentures the new board will be empowered to issue. The guarantee will hold good until 1915. I am also told that the Dominion government is building wharves at Paspebiac to make the harbor suitable for oil vessels. The Bagnall Co. has made a large purchase of property adjacent to its present holding in the Manchester ship canal dockyard. A line of steamers will be put on between Milford Haven & Paspebiac." (Sep., pg. 267.)

Canada Atlantic.—The filling in of the big ravine at the Rideau yards, Ottawa, is about completed. The filling in of this patch of waste land increases the area of the yards by about 40 acres, as before the work was done the land was too low & swampy to be of any value. (Aug., pg. 235.)

The Co. is doing considerable building in Ottawa. A three story wooden building is being erected at the foot of Elgin street for small stores. A large 2½ story building is under way at Ottawa East, to contain the general stores, mechanical office, instruction office & men's dining room. Ten stalls are being added to the round house & the machine shop is being extended 150 ft. (July, pg. 208.)

Canadian Northern. Some 700 men, among whom are many Galicians & Doukhobors, are at work on the main line extension from Cowan, last year's terminus, which is 154 miles from Gladstone Jct., where the line connects with the M. & N.W.R. Track has been laid to Swan River, grading is being done at Birch River, & right of way is being cleared to the north of Bell River. Stations have been located at Favel, Swan & Woody rivers. If the weather is favorable it is hoped to complete the line this season about 70 miles beyond Cowan. It will not be possible to reach Red Deer Lake as was expected at the commencement of the season. (Aug., pg. 235.)

Work has been started on the 25 miles branch from Dauphin unto the Gilbert Plains. (Aug., pg. 235.)

The reeve of St. Laurent municipality states that assurances have been given that the C.N.R. will build along the east shore of Lake Manitoba & that a start will be made next year. (June, pg. 175.)

Stations are to be built this season at Ogilvie, Valley River & Fork River.

The yards at Dauphin are to be improved at once by the erection of a 6 stall stone & brick round house & shops.

Central of New Brunswick. It is rumored that work on the extension of this line from Chipman to Gibson is to be started at once, but no definite information is obtainable. (Aug., pg. 235.)

Coast Ry. of Nova Scotia. It is reported that the extension of this line to Barrington is about completed, & that a contract has been let for a further extension to Clyde. (Aug., pg. 235.)

The Combined Mining Co. is building about two miles of railway to connect its mine with its mill on the shore of the Lake of the Woods. A locomotive has been purchased & will be towed from Rat Portage on a barge.

The Dominion Atlantic will build an improved station at Digby, N.S., to be completed by next summer.

The Dominion Iron & Steel Co. will shortly have under construction a branch line beginning near the Whitney pier at Sydney, N.S., & running along the shore line.

Edmonton Bridge. The highest water ever seen in the North Saskatchewan was during the third week in Aug. The concrete piers for the railway & traffic bridge between South & North Edmonton, Alta., built by the Dominion Government, are reported not to have been damaged, but the water went 6 ft. over the bridge seats of the piers, & had the superstructure been in position it would undoubtedly have been carried away. The Minister of Public Works therefore decided to have the piers raised 8 ft., which is now being done.

In the discussion of the estimates at the recent session of the Dominion Parliament, when \$13,000 was voted for the completion of this bridge, the Minister of Finance stated that the amount of the contract was \$46,332; freight from Montreal to Edmonton \$11,000; superstructure contingencies \$2,668; total

	Miles.
C.P.R., Bonnett Lake branch.....	10
" Snowflake branch.....	17
" Waskada branch.....	20
" McGregor-Varcoc branch.....	30
" Pipestone branch.....	30

Sherbrooke. The estimated expenditure up to June 1st was \$7,000, & the contribution of the report of Edmonton \$5,000, which, deducted from Sherbrooke, makes the balance required is an estimate, \$13,000. The contract requires the superstructure to be completed by Dec. 1st.

Esquimaux & Nanaimo. An extension of the line is being built at Oyster Bay, B.C., & coal breakers are being erected there.

Granville & Victoria Beach, N.S. A fair measure of interest is, says the Maritime Merchant, being developed in the project of bridging the Annapolis River at Annapolis Royal, so as to connect Granville Ferry on the other side, and thus form a connecting link in a line of railway which it is proposed to run from Victoria Beach through Caledonia to Halifax. The matter of a subsidy for at least a part of the line has been already arranged in the last provincial estimates, & if the enterprise goes through it will be a decided addition to the transportation facilities of the Valley. Eastport, Me., is but 55 miles from Victoria Beach, & as it is the terminus of a number of New England railways it would give a much shorter route to Boston or Montreal than any existing line from such western points as Halifax. The persons interested in the enterprise make the most pronounced claims on behalf of the natural advantages of Victoria Beach as a harbor for ships of all sizes, and assert that this port should be the natural terminus for all western railways in Nova Scotia. The matter was discussed at a recent meeting of the Maritime Board of Trade, when a resolution was adopted favoring the scheme. (June, pg. 175.)

Great Northwest Central.—A 20 mile extension is being built from the terminus of this line at Hamiota, Man., to Parkissimo, to serve the country between the main line of the C. P.R. & the M. & N.W.R. It will run through a well settled & excellent farming district & will be of great value to farmers in the vicinity of the Assiniboine River between Birtle & Virden. The character of the work is very similar to other prairie lines, but it is somewhat heavier in the neighborhood of Arrow River, where the surface of the country is very rough & broken. The gradients & curvature will be very light. Two stations will be built, one 10 miles west of Hamiota & the other at the terminus of the extension. This extension, for some legal reason, is being built under the charter of the Saskatchewan & Western Ry. See also under head of M. & N.W.R. on pg. 295. (Aug., pg. 236.)

Great Northern of Canada.—T. F. Oakes, formerly President of the Northern Pacific

Ry., accompanied by Col. McNaught, of New York, & H. H. Melville, of Boston, two of the directors of the G.N.R., & J. B. Haggin, the American copper operator, have been inspecting the work of construction recently.

One of the contractors, J. W. McRae, recently said:—"The grading over the whole line from Shawenegan to Hawkesbury is about completed, & track is laid from Montcalm to 10 miles east of St. Elizabeth, while the masonry in the bridges & culverts is likewise all completed. The heavy bridge over the Ottawa River at Hawkesbury is well started & we expect to have the 2 abutments & 8 piers completed in November. We found good solid rock foundations for all the piers, & a large force of men are hurrying on the work. The trestle work at the approaches is well advanced, & from the start the work on the road & bridges has been pushed right along. The Joliette station, which is of pressed brick, on stone foundation, will be the best on the line, & is well under way." (Aug., pg. 235.)

Great Northern U.S.A.—It is very positively asserted that this Co. will build into Republic, Wash., probably going via Wilbur up Hawk Creek & on by the San Poil. It is hardly likely that the line will stop at Republic, & it will probably be extended to the international boundary at least. An unconfirmed rumor says the extension will reach the boundary at Carson & that the C.P.R. will build a 3 mile branch from Grand Forks, B.C., to connect at Carson. This is rather unlikely, to say the least.

Intercolonial.—Work is progressing on the deep water terminus at St. John, N.B. The dredging of the eastern part is about done & the entire dredging is considerably more than half done, but that which is yet to be completed will necessitate considerable blasting. The work has been much hampered by some of the material brought up, which consists in the most part of edgings, stuck together by mud in such a manner as to render dumping an extremely difficult task. The work has also been delayed by the building of a new track. However, it is expected that one berth will be ready for this winter's business. Three cribs have already been sunk. (Aug., pg. 236.)

The General Manager has recently made a thorough inspection of every section of the line, accompanied by the General Superintendent, the Engineer of Track Maintenance & the Bridge Inspector. As a result a number of improvements are to be gone on with.

A large amount of repairs have been done to the stations this year, especially on the main line between Halifax & Campbellton.

The siding accommodation at Sydney, N.S., is being considerably increased.

It is said tenders will be asked for at an early date for the station building at Levis, Que., involving an expenditure of some \$80,000.

A lot of snow fencing is about to be built on the Northern division. Nine rest houses for train men are being built at different points.

Interprovincial Bridge, Ottawa & Hull.—Workmen are now engaged on pier no. 2. Another gang has been placed at work on the approaches on the Ontario side, & the work is progressing at a good rate. It is expected that before the end of the year the greater part of the work will be completed. About 70 men are employed. (June, pg. 175.)

The Ottawa City Engineer, J. Galt, has taken strong exception to the bridge plans. He says the way the ground plan of the bridge has been designed is exceedingly objectionable, particularly as regards the approach on the Ottawa side. It contemplates a steam railway track in the centre, on either side of this, & separated only by a wooden balustrade, there being wedged in between trusses, two 4 ft. spaces for pedestrians. Outside of these footpaths again, & overhanging the river beyond the stone piers, are, on either hand, spaces, 1st, for electric cars, & then for vehicular traffic. Under the proposed arrangement, pedestrians, tram cars & vehicles on the down-river side of the bridge will turn into the street leading up past the Printing Bureau almost on a level with Sussex St., but all three on the up-river side of the bridge will be conveyed on an incline down to a point where they can be carried, by means of a subway beneath the railway track in the centre, coming up again so as to join the remainder of the traffic in the vicinity of the Bureau. The City Engineer claims that there

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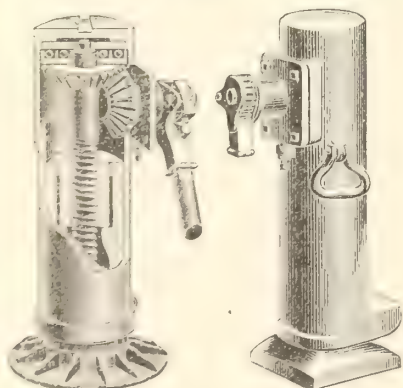
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are two highly-objectionable features to this proposed plan—1st, the wedging in of the footpaths between the railway track in the centre & the trusses on either hand; & 2nd, that half the traffic on the Ottawa side of the Ottawa River must perforce go down grade to a low level in order to pass through the subway & then up again to reach the level of Sussex St. In order to remedy these defects, he suggests that the centre of the bridge, between the trusses, 24 ft., shall be given over to steam cars; that the up-river side shall be devoted to trams going both ways, there being no objection to their going down grade through the subway & up again; & that the down-river side shall contain next to the truss, a 14 ft. space for vehicles, & on the outside, overlooking the river, a 5 ft. walk for pedestrians. The bridge people admit that the original plan is not at all satisfactory, but they maintain it is the best way of disposing of all the traffic. The city contributes a bonus of \$100,000 on the understanding that free accommodation be provided for foot passengers & vehicular traffic.

After the falling of the Ottawa & New York Ry. bridge at Cornwall, the Government, fearing that it was caused by defective concrete in the piers, decided to make a thorough examination of the piers of the Interprovincial Bridge. Diamond drill borings have been made & it is said the result is satisfactory.

Inverness & Richmond.—Work is progressing favorably & it is expected to have 30 miles of this line, from the Strait of Canso to Port Hood, N.S., finished this year, & to reach Broad Cove Mines, a further 28 miles, next year. Several small sailing vessels have been employed carrying ties from points on the Gaspé coast to Port Hastings, N.S., for use on this line. The rate obtained was about 9c. a tie. (July, pg. 209.)

James Bay.—Engineer Hazlewood is making a survey for the 5 miles of this line to be built from the main line of the Canada Atlantic Ry. to the town of Parry Sound. A contract for construction is said to have been let to McCormick & McLeod. (Aug., pg. 236.)

Kingston & Pembroke.—This Co. is building a 5 mile spur to the Martell & Caldwell mines, & expects to finish the work this fall. (Aug., pg. 236.)

An attempt is being made to get this Co. to extend its line into the mineral belt of Quebec in the vicinity of Bryson. This mineral cannot be developed on account of the lack of transportation. Twelve miles of new track from the K. & P. terminus at Renfrew would take the line to Portage du Fort, where there are Gaboury's mine and marble quarry. Eight miles further would take it to Bryson, the county town of Pontiac, at the head of the Grand Calumet Falls, a beauty spot for tourists. There are said to be iron, marble, zinc, galena, silver, gold & mica prospects; the Grand Calumet Mining Co. is at work within two miles of the village. This extension would, it is claimed, tap one of the best water powers in Canada. Between Bryson & Pembroke are a dozen lakes, affording good sport. The extension would also open up a territory of unfloatable timber, maple, birch, elm & oak, which cannot be brought to market without a railway.

Kootenay Valley Ry. & Navigation Co. Rails are being laid north from Bonner's Ferry, Idaho, towards Kuskanoek, B.C., on the Co.'s subsidiary line, the Bedlington & Nelson. N. D. Miller, formerly Chief Engineer of the line, & later Chief Engineer of the Great Northern, U.S.A., has resumed his old position on the K.V.R., vice W. H. Knowlton, resigned. (July, pg. 209.)

Under the order of the Railway Committee of the Privy Council, the Bedlington & Nelson Ry. has running powers over the C.P.R.'s Crow's Nest Pass line for about 8 miles, from a point 4 miles west of Creston to about $\frac{3}{4}$ of

a mile west of Sirdar. From the latter point to Kuskanoek, the Kootenay Lake terminus of the B. & N.R., is a distance of 3 miles.

Lake Erie & Detroit River.—It is said this Co. will erect an hotel at Erieau, the summer resort on Rondeau Harbor acquired with the Erie & Huron Ry.

Manitoba & Northwestern.—The Saskatchewan & Western Ry., which runs from Minnedosa to Rapid City, Man., 15.47 miles, & is leased to the M. & N.W.R. Co., is being extended $2\frac{1}{2}$ miles, near Rapid City, to connect with the Great Northwest Central Ry. The work is light, & there are no structures of any importance upon it. See also under head of "Great Northwest Central Ry," on pg. 294.

Manitoba & Southeastern.—Grading from La Broquerie, last year's terminus, has gone ahead with fair progress, & tracklaying has been started. The eastern boundary of the Province will it is expected be reached this year, but it is hardly likely that the line can be got through to Rainy River before winter, as was expected, & it is said application has been made to the Manitoba Government for an extension of time. It is said a contract has been let for clearing the right of way through Minnesota. (Aug., pg. 236.)

Michigan Central.—The work of placing a third truss on the cantilever bridge at Niagara Falls, necessitated by the increased weight of rolling stock, is well under way. On the Canadian side the masonry is being laid, & on the U.S. side the concrete foundation is ready for the masonry. With the view of ascertaining the profile of the river bottom under the bridge soundings were taken. The bridge is situated just over the head of the whirlpool rapids, where the current is very swift, & unusual methods had to be resorted to in getting the depth. The sinkers on the sounding-lines were egg-shaped masses of cast iron, one weighing 600 lbs. & the other 150 lbs., the sounding line being a steel wire about $\frac{1}{8}$ in. in diameter. In order to keep the sinkers from twisting a long fin was attached to the rear of each. The depth at mid-stream was ascertained to be 78 ft., & the depth at 100 ft. from shore 43 ft. In the course of subsequent soundings the weights were lost. By means of these soundings the engineers were able to make accurate maps of the river at the point of crossing, the importance of which can be readily surmised when it is known that the piers supporting the cantilever bridge are located close to the water's edge on either side of the stream (May, pg. 137.)

Midland of Nova Scotia.—Track has been laid from Windsor to the Shubenacadie River, 45 miles, & the remaining 15 miles between the river & Truro will be laid as soon as the grading is completed, probably during October. It is doubtful whether the bridge over the Shubenacadie will be completed this year. It is proposed to construct a railway dock at Windsor. (Aug., pg. 236.)

Musquodoboit.—There is a division of opinion as regards the route to be taken by this projected line. Dartmouth wishes the line diverted so as to pass through the town, & at a meeting of the promoters recently representatives from there insisted strongly upon this feature being included in the Co.'s plans. The road is intended to begin at Parker's Rock in the Musquodoboit valley in the eastern section of Halifax county & to extend to Windsor Jet, or its vicinity. The charter permits a choice of two routes, & it is over this that differences have arisen. Although the charter provides that the railway shall be operated as a steam road we believe the better plan will be to use electricity, & the cost will be much lighter as power can be obtained from the several water powers that lie along the proposed route, & it will be possible

to use the railway as a nucleus to extend to many other points in Halifax county which are as yet unprovided with these necessary facilities. It is understood that the building of this road will begin in a short time aided by the Provincial & Federal Government subsidies.—Maritime Merchant. (May, pg. 134.)

Northern Pacific.—Good progress is being made with the construction of the 20 miles extension of the Portage la Prairie branch from Portage la Prairie northwesterly, & also with the construction of the spur of 9 miles from Portage la Prairie northerly towards Lake Manitoba. Both are to be completed this season. The recently issued annual report of the Co. states that it is building these lines under separate charters, without use of funds derived from its mortgages. The capital stock & indebtedness of these subsidiary companies is held in the N. P. Ry. Co.'s treasury & it is believed that the control of these companies will secure valuable additional territory to the N. P. lines & contribute to the earning power of the system. (Aug., pg. 236.)

The crossing of the two branches mentioned above over the main lines of the C.P.R. & the M. & N. W. R. at Portage la Prairie has caused some local excitement. The Railway Committee of the Privy Council made an order authorizing the crossings, but in the case of the C.P.R. crossing, the Northern Pacific was required to construct & maintain at its own cost an interlocking, derailing & signal system. The N. P. management, to save time, wanted to put in a diamond crossing temporarily. The C.P.R. objected to this & kept a locomotive patrolling the track at the proposed crossing so as to prevent a diamond being put in without leave. The matter having come before the Railway Committee again an interim order was granted to allow the crossing to be made by a diamond until Nov. 15, when the interlocking appliances are to be installed.

The rebuilding of the Winnipeg offices, destroyed by fire, has been completed & the staffs have moved in. The roof of the train shed, broken by falling bricks at the fire, has been repaired, & the north end has been boarded up. (July, pg. 209.)

North Lanark.—An Ottawa despatch, dated Sept. 5, said: "The directors of this Co. are pushing the preliminary work for building the road as speedily as possible. At a meeting lately held at Ottawa, the president, J. Stewart, of Waba; J. Bell, secretary-treasurer, of Arnprior; A. Bell, C.E., & W. J. Wylie, of Almonte entered into an agreement by which an option was given to Mr. Gade, agent for an English railway construction company, to build & equip the entire road from Mile Lake, on the K. & P. Ry., to Arnprior."

Some time since we were informed that the intention in regard to this line was to build a rough tramway to get out timber, iron ore, etc.

Nova Scotia Southern. Unconfirmed reports are to the effect that C. B. Wilkins & Co., of Yarmouth, N.S., have the contract for this line, & that they are making fair progress with the work, including the bridge crossing the La Have River, also that they are prepared to sublet contracts for work between the northern end of the road & the Indian Gardens. (July, pg. 209.)

Ontario & Rainy River. The various contractors on the first 80 miles west of Stanley, on the P.A.D. & W.R., where the line starts, are making as good progress as possible, but have been much hampered by wet weather & scarcity of men, many teams having stood idle for want of drivers. There has also been unavoidable delay in the delivery of rails. Track-laying has been begun with a small force, so as not to overrun the bridge construction and grading. A bridge construction outfit, pile-drivers, framers, etc., began work 4 days ahead of track-laying, & both bridge-builders and track-layers will continue until

the glaciers are overtaken. There are not many streams in the grading, although all the glaciers are complete for 5,000. Every stream is being made to get men, & the force of the glaciers is being daily but slowly. With conditions as they are, & with ordinarily good weather, it is hoped to get 50 miles of track and to have the line up. Supplies are being rushed in by water to the depot on Rainy Lake, to be used on the rock work it is intended to have done during the winter. (Aug., 1899.)

Commencing at Stanley, up to which point the O. & R. R. has running powers over the O. & D. & W. Ry., the line runs close to Kakabeka Falls, a vast water power, & proceeds through the east end of the Matawin iron range, which is 20 miles long, of which 10 miles is soft hematite, and the remainder, at the western end, magnetic. Skirting the Shebandowan & Kashabowie lakes, the line then passes through a copper region, the most known mine in which is the Tip Top, having a vein of 100 ft. wide; thence it runs close to Moss township, where there are several gold locations, not at present being developed. The line next passes close to Lac des Mille Lacs & Partridge Lake, 12 miles to the south of the Saw Bill mining region, running through the Atik-ogan iron ranges for 20 miles. It is stated upon excellent authority that here is the largest iron deposit in the world, there being in one place 2,000,000 tons of iron ore in sight on a plot of 160 acres. The Seine River waters are next reached, which will give ready access to the mines, & here there are many valuable water powers. Running along the Seine River Valley, the line goes north of Bad Vermillion & south of Little Turtle Lakes, where it will cheapen supplies for more than a hundred prospects & mines, the principal of the latter at present being the Golden Star & the Olive. It next runs along Rainy Lake, crossing the western arm of the same on a succession of 6 islands, two miles west of Pither's Point, necessitating the building of 5 bridges. Between Pither's Point & Fort Frances is an excellent site & prospect for a town, the Couchiching falls being estimated to supply a water power of

tully 50,000. From Fort Frances the line runs along the Rainy River, where there is a large area of fine agricultural lands, & reaches a crossing near the river's mouth. Here connection will be made with the Minnesota & Manitoba R. R., under the same ownership, which will run through Minnesota until it reaches a point on the International boundary a few miles west of Buffalo Bay, where connection will be made with the Manitoba & Southeastern, also under the same ownership & which is now about completed from Winnipeg. W. Mackenzie says through communication between Port Arthur & Winnipeg, by this route, will be established early in 1901.

The Co. has bought no. 5 dock at Port Arthur from Marks & Co., & is making considerable improvements to it.

See also under head of Port Arthur, Duluth & Western on this page.

Ottawa & Gatineau.—Work is being pushed on the extension from Gracefield, 60 miles from Ottawa, towards Maniwaki. (Aug., pg. 236.)

See also under head of Pontiac Pacific Jct. on this page.

Ottawa & New York.—It is said that the bridge over the south channel of the St. Lawrence at Cornwall, which collapsed, & is being rebuilt, will not be completed until next year. (Aug., pg. 236.)

Pembroke Southern.—It is said that the leasing of this line to the Canada Atlantic will not hinder the proposed extension from Golden Lake to Bancroft, so as to give close connection with Toronto, but will rather materially assist that scheme, as it will enable the projectors to devote their whole energies to its construction.

Pontiac Pacific Jct.—Work is proceeding on the extension from Hull to Aylmer, but it may not be completed this fall. The city of Hull is bonusing the Co. to the extent of \$30,000, the Co. agreeing to build a station at the terminus to cost at least \$4,000; to have the work shops, shunting yards, etc., in Hull; to employ 40 residents of Hull during the first two years, and 50 afterwards, & to have all the works completed by Sept. 30, 1900. (July, pg. 210.)

Work has commenced to give this Co. & the Ottawa & Gatineau connection between the Ottawa end of the Interprovincial bridge & the Ottawa Central station. A double track will be built, to accommodate which a section of the wall flanking Major's Hill park at the southern end, about 12 ft. in depth, will have to be cut away. For 90 ft. in the direction of the river the roadbed will be made solid by filling in; the line for the rest of the distance to the bridge will run on a trestle. Dufferin bridge has already an open space through which the rails may run, but it will be necessary to construct an arch beneath the Sappers bridge. This will be done of stone & iron.

Port Arthur, Duluth & Western.—The road bed between Port Arthur & Stanley, some 12 miles, which is to be used by the Ontario & Rainy River Ry., is to be ballasted & put in first class shape.

Prince Edward Island.—A considerable amount of ballasting has been done this year, switches have been improved, the wharves at Charlottetown, Summerside, Alberton, Georgetown & Souris have been repaired, a number of bridges have been improved & 10 flag stations have been built. It is said 40 miles of new rails will be laid next season.

Quebec Bridge.—At the annual meeting, Sep. 5, it was reported that 7 tenders for construction had been received & submitted to Theodore Cooper, consulting engineer, New York, who had recommended the acceptance of one of them, that negotiations were going on with the firm in question, but that as nothing definite had been decided the directors were not at liberty to state anything further. Mention was made of the Dominion Parliament's subsidy of \$1,000,000, & other subsidies expected from the Province & City of Quebec, & the hope was expressed that work might be started this year. Full cadastral information has been gathered about property crossed by the projected railway lines to connect the bridge with the city, either by Ste. Foy or by the Coves, & options have been secured on a large portion of the property. The engineer has been instructed to make a trial survey & estimate of cost of an alternative line by the Coves & Champlain St. to Allan's Wharf. (May, pg. 137.)

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St. John Valley.—W. Pugsley, Q.C., & A. G. Blair, jr., are reported to have had a satisfactory interview with the New Brunswick Government in reference to the construction of this line from Fredericton to Woodstock, N.B., south of the St. John River. The Government is said to have decided to subsidize it, & the Dominion Parliament has already done so. (Aug., pg. 237.)

Tilsonburg, Lake Erie & Pacific.—The ratepayers of Ingersoll have voted \$20,000 towards the extension of this line from Tilsonburg to Ingersoll. The charter empowers the Co. to build from Port Burwell to Woodstock, Ont. The present line runs from Port Burwell to Tilsonburg, 20 miles. The Dominion Parliament last session voted a subsidy for an extension of 28 miles from Tilsonburg to Ingersoll or Woodstock. T. Mackie, C.E., is now locating the line beyond Tilsonburg. An unconfirmed report says that when the extension is built the line will be operated by the Baltimore & Ohio Ry., which will establish a line of coal ferries between Fairport, Ohio and Port Burwell. (June, pg. 99.)

Toronto, Hamilton & Buffalo.—A Hamilton report says that although this Co. has purchased the right of way, it has abandoned for the present the building of the proposed spur to the northeast part of the city. The Co. recently applied to the city council for an extension of time for completing the spur line to the end of 1900, & to have the exemption in connection therewith commence on Jan. 1, 1900. (May, pg. 137.)

White Pass & Yukon.—About $1\frac{1}{2}$ miles of

tion of the line from Cariboo Crossing, at the northeast end of Lake Bennett, & between Lake Bennett & Lake Nares, by way of the Watson Valley to the Lewes River below the White Horse Rapids, some 40 miles. Grading has been started, rails have been shipped from Vancouver, & as the work is comparatively easy, there not being much rock or heavy cuttings, it is hoped to have this section built by the opening of navigation next spring. It will do away with the necessity of making portages & transferring from steamer to steamer at the rapids. Pending the completion of the line along the east side of Lake Bennett transfer barges are likely to be used to

Last session the Dominion Parliament voted a subsidy for this line, 6 miles, from Cross Creek Station, Canada Eastern Ry., to Stanley village.

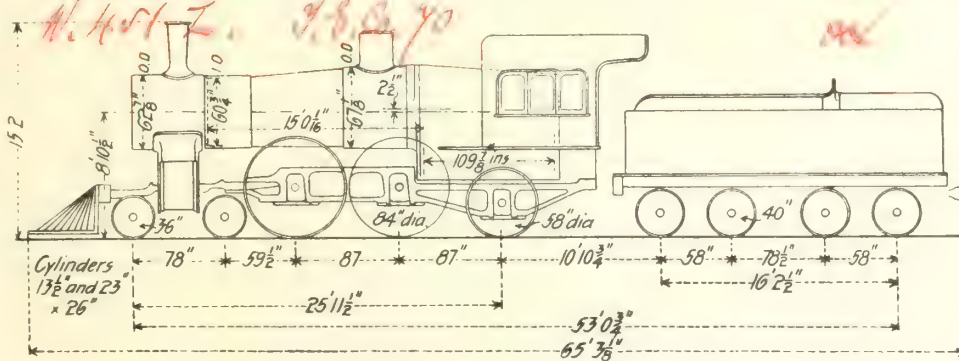
Canadian Pacific Equipment.

From the design of R. Atkinson, Mechanical Superintendent, three heavy fast passenger locomotives of the Atlantic type have recently been built at the Co.'s shops at Montreal, for the purpose of hauling high-speed express trains over the new short line between Montreal & Ottawa. The distance is 111.4 miles, & is at present covered in 2 hours & 25 minutes. On the schedule for which these locomotives are built, it is intended to reduce the time to 2 hours, with 2 or 3 stops & 4 or 5 slow-ups for diamond crossings, etc., & the running speed will be about 80 miles an hour.

The cylinders are of the Vaucrain compound 4 cylindertype. The large driving wheels & trailing

wheels are of cast steel. The cab is built of steel about $\frac{1}{8}$ in. thick, with the front rounded off, & has a clean smooth finish without rivet heads or bolts. It is lined with wood, with an air space between the wood & plate of $1\frac{1}{2}$ inches.

The tank is of a new design & exceptionally large, having a capacity of 4,500 imperial gallons or 5,400 American wine gallons, which is sufficient to take the train through from Montreal to Ottawa without stopping for water. The back of the tank is rounded off like a whaleback steamship, so that any water

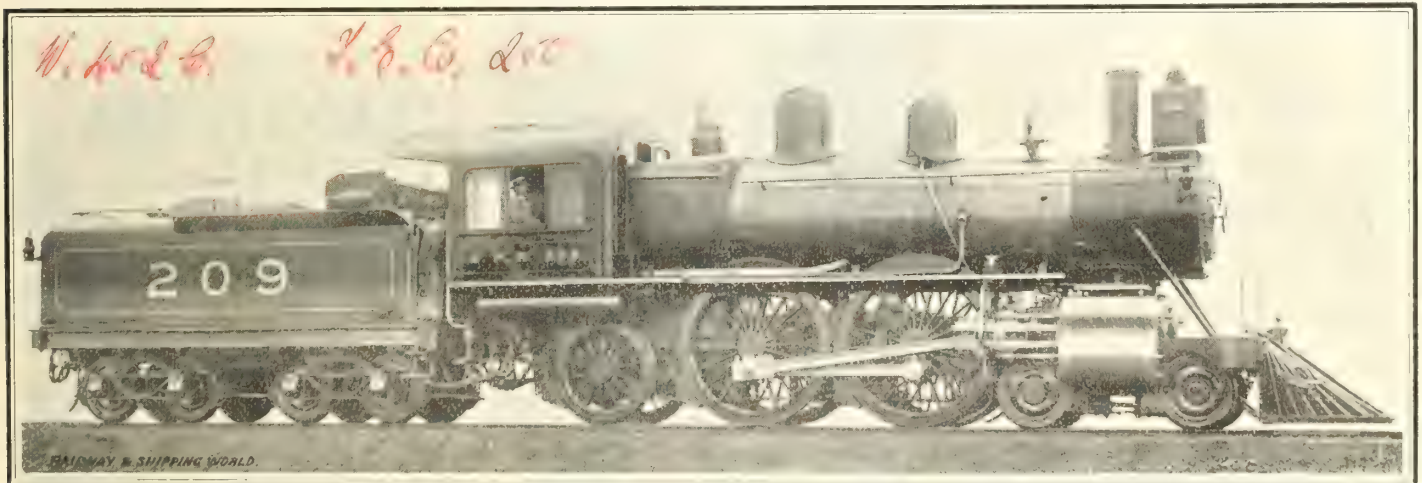


C.P.R. ATLANTIC TYPE LOCOMOTIVE.

convey cars across the lake. (Aug., pg. 237.)

The Chilkoot aerial tramway, owned by the W. P. & Y. R. Co., has been put in good repair recently; 2 towers have been replaced, the wire cable, where worn, has been repaired, & snow sheds have been constructed at several points. The engineers have been retained at the power station, & it is expected the tramway will be used during the winter should the steam railway become blocked by snow. (June, pg. 167.)

York & Carleton County, N.B.—A recent despatch from Stanley, N.B., said:—"The



CANADIAN PACIFIC RAILWAY ATLANTIC TYPE LOCOMOTIVE.

snow sheds are being built on the line between Skagway & Lake Bennett. A rotary snow plough has been purchased, & the management expresses the hope that it will be possible to operate the line throughout the winter. This Co.'s present line extends from Skagway to Lake Bennett, 41 miles. In the extension of the line towards Fort Selkirk, the water stretches are evidently to be used, at first at least, as much as possible. The route along the east side of Lake Bennett, some 27 miles, is very heavy, & is not likely to be gone on with for a time, until Dominion or Provincial aid is secured. A contract has been let to Mr. Heney, of Ottawa, Ont., for the construc-

plans & profiles of the York & Carleton County Ry. have been prepared by Mr. Ruel, C.E. The President of the Co., Dr. Moore, had an interview with the Minister of Railways recently regarding the contract for the construction of the road. It is understood the interview was highly satisfactory, & that the contract will be signed in a few days. The N.B. Government's subsidy will also be given when the contract is made with the Dominion. The President is in correspondence with parties regarding the grading & the supplying of sleepers. The outlook is very hopeful for the immediate construction & completion of the road.

which overflows will run off. The coal space is made hopper shape, & the coal capacity is about 8 tons, being sufficient for the round trip. The tank is mounted on a heavy steel frame made of 10 in. channels, & is provided with heavy metal trucks & axles with 5 x 6 in. journals.

The engine & tender truck wheels are of wrought iron, steel tread, & rail wheels of engine & tender have clip rings. The whole engine & tender, including the truck, is equipped with the Westinghouse high speed brake.

The fast trains have not yet been inaugurated, as a portion of the line is being double

tracked & laid with 100 lbs. rails. The engines are remarkably smooth riding which is especially noticeable on curves.

The Mechanical Department of the C.P.R. made a record in the time of getting out the first engine. The design was commenced by Mr. Atkinson on the morning of May 1, all materials were procured & the first engine was in steam on July 3, nine weeks from the date of commencing the design, & after going on trial trip & being cleaned & touched up, was sent for inspection to the Windsor St. Station on July 6. This time could have been beaten by some days, if the heavy freight traffic in the country had not delayed transportation of materials.

The two engravings on page 297 show the principal features of the engines. Following are the general dimensions, etc.:

Fuel.....	soft coal.
Gauge of track.....	4 ft. 8½ in.
Total weight in working order.....	159,000 lbs. estimated.
Weight of drivers.....	70,000 "
Total weight of engine & tender.....	274,000 "
Driving wheel base.....	7 ft. 3 in.
Frame wheel base of engine.....	25 ft. 11½ in.
Total wheel base of engine & tender.....	33 ft. ¾ in.
Cylinders.....	13½ in. & 23 in. x 26 in.
Boiler.....	Belpaire with extended wagon top.
Diameter at smallest ring.....	60½ in. inside.
No. of tubes.....	284
Diameter of tubes.....	2 in. outside diameter.
Length between sheets.....	15 ft. 1-16 in.
Firebox.....	9 ft. 17½ in. long x 3 ft. 6½ in. wide inside.
Working pressure.....	210 lbs.
Diameter of driving wheels on tread.....	84 in.
Diameter & length of journals.....	8½ in. x 12 in.
Diameter of engine truck wheels.....	36 in.
Diameter of journals.....	6 in. x 10 in.
Tender frame.....	steel.
Tank capacity water.....	4,500 imperial gallons.
Tank capacity coal.....	8 tons.
Brakes.....	High speed Westinghouse American.
Tender axles, steel.....	Steel, Peck & Tozer.

The cars recently turned out of the Co.'s Montreal shops for the Montreal-Ottawa fast run are without doubt the triumph of car building up to date & reflect high credit on Master Car Builder Apps. The two trains each consist of baggage car, combination 2nd class & smoker, a 1st class car & a parlor car. The interior of the parlor car is finished in mahogany & satin wood, the bevelled glass windows are large, the seats are of dark green plush & the ceiling is decorated in dark

green & gold. The interior wood work is very handsomely carved. The car contains a ladies' drawing room & a smoking room. Special attention has been paid to the lavatories. The 1st class car is finished inside with the same woods as the parlor car. The combination 2nd class car & smoker is fitted with revolving wicker chairs. The whole train is lighted by electricity, generated from the axles.

A recent press despatch from Montreal stated that the Co. had placed orders for some 30 or 40 locomotives with U.S. manufacturers, that this had been done owing to the machinists' strike & that the Co. would close its locomotive shops & place its orders in the U.S. in future. We have been unable to secure either a confirmation or denial of this from official sources. Another report states that an order for 12 compound consolidation locomotives has been placed in the U.S., delivery to be made in May next. It is said they will weigh 150,000 lbs. with 133,000 lbs. on the driving wheels, & have 21 in. & 33 in. x 26 in. cylinders; 57 in. driving wheels; Belpaire boilers with 255 tubes 2 in. in diam. & 12 ft. 11 11-16 in. long & a working steam pressure of 200 lbs.; fireboxes, 9 ft. 17½ in. long & 3 ft. 6½ in. wide, of steel, & a tank capacity for 4,000 gals. of water.

The Co. is building at its own shops 400 box & 60 furniture cars. The box cars are 35 ft. long, 8 ft. 5 in. wide inside, 7 ft. 3 in. high inside & weigh 31,000 lbs. The furniture cars are 45 ft. long, 8 ft. 6 in. wide & 9 ft. high inside. All are being equipped with Westinghouse air brakes.

A report that the Duluth, South Shore & Atlantic was about to buy some steel cars is officially denied.

The Minneapolis, St. Paul & Sault Ste. Marie has ordered 40 refrigerator cars & is asking bids on 1,000 box cars.

Improving North-West Live Stock.—Mention was made in our last issue of the intention of the C.P.R. Co. to expend a considerable sum for the purpose of improving the breeds of live stock in Manitoba & the Terri-

tories. A few animals are being sent in this fall.

Ball Bearing Jacks for Export.—A. O. Norton, manufacturer of ball bearing jacks, Coaticook, Que., advises us he has just shipped a large order to Denmark, & that several other important orders for export to India, Australia & South Africa, have recently been received.

Rutland R.R.—It was recently reported in the daily press that arrangements were about completed by which this Co. would secure an entrance into Montreal, independently of the Central Vermont & its connections, & that the new route would be established by the acquisition of the United Counties Ry., from Lacolle Jct., by St. Johns & Iversville, thence by the Montreal & Province line. We are informed that the whole story is a fake, entirely without foundation in fact.

Elevator Commission.—At the last session of the Dominion Parliament an appropriation was voted for the expenses of a commission to investigate the grain elevator question in Manitoba and the Territories. The commission has been appointed as follows: Judge Senkler, of St. Catharines, Ont.; W. F. Sirett, M.P.P., Glendale; C. Castle, Foxton, & W. Lothian, Pipestone, the three last named being Manitoba farmers. C. N. Bell, Secretary of the Winnipeg Board of Trade, has been appointed Secretary of the Commission.

The Fairbanks Co. has this year made the following sales of railway track scales through its Montreal office:—To the C.P.R. 3, for Vancouver, Winnipeg & Sharbot Lake; G. T. R. 5, for various points on its line; Canadian Northern Ry. 1, for Winnipeg; Algoma Central Ry. 2; Dominion Coal Co. 2; Dominion Iron & Steel Co. 1; Cumberland Ry. & Coal Co. 1; Granby Consolidated Mining & Smelting Co., Grand Forks, B.C. 1; Dominion Cotton Mills Co., Magog, Que. 1; Laurentide Pulp Co. 1; Nova Scotia Steel Co. 1. The total length of these scales is 742 ft., & the total capacity over 3,000,000 lbs.

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THE CANADIAN ROADMASTERS' ASSOCIATION.

The third annual convention opened in the Temple Building, Toronto, Sep. 20. President W. Shanks, in taking the chair, said: In opening this our third annual convention I may say, before commencing the business, that I am very much disappointed that there are not more of our members with us. I fully expected that at this meeting we would have a goodly number, but there may be more in later on. I think it must be that a great many of our roadmasters really do not appreciate the benefit derived from a meeting of this kind. Perhaps when the good to be obtained from these gatherings becomes better known there will be a larger turnout. I will not attempt to take up any more of your time just now, but will proceed to the business in hand. The first in order would be the reading of the minutes of the last annual meeting, but as they are rather long, perhaps we had better pass that over, & take up the Secretary-Treasurer's report.

The Secretary-Treasurer, J. Drinkwater, reported a membership of 41 in good standing; an expenditure of \$6.42 had been made since Jan. 31st, with receipts amounting to \$8, leaving a balance on hand of \$63.58. The report was adopted.

The Secretary then called the roll as follows. Those before whose name an asterisk is placed were present: A. Black, C.P.R., Pogomasing; *J. R. Brennan, O. & G.R., Ottawa; W. Cooper, C.P.R., Three Rivers; J. Coughlin, C.P.R., White River; *J. Drinkwater, C.P.R., Winchester; A. Gordon, C.P.R., Parkdale; *J. Graham, C.A.R., Ottawa; *Thos. Graham, C.A.R., Parry Sound; F. W. Green, C.P.R., Fort William; J. Henessy, C.P.R., Montreal; *T. Hickey, M.C.R., St. Thomas; *F. J. Holloway, C.P.R., Parkdale; D. Jelly, C.P.R., Nepigon; *J. Jelly, C.P.R., Carleton Junction; H. L. Johnston, C.P.R., Nakusp; M. Keefe, N.Y. & O.R., Ottawa; W. Kelly, C.P.R., Sudbury; Thos. Landers, C.P.R., Farnham; J. Leslie, C.A.R., Ottawa; R. H. Lowe, C.P.R., Regina, N.W.T.; *A. McAuley, C. P. R., Toronto; *A. N. McLennan, S. & L. R., Glace Bay, N.S.; J. Malloy, C.P.R., Smith's Falls; Wm. Moe, C.P.R., Sherbrooke; M. Morin, C.P.R., St. Therese; G. Munroe, C.P.R., Kamloops; *E. Murphy, C.P.R., Woodstock; E. Myers, C.P.R., Smith's Falls; W. O'Donnell, C.P.R., Chisleau; W. Rose, C.P.R., London; Geo. Seamen, I.C.R., Moncton; J. Shanks, C.P.R., Montreal; *R. Shanks, C.P.R., Mattawa; *W. Shanks, C.P.R., Carleton Jct.; J. Telfer, C.P.R., Calgary; W. Wallace, C.P.R., Ottawa; R. Watters, M. & N.W.R., Portage la Prairie; J. Yeo, I.C.R., Riviere du Loup.

The Secretary reported correspondence with a number of railway managers, etc., about the convention, most of whom had replied they would arrange leave of absence & transportation for their roadmasters who wished to attend.

The reports of committees were then taken up.

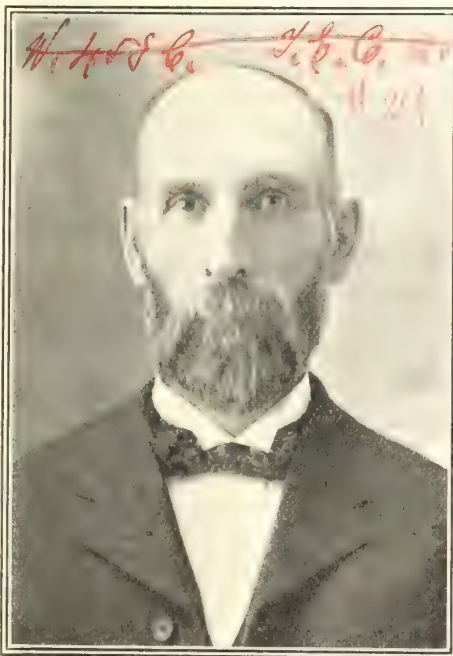
TRACK TOOLS.

The Committee, J. Drinkwater, A. McAuley & W. Shanks, reported as follows:—In our opinion it is economy for any railway company to furnish its trackmen with the best & most suitable tools. They should be so designed as to enable the men using them to accomplish the greatest amount of labor without expending a superfluous amount of energy in so doing, by reason of clumsy or improperly designed tools; & they should be so constructed that the parts which require great strength & are subjected to great strain or wear, should be of a quality of steel best adapted to withstand the same, thereby reducing to a minimum the weight of certain tools where strength & not weight are desired, also decreasing the load trackmen have to carry

about on their work, as well as decreasing expense to the railway companies, as most tools are purchased & sold by the pound. The committee believe that these tools can be best & most cheaply obtained off concerns which make a study of these points in track tools, & which are supplied with the proper facilities to incorporate them in the same.

The adoption of the report having been moved it was discussed as follows:—

T. HICKEY.—I notice that this report states that these tools "can be best & most cheaply obtained off concerns which make a study of these points in track tools, & which are supplied with proper facilities to incorporate them in the same." I agree with the Committee that these concerns can make tools cheaper than we can in our railroad shops. The Roadmasters' Association of America had up the question of tools some seven or eight years ago. I was one of the Committee, which met during the year at Toledo. Every member of the Committee was present & brought some tools with him—each member brought a tool & some more than one—and we got quite an assortment. From those we worked there & designed what we thought



W. SHANKS,

President Canadian Roadmasters' Association, 1897-99.

was most suitably adapted for the purpose. We got the privilege from one of the companies to use their shop for making & changing the tools, & I think we got up a number of tools that were very good. Clay picks, it was not a very hard matter to decide on that tool, but on the question of a tamping bar, we went into that quite extensively & changed & planned one that we thought was good. Then there were spike mauls & other tools. The most important were the claw bars. It took us some time to design one that we thought was right—that is, one that would readily take hold of a spike in a tie & would pull it out without bending. We accomplished the making of a claw bar, & it was adopted as a standard. The M.C.R. is using that particular claw bar to-day, & our foremen are very very well satisfied with it, & it would be a hard matter, I believe, to change it for any other, so far as the foremen are concerned.

The report was adopted.

EXPANSION OF DIFFERENT WEIGHTS OF RAILS.

The committee, J. Shanks, J. Leslie & J. Graham, reported as follows: The expansion

required in 30-ft. rails at different temperatures is as follows:

30° below zero, 5-16 of an inch.	
0°	1-4 " "
30° above zero, 3-16 " "	
60°	1-8 " "
90°	1-16 " "

The above expansion applies to rails from 56 to 73 lbs. per yard.

T. HICKEY.—This is an important question & one we should not lose sight of. You have all noticed the expansion on different roads, & I have no doubt we have all heard the lamentable sound of the wheels passing over the joint where there is too much expansion. While too much expansion can be given, too little can be given as well. The expansion used by the Michigan Central is as follows:

From 7 degrees above to 30, 5-16 of an inch.	
30°	53, 1/4 " "
53°	76, 3-16 " "
76°	97, 1/8 " "
97°	120, no expansion used

We use iron shims so made that they cannot drop down below the head of the rail—that is, the whole shim cannot drop down—the shim can go down 1 1/4 in. but not entirely. These shims of course would be taken out before the train passes over the rail.

THE CHAIRMAN.—I would like to hear from all the roadmasters on this question; it is a very important one & there is a great deal of difference of opinion in connection with it. Perhaps Mr. Drinkwater has something to say about this.

J. DRINKWATER.—Mr. Hickey said this was a very important question & one that should not be lost sight of. It is something I have given a good deal of thought to & I have been reminded very often of the subject in riding over my own division, & almost every division that I have been over. I forget whether Mr. Hickey said it was a melancholy sound, or what, he heard at the joints—something like that anyway. It is a thing I have never been able to come to any definite conclusion about, as to how much expansion would be right. Mr. Hickey has truly said that we can give too much & we can give too little. The object of allowing for expansion at the rail joints, to my mind, is to provide against the rail kicking out of the road—that is the only reason why there is an opening left at a joint. I have never had charge of any track that I did not think the joints were too open, that there had not been too much allowance for expansion. I have been furnished with a set of shims, yet I find it very difficult to use them & get the expansion just as the blue print lays it down. We start out in the morning at 7 o'clock to go to work, & probably it is 20 above zero, or down to zero. We set up a leg of rail, or put it in the track—generally, changing rails, we set up a leg of rail & use our shims & put on our fish plates, or whatever joint fastening we may use, tighten the bolts fairly well & remove the shims as we go along 7, 8 or 10-rail lengths. The atmosphere goes up, & at 12 o'clock probably it is 90 in the sun, & you walk over that same leg of rail & find about the same opening in those joints as there was at 7 o'clock—the fish plates grip the rail & carry it ahead & you have the same openings. After you have laid 10, 15 or 20 miles of track, & in Nov. or Dec. you find the joints are all too open. That has been my experience. I think it is the most difficult thing trackmen have to contend with. In laying new track the same conditions exist—the ties have nothing to hold them, the resistance of the ties is less than on ballasted track & the whole thing walks bodily ahead as the track is laid. I re-laid a piece 6 years ago in June & I put 4 ft. more rail in 1/4 of a mile than I took out. The foreman said, "That will go over the fence in a week." It has not, those rails are about as good on the ends as when they were put in. I have seen lots of rails used up on the ends—one of the

causes was that the joints were too open; the more opening you have at the joint no doubt the better stroke you get. Rails flatten down worse at the ends in winter than in summer, & I know no reason except that the joints are more open in the winter than in the warm weather. The rail is certainly not any softer. I think you will all agree with me that that is about the way it is. I am not in a position to tell you any methodical way of bringing about an improvement so that it will be perfect at all. It is a class of work that is pretty hard to get just right, & it is not hard to make a table to go by, almost anybody could do that; I think I could make a table myself, giving the figures, temperature, etc., but it is a great deal more difficult to get your rails down in accordance with that table, whatever it may be.

T. HICKEY.—I would like to ask Mr. Drinkwater if he couples them together before he puts them in.

J. DRINKWATER.—I generally do.

T. HICKEY.—How long a stretch?

J. DRINKWATER.—It depends a good deal on where we are working & how the train service is, etc. I generally try to put in a quarter of a mile, very often put in half a mile without a break.

T. HICKEY.—In using the expansion shims I have just spoken of, I think if the rail is properly laid there cannot be any mistake made as to the amount of expansion. Our practice is that we lay one rail at a time, & the foreman who does the work carries with him a thermometer, he does not carry it in his pocket, either. He changes his shims according to the temperature, laying on a rail at a time; so that the cold snaps do not affect your rail where it is laid in that way as though you put up a string of half a mile or three-quarters of a mile in the morning & put it in at noon.

J. DRINKWATER.—I may say that we have been using thermometers, but in any rails I have laid we have always coupled them together in strings varying from 10 rods to a mile. I have put in a mile of branch rail where there was not much traffic. We have never laid any with one rail at a time as Mr. Hickey speaks of.

THE CHAIRMAN.—I think the proper way to lay new rails is to lay one rail at a time. That is the way I have adopted of late years.

J. DRINKWATER.—I don't see how that overcomes the difficulty. You must have an opening at one end of the rail, & you have a new rail at one end of it & either a gap or an old one at the other end. The temperature does not stop while you place that rail in position & fix it there, it keeps going up all the time or going down. If you tighten up your bolts, any joint fastening I have ever seen grasps it tight enough to carry the rail along. A joint fastening that won't do that is not very much good, to my mind. I cannot see where laying one rail at a time will get over the

difficulty, unless you leave your fish plates off or not tighten your bolts.

J. GRAHAM.—In the last three years we have re-laid about 60 miles of 72 & 73 lbs.—about 20 miles 73 & the balance 72. The way we do, we link up half a mile or a mile, just according to what time we have between trains. I use oak shims for expansion, & leave them in, don't take them out; 3-16 is the size I use. Last year in Nov. I relaid about 8 miles. This spring when it got warm we had to cut 30 inches out of 4 miles. When the bolts were in it would only allow 3-16 of an inch expansion. I am certain if we had not cut the rails in May or June that they would have kicked in that 8 miles laid in Nov. This summer I laid about 13 or 14 miles in Aug. of 73 lb. steel. I think one has to be very careful about the expansion. I find that the rails are liable to buckle, which I think is just about as bad as having them pound a little on the ends.

THE CHAIRMAN.—I would like to ask Mr. Hickey if he considers there is any difference in expansion between the different weights of rails.

T. HICKEY.—No, I don't think there is enough to make a difference. There may be a very slight difference, but it is a hard matter to get at & to get at accurately. I have made some tests in that direction with a light section of rail & also a heavier one, & I was unable to detect any difference. I might, however, have gone into it more thoroughly, but my time was limited. It would require a great deal of time & a great deal of care to get at the difference, if there is any. The difference is so slight that I don't think we should make any mention of it. I would like to say a word as to using wooden shims. I used them some 16 or 20 years ago. Where you use oak shims they turn the rail ends & bunt up the rail you set them in, leaving very little expansion. I found I had some trouble with the wooden shims & discontinued using them.

J. GRAHAM.—I think it depends a good deal on the foreman who is laying the steel, how the wooden shims act—if he makes his men be careful when they are fitting the rails together, all right. I suppose if he is careless & lets them come back with the other rails as hard as they wish the wooden shims will not amount to much.

T. HICKEY.—In regard to that, as I understand it, the wooden shims are used for a given expansion, which has to be allowed between one rail & another, & that opening is filled with hardwood. I don't understand just how that opening is allowed for expansion if there is a hard piece of wood in there.

It was decided to postpone the further discussion of the report.

PLACING OF TIES AND TRIMMING BALLAST.

E. Murphy, Roadmaster C.P.R., Woodstock, Ont., Chairman of the Committee, reported as follows.

Thirty-foot rails should have ties uniformly spaced as follows:

70 lbs. a yard or lighter,	18 ties
70 to 80 "	" " 16 "
80 to 100 "	" " 14 "

Ties in main side tracks should be 24 in. centres, & in other than main side tracks 30 in. centres. In reference to trimming ballast I cannot give a better idea than to consult the C.P.R. standard. I have had my ballast for the past 16 years trimmed according to our present standard, & have found a great benefit from it. We all agree that the quicker we can get the water from the roadbed the better it is for the road.

The adoption of the report having been moved it was discussed:—

J. DRINKWATER.—I have an idea that probably Mr. Hickey would like to have something to say regarding this report. Although he has moved the adoption of it, I don't know whether he had anything to do with getting it up or not. Mr. Murphy sent it to me, & there may be things in the report that Mr. Hickey is not just in sympathy with. I got up with the intention of trying to make it clear for him to have something to say if he wished. There are things in it that I am not altogether in sympathy with. I have never had a track where the ties were too close together, not if we could equalize the spaces or distances. I have seen one rail with 18 or 19 ties under it & the next one to it with 11. I don't like them that way, no matter what the weight of the rail is. This report gives a 70 lb. rail & lighter, 18 ties. I think if the different weights of rail for the main line had been left out & 18 ties mentioned it would have been something near it, with the class of ties we use on our road. We get them all the way from 7 in. face to 14, or somewhere near there, & it is rather a difficult matter to get them spaced & have an equal bearing & an equalized support under the rail. I find in looking round that a great many roads have fallen into the idea, & adopted it, of having ties cut to a certain dimension. This way they can be equally spaced & the bearing & support of the rail thoroughly equalized. The same number of ties then would be under each rail of a corresponding length, & the space, whether spaced from centre to centre, or spaced between bearings, would be all the same. This summer we started spacing our ties—hewn ties & sawn—varying



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Erie R. R. Transfer & Clipping House, Chicago, Ill.	"	100 cars in 10 hrs.
Manchester Ship Canal Co.'s Elevator, Manchester, Eng.	"	1,500,000 "
Burlington Elevator Co., Peoria, Ill.	"	500,000 "
Canada Atlantic Railway Elevator, Coteau Landing, Que.	"	500,000 "
Northern Grain Co., Manitowoc, Wis.	"	1,350,000 "
Union Elevator, East St. Louis, Ill.	"	1,100,000 "
Montreal Warehousing Co.'s Belt Conveyor System	"	"

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PLANS AND SPECIFICATIONS.

very much in size on the face, & we have been making a space between bearings of 14 ins. The tie is supposed to be at least 8 ins. I think that system is better than a given distance between centres, where ties vary in size. I think you get a more equalized bearing for your rail that way. Of course you have no idea then how many ties you are going to have under your rail—it depends altogether on the size of the face—some rails have 16, 17 & down as low as 15. When you put in 7 in. ties together & 24 in. centre it leaves your spaces pretty wide. Probably the next 3 or 4 ties may run 11, 12 or 13 ins. with a 2 ft. centre & your spaces are very narrow. Get on an engine & ride over a piece of track like that & you will find a hard spot wherever these large ties are. I am very strongly inclined to think lately that ties should be cut to a dimension, & should have a given size for the face; then there would be no difficulty & we could decide on the number of ties to put under a rail. I don't think, if ties were dimensioned say 6 by 8, that 18 ties would be any too many under a 100 lb. rail. The trimming of ballast is a thing that people differ about. I don't know that it would be policy on my part to criticize very much the standard laid down for the C.P.R., as I have charge of a division on that system; yet I have been able to find fault with & reason out a pretty strong case against this style of trimming of ballast. I contend it is detrimental to your ties in the first place, & next that if you have a good quality of gravel, with the exception of when the ground is frozen that it provides no drainage whatever. If you have a fair supply of good gravel under your track, almost every drop of rain that falls on it goes down through the gravel, it does not run over the top of it. If I saw water running over the side of the slope, as shown on this blue print, to any great extent, & no frost in the ground, I would come to the conclusion that you had not really good ballast, it was not gravel altogether, something mixed with it that the water could not get through. I have seen some other cuts of trimming of ballast on the C.P.R. & they show cinders trimmed up square with the surface of the ties, also rock ballast & coarse ballast. Of course I think it is necessary to trim dirt ballast in this way, as water will not go down through it, & if it does it will not do the road any good. I believe the ordinary tamarack or hemlock tie will last at least a year longer with the ballast up flush with the surface of the tie. I have taken hemlock ties out of farm & other crossings that had been in there 11 years & perfectly sound, only cut down with the rail. The reason was that they were protected with a covering. We don't pretend to be able to bury them all up like that, but if you leave 2½ ins. or so of the end bare you expose it & before it is rotten it begins to shake to pieces. I believe in trimming up ballast flush with the ties if you have good ballast.

T. HICKEY.—I would like to say a word with regard to the placing of ties. If we allow a given number of ties to a certain length of rail I don't see how you are going to get that number of ties if you are going to space between the ties, that is, if you get some hewn ties & some sawn ties & go to work & space them uniformly between the ties, then I cannot understand how you are going to get a certain number of ties under the rail. Our practice in placing ties is this: We allow a certain number of ties to the rail for certain sections, & we have a 15 foot pole marked for the different sections of rail. The pole is marked at intervals for the centre of each tie, & when a man wants to put in a tie or more the pole is laid on the rail with the end of it up to the end of the rail & he marks where the tie is to go in according to the mark on the pole. The old tie comes out. It is possible that you would have to shift another tie to get this one in, but he will get that tie in where it belongs. And when the other ties

are renewed they are all spaced uniformly. Where there are a number of large ties & some small ones the large ones are not all put in together, neither are the small ones put in together. If a man puts in a large tie he usually puts in a small one next to it & that divides up the space more uniformly. If they are all sawn ties it is not necessary to do that. The question of handling ties is really very important. The ties perhaps cost more than the rail does, & for that reason I don't think that too much care or attention can be given to the handling of them & the best method in which to space them, as a result of which they would give better service.

THE EDITOR OF THE RAILWAY AND SHIPPING WORLD.

This report gives the C.P.R. standard ballast section on tangent, as used on the Ontario & Quebec, Atlantic & Eastern division, & I thought it might interest the members to see the standards of some of the other roads. I have here the Michigan Central double track, the Intercolonial & the western division of the C.P.R., & place them at the disposal of the members.

J. DRINKWATER.—I did not intend to say that we always put 3 or 4 small ties together & 3 or 4 large ones. It is something I never do when we can avoid it. But I have seen where they were taking out & renewing ties that there was a tie probably with 12 or 13 ins. face that had to come out, & the largest tie within a mile of it did not have more than 9 ins. & you had to put it in. I have spaced ties from the centres ever since I have been in the railway service. I never spaced them any other way until this year. I said, I think, in my former remarks that in spacing between the ties, the surface bearing of the ties, that we got for some rails 17, 16 & down as low as 15, according to the size of the ties. I did not say we could put

any specified number of ties under a rail & have them equally spaced unless the ties were cut to a dimension. That is what I intend to convey to you as being my opinion of the matter. I have always spaced ties & put

them in just as Mr. Hickey spoke of. I did not always use a pole, but I have used a pole & we have a pole on every section. Even then you don't get your bearing equalized. It is utterly impossible to equalize your bearing by putting ties under the rail either by a given number or spacing them from the centre or even between the ties. It cannot be done unless your ties are all the same size.

The report was adopted.

ELECTION OF OFFICERS.

At the afternoon session officers were elected as follows:—President, J. Graham, C.A.R., Ottawa; Vice-President, R. Shanks, C.P.R., Mattawa, Ont.; Secretary-Treasurer, J. Drinkwater, C.P.R., Winchester, Ont.; Executive Committee, J. Yeo, I.C.R., Riviere du Loup, Que.; J. R. Brennan, O. & G.R., Ottawa; A. N. McLennan, S. & L.R., Glace Bay, N.S.; F. J. Holloway, C.P.R., Toronto.

The minutes of last year's meeting were adopted.

RAIL JOINTS.

The committee, J. Drinkwater & W. Shanks, reported last year as follows, the discussion on the report being adjourned until this year: In connection with our work there is no one thing of so much importance or that affects tracks so much as the joints. Considering from this fact the importance of the subject & the amount of money, time & study that has been expended on attempting to perfect rail joints, & yet your committee are strongly of the opinion that the best that has been produced that they have had practical experience with is still lacking, or has failed to fully meet the requirements. Our experience is from the old wrought iron chair to the plain fish plate with the tie directly under the joint. Then came the 2-tie angle bar, & later the 6 hole 40 ins. angle bar supported with 3 ties, & later still the 44 ins. angle bar supported the same as the 40 ins. with 3 ties, & at present we have a 4 hole angle bar supported on 2 ties.

Our experience has been that wherever joints have been supported with a tie directly under them, whether with the plain fish plate or the 3 tie 6 hole angle bar, the results have been better than with the 4 hole angle bar with the joint suspended between ties. The new angle bar with 4 bolts & 2 ties suspended joint is, we consider, a decided improvement over the old one in its general make up. Instead of slats in the edges for spikes the holes are through the web or flange. This gives the full benefit of the 4 spikes against spreading, but with the improvements in this joint over the old 2 tie suspended joints we have been unable to see where the defect has been remedied, or the cause removed, or the necessity provided for that we have found to exist with a suspended joint.

The 40 & 44 ins. angle bars have the appearance of a waste of material & this, of course, means expense for which no benefit is derived.

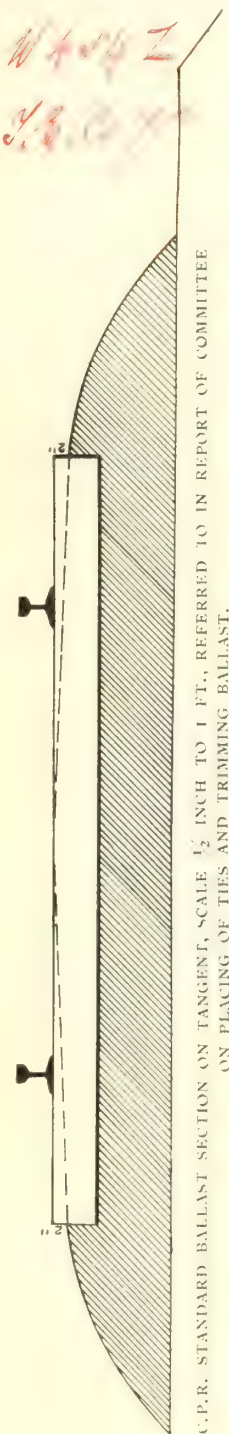
Up to the present our experience is, & we beg to report based on experience, that the suspended joint has been a failure & even with the improvements on the present suspended joint we do not feel free to recommend it as being all that it should be, but, to the contrary, believe that they must get their support from underneath & we consider that the energy spent & the efforts put forth to produce a satisfactory joint have not been productive of the result desired.

The report having been read, it was decided to postpone its further discussion.

SUBJECTS FOR NEXT YEAR.

THE CHAIRMAN.—The meeting is now open for discussion as to the subjects for our next annual meeting. It will be necessary to couple with the suggestion of each subject the names for the committee.

The following subjects were selected:—The



Creeping of Rails. Committee, J. Jelly, J. Brennan & T. Hickey.

The Best Mode of handling steam shovels, embarking & unloading ballast & all work to be done in connection with ballasting, etc., filling freights, & all such work as that; taking so fully all the best devices & what it is really necessary to have to do work of that kind with. Committee, F. Murphy, A. McAuley & T. Graham.

The Renewal of ties, taking the best method of handling the ties from the time they are received on the section until the old ties are piled up, giving the cost of changing the ties or putting them on the track, & of each kind of ballast. Committee, J. Drinkwater, J. Leslie & J. R. Brennan.

MONTREAL CHOSEN FOR 1900.

THE CHAIRMAN.—The next thing is as to where our next meeting will be held & when.

R. SHANKS.—I will move that our next meeting be held in Montreal in the second week in Nov., 1900. My object in naming Nov. as the month is that there are quite a number of the members who live at such a distance that they were unable to get in in Sep. I think if we put it in Nov. that there cannot be much excuse.

J. DRINKWATER.—I have been at Detroit attending the American Roadmasters' Association convention which was held there last week, & found there seems to be a general feeling with the different associations that they have been holding their meetings too early in the season. The American Association had their meeting this year earlier than we have, & had the first choice. They have chosen the second Tuesday in Nov. as the date of their next meeting. I have the pleasure & satisfaction of being a member of that association & would like very much to attend their next meeting, & of course it would be impossible for me to be in Montreal & Los Angeles on the same day. On that account I think it will be worth our while to fix our meeting early enough so that the two will not conflict. It will take probably four or five days to get to California, & I am pretty strongly inclined to think that after the American meeting is over it would be too late for ours. I don't think Mr. Shanks was aware that the American Association had changed its date. I know down round Montreal I have been running a snow plow pretty early in Nov., & that is considered the most important work that we have. I find the last half of the fall is always the busier. I also find that if a man does not want to attend a convention of this kind he does not go to it, & if he wants to go & tries really hard he gets there. I would be in favor of holding the meeting later than we have been doing; at the same time I don't think it would be advisable to fix the same date that the American Association will have

its meeting. I am sure we would not have Mr. Hickey with us if we took anywhere near the same date.

T. HICKEY.—The reason for putting the date of the American Roadmasters' Association meeting in Nov. was on account of going to a warm climate. It was put ahead for next year only.

J. DRINKWATER.—I meant to mention that the date of the meeting was only named after the place had been decided on. I suppose, probably, if a place of meeting had been selected down east, or anywhere near this section, that the date would not have been so late.

R. SHANKS.—In view of what Mr. Drinkwater has just acquainted us with I will move that the date be Oct. 17 & 18, 1900, instead of the second week in Nov. It is not very convenient for roadmasters to be away at the very end of the month nor at the very first. F. J. Holloway seconded the motion, & it was carried.

THE EDITOR OF THE RAILWAY & SHIPPING WORLD.—Will you allow me to say, on behalf of the Track Supply Association, that in connection with the Montreal meeting I think it will be well for the Executive, if possible, to try & arrange so that the meeting, the headquarters & the place for the exhibits may be all together, as it was in Detroit, where everything centred at the hotel. It is much more convenient to have an hotel for headquarters, where you can have the meetings as well as the exhibits; have the whole thing together. I think this will meet the views of the supply men as well as the members of the Roadmasters' Association.

J. DRINKWATER.—The suggestion is a very good one, but it has come a little late to help us out any this year. Our finances are looking up well & everything is prosperous. Our members are all good payers; if they don't come near us, they send us the money, & I don't know of any reason why we should not go to the Windsor Hotel in Montreal, unless a better one is built. There are two or three hotels there with halls in connection with them. I don't think there is an hotel in Montreal that compares with the one in Detroit where the American Association met. But I fancy we can be fairly well fixed at the Windsor. I think I can promise you that arrangements will be made so that we can meet at the Windsor.

The following were appointed a committee to arrange for a place of meeting, etc., in Montreal: J. Hennesy, J. Shanks, W. Cooper, J. Drinkwater & F. E. Came.

VOTES OF THANKS.

R. SHANKS.—I move that a vote of thanks be tendered the members of the Track Supply Association for the very kind manner in which they have entertained the roadmasters on this

occasion. This was seconded by J. Graham & carried.

THE CHAIRMAN.—I may say to the supply men who are still with us, that I have much pleasure indeed in tendering them this vote of thanks from the members of this Association for the kind way in which they have treated us, & I hope that in time to come we will have larger gatherings, & that there will be more members at our meetings to appreciate your kindness and look over the supplies.

R. L. THOMAS.—On behalf of the supply men I may say that we will do all that we can to please you in the future, & we will try to help your Association to grow.

MR. CLARK.—I would like to mention that in 1879 I attended the beginning of the American Roadmasters' Association, & it only had seven members; that ought to be encouraging.

J. JELLY.—I beg to move that a hearty vote of thanks be tendered the management of the G.T.R., through General Roadmaster Ferguson, for their kindness in extending the courtesies of the road to us, & in providing us with a special car in which to visit Niagara Falls. This was carried unanimously.

J. JELLY.—Before we close I would move a vote of thanks to our President for the able manner in which he has filled his office since being elected.

F. J. HOLLOWAY.—I have much pleasure in seconding the motion.

J. DRINKWATER.—What Mr. Clark said about there being seven members in 1879 of the American Association, reminded me of the day that our President & I & three or four others met to organize this Association. I am very sorry that we have not grown faster, although we have not got anything to complain of so far as membership is concerned—we have something like half the entire roadmasters in Canada members in good standing to-day, & although there are not many here to-day, we have got them on the roll. There were 21 present, I think, the first day of last year's meeting, & we had a fairly good meeting. I think if we do not get completely discouraged, but endeavor to go on, when the features of this meeting become known, some of those who were too busy or too indifferent to be with us to-day, will kick themselves for the next three months. I am going to let them know pretty soon. THE RAILWAY & SHIPPING WORLD will give a detailed account of the whole thing; & each member will get a copy of the proceedings. I hope when we meet next year in Montreal that every member of the Association will be with us, & that by then we shall have enrolled

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as member every roadmaster in the Dominion. I am going to make a desperate effort. Every time I write to a roadmaster, if there is anything of any importance, anything I think would interest him, I write him about it, & send him all our printed matter just the same as if he was a member. It is pretty hard work when you have to get down to coaxing, but I am going to start coaxing next year & see if that will do something. If every member will make a personal effort to induce his neighbor on each side of him to attend these meetings, I think it will be beneficial. I am sure I am in sympathy with Mr. Jelly's motion thanking the President. I presume the President does not feel like putting this motion, & if no one else wishes to say anything, I will put it. The motion was unanimously adopted.

THE CHAIRMAN.—Gentlemen, I certainly appreciate your kindness in this respect. While I accepted the position of President of this Association at the time it was organized, it was simply because I was, I may say, forced to do so; nobody else would do it, & we had either to drop the matter or I had to take the position. At our next meeting it was the same thing. I fully intended to drop out of it last year, & would much rather have had someone else at the head of the Association. While we have not made much progress, I can only say that I have done what little I could, & that has not been very much, but I hope that in the future the Association will grow. I have great faith in this Association as being something that will be a great benefit to roadmasters, & I look upon it that anything that is a benefit to roadmasters in this respect is a benefit to the railways they are on. I fully believe that if our roadmasters realized the benefit that they would derive from attending these meetings, that more of them would turn out. I hope more will be present next time. I thank you sincerely for your kindness.

F. E. CAME.—I would like to say a few words in behalf of the Track Supply Association, if you do not object. The railway supply men of Canada & the United States are very anxious for the success of your Association, believing as they do that the more knowledge you have about the different devices the better able they will be to sell their goods. It means dollars & cents to the supply people to have you look at their wares & know what they are, so that you can decide intelligently. For this reason we have organized an Association, to be practically in connection with yours, to be known as the Track Supply Association. The object is to further your interests, & to try to make the conventions a success, financially & otherwise, by helping you to arrange your hotel accommodations, to have the devices so that you can see them, & give more or less of a systematic entertainment, which will not detract from the papers & the technical proceedings, but will help you to pass some of the rest of the time, & make the meetings as a whole pleasant & productive. We have done some few simple things this time, & next year we hope to be well organized, & to do better in Montreal. I think this method will help to increase your membership as well, if we have a concerted action.

The Convention then adjourned.

EXHIBITS OF TRACK SUPPLIES, ETC.

The following exhibits were displayed in the hall in the Temple Building, in which the Association met:

THE PAGE WIRE FENCE CO. OF ONTARIO, Walkerville, Ont., represented by R. Z. Rogers, Special Railway Salesman. Exhibits: Wire fencing, including the Page Coiled Spring Wire.

A. O. NORTON, Coaticook, P.Q. Exhibits: 2 Norton sure drop track jack, 1 Norton Automatic raising & lowering jack, & 1 Norton ball-bearing bridge jack.

F. E. CAME, Montreal. Exhibits: Samples

of the Servis tie plate, the Q. & W. tie plate & the Pearson jack; also model of the Macpherson patent safety switch block.

THE NATIONAL LOCK WASHER CO., Newark, N.J., represented by R. L. Thomas. Exhibit: Nut locks.

ROBERTS, THROP & CO., Three Rivers, Michigan, represented by W. H. Frisby. Exhibit: Sample of the Donovan improved pressed steel wheel.

THE RAMAPO IRON WORKS, Hillburn, N.Y., represented by R. J. Davidson. Exhibit: Automatic safety switch & stand.

THE BUDA FOUNDRY & MFG. CO., Harvey, Ill., represented by J. McKinnon. Exhibit: Steel wheel.

DILWORTH, PORTER & CO., Pittsburgh, Penn., represented by C. Stein. Exhibit: Samples of the Glendon longitudinal flange tie plates.

THE CONTINUOUS RAIL JOINT CO. OF AMERICA, Newark, N.J., represented by W. E. Clark. Exhibit: Sample joints.

THE WEBER RAILWAY JOINT MFG. CO., New York, represented by J. C. Barr & G. E. Daggett. Exhibits: Sample tee rail joint, step joint & insulated joint.

W. GOLDIE, JR., & CO., Pittsburgh, Pa., represented by W. Goldie, senr. Exhibits: Sample tie blocks, tie plates & spikes.

THE DIAMOND STEEL CO., Wilmington, Del., represented by R. Reece. Exhibits:



THE TEMPLE BUILDING, TORONTO,
in which the Convention was held.

Spikes, rail joints, rail-joint springs, tie plates & track bolts.

TRACK SUPPLY ASSOCIATION.

The supply men in attendance at the convention held a meeting Sep. 19 & decided to form an organization to be known as the Track Supply Association.

The following officers were unanimously elected: President, F. E. Came, Montreal; First Vice-President, R. J. Davidson, Hillburn, N.Y.; Second Vice-President, W. H. Frisby, Three Rivers, Mich.; Secretary-Treasurer, Acton Burrows, 33 Melinda Street, Toronto.

SOCIAL FEATURES OF THE CONVENTION.

On the afternoon of Sep. 20, the members of the Association, many of whom were accompanied by their wives, were the guests of the Track Supply Association, & enjoyed a charming drive in four-in-hand coaches through the principal business & residential streets of Toronto. In the evening they were entertained at one of the theatres, where an excellent vaudeville performance was witnessed.

At 11 a.m. on Sep. 21, a number of the members of the Roadmasters' Association & of the Track Supply Association were conveyed to the Niagara Falls in a special car attached to the G.T.R. express no. 9, the invitation

having been extended by General Roadmaster Ferguson, by kind permission of General Superintendent McGuigan. On their arrival at Niagara Falls station a special electric motor car of the Niagara Falls Park & River Railway took them to the Dufferin restaurant, where lunch was partaken of. The electric car was then taken to the Dufferin Islands, where a short time was spent, after which a rapid trip was made north to Queenston Heights, where Brock's monument was visited, Niagara Falls being again reached about 6 p.m.

The party having dined at the G.T.R. restaurant, the special G.T.R. car was again boarded, Toronto being reached about 9 p.m. after a most enjoyable day's outing, which was a great treat to those who were privileged to be present, & many of whom had not visited Niagara Falls before. While on the way from Niagara Falls to Toronto, a hearty vote of thanks was passed to the G.T.R. management for the courtesy shown, & several of the roadmasters expressed themselves in very warm terms as to the excellence of the track.

Railway Equipment Notes.

The Bay of Quinte Ry. is having 10 flat cars built.

The Caraquet Ry., N.B., has added another locomotive to its equipment.

Two locomotives have recently been added to the rolling stock of the Canadian Northern.

The Dominion Atlantic has placed an order with Rhodes Curry & Co., Amherst, N.S., for 10 flat cars.

The Moncton & Buctouche Ry. has ordered a passenger car from Rhodes Curry & Co., Amherst, N.S.

Ross, Barry & McRae, contractors for the Great Northern of Canada, recently purchased 5 flat cars from Rhodes Curry & Co., Amherst, N.S.

The Dominion Iron & Steel Co., Sydney, N.S., recently secured 8 freight cars from Rhodes Curry & Co., Amherst, N.S. The Co. has placed an order for a locomotive in the U.S.

The Canada Atlantic has built 500 freight cars at its Ottawa shops this year, & is about to build 500 more to be completed by next spring. These cars have a capacity of between 70,000 & 80,000 lbs. each.

The Sydney & Louisburg Ry. has added a 121-ton locomotive to its equipment. Orders have been placed for 50 steel cars of a capacity of 100,000 lbs. each & for a 2nd-class combination passenger car, the latter with Rhodes Curry & Co., Amherst, N.S.

The Great Northern of Canada's new equipment, for part of which orders have already been placed, will comprise 12 four-cylinder compound locomotives; 8 1st-class & 11 2nd-class passenger cars, 4 sleeping, parlor & dining cars, 8 baggage, express & mail cars, 300 box & cattle cars, 100 flat cars, 4 cabooses, 4 refrigerator cars, 4 snow plows, 25 hand cars & 25 push cars.

The London Times, in a recent article dealing with Russia's activity & enterprise in railway matters, announces that the Russian Government has issued a Ministerial order directing that by January, 1903, all freight rolling stock on all the Russian lines, both State & private, be fitted with the Westinghouse quick-acting brake. It is estimated that 1,200 locomotives & 30,000 freight cars will be thus fitted.

For the Intercolonial orders have recently been placed with Rhodes Curry & Co., Amherst, N.S., for 20 Wicks patent refrigerator

cars & box cars, the latter to be 35 ft. long & of 60,000 lbs. capacity. Four locomotives & 100 cars are being built at the shops at the line at Moncton. An order has recently been placed outside for 5 locomotives. A considerable amount of new machinery will be placed in the Moncton shops this year. About \$50,000 is to be expended in equipping freight cars with air brakes.

Grand Trunk Equipment.

Two new dining cars which have recently been put on between Suspension Bridge & Chicago are thoroughly up to date in every particular. They are 74 ft. over all & are equipped with standard wide vestibules, steel platforms & cowheel trucks with 33-in. steel tired wheels. Air signals are attached, an antitelescoping device affixed, & all modern appliances added. The general exterior appearance is similar to the new standard day coaches which are run on the system. The windows are glazed with heavy plate glass, all double. The dining-room is large, being 31 ft. 8 in. long, & will seat 30 persons comfortably. The general style of the interior design is colonial, the wood work being of quartered oak. The chairs are of oak upholstered in leather. The windows are decorated with draperies & the openings into the dining-room are provided with ornamental portieres. The floors are carpeted with Wilton throughout the whole length of the car & the vestibuled floors are covered with rubber tiling. The kitchen & pantry are equipped with all modern conveniences, the tables, etc., being covered with polished brass. A handsome sideboard is placed at one end of the dining-room just in front of the pantry, & opposite to the sideboard a wine locker is provided. China & linen closets, wardrobes & white metal washstands are in evidence in accordance with modern practice. The cars are heated with hot water coils from the engine.

The building of 12 standard freight engines has been completed at the Co.'s Point St. Charles shops, & out of the order for 10 standard passenger engines 3 have been finished.

Ten Vauclean compound consolidation locomotives are being built for the Co., at the Baldwin Locomotive Works. They will be used on freight trains in international service in hilly or mountainous districts where the grades are unusually heavy, such as the White Mountain district in New Hampshire, & westward along the line to within a short distance of Montreal.

The Co. is building at its Point St. Charles shops, Montreal, 20 1st-class passenger coaches of the 800 series, which will be of the most modern & approved construction.

High Speed Brakes.

The Westinghouse high speed brake has recently been placed on 3 C.P.R. trains, also on 3 Canada Atlantic trains, all of which are employed in the Montreal-Ottawa fast service. This brake has been designed to meet the exceptional requirements of regular trains which are scheduled to run at much higher average rates of speed than have heretofore prevailed in passenger train service. It will stop passenger trains in emergencies in about 30% less distance than is required with the best brakes heretofore used. The brake apparatus is the standard Westinghouse quick action with a pressure regulating attachment. The addition of pressure regulating devices to the existing quick action brake fixtures for both locomotives & cars is all that is required to convert them into high speed brakes. The superior stopping capacity is obtained by increasing the standard air pressure of 70 lbs. to about 110 lbs.

The apparatus of the high speed brake is very simple. It consists of the quick action air brake apparatus, as ordinarily applied to a passenger car, to which is added an automatic reducing valve, that is adapted to be secured quite readily to the car sills or to any point in the vicinity of the brake cylinder, to which it is connected by means of suitable piping. It is therefore only necessary to add this pressure reducing valve to the quick action brake apparatus, already in use upon any passenger car provided with standard brake gear, to convert the apparatus into the high speed brake. This automatic pressure reducing valve is so constructed that it remains inert in all service applications of the brake, unless, at any time, the brake cylinder pressure becomes greater than 60 lbs. per square inch (for which the pressure reducing valve is ordinarily adjusted), in which case the reducing valve operates to promptly discharge from the brake cylinder so much air as is necessary to restrict the cylinder pressure to 60 lbs. It will thus at once be apparent that the maximum brake cylinder pressure, in all service applications of the brakes, is restricted to 60 lbs., regardless of the air pressure normally carried in the train pipe & auxiliary reservoirs. In an emergency application of the brakes, the violent admission of a large volume of air to the brake cylinder (only made possible by the quick action feature of locally venting the train pipe) raises the pressure more rapidly than it can be discharged through the capacious service port of the reducing valve, & the port thereby becomes partially closed, restricting the discharge of air from the brake cylinder in such a manner that the pressure in the brake cylinder does not become reduced to 60 lbs. until the speed

of the train has been very materially decreased.

In order to cause this high speed brake apparatus to become practically effective for producing the increased stopping efficiency, the pressure of the air carried in the train pipe & auxiliary reservoirs is increased from 70 lbs. (the customary standard) to about 110 lbs. per square inch. With this pressure in the train pipe & auxiliary reservoirs, an emergency application of the brakes almost instantly fills the brake cylinders with air at nearly 85 lbs. pressure, thereby increasing the braking force from about 90% (the customary standard) to about 125% of the weight of the car. Or, in other words, the pressure of the brake shoes upon the wheels is about 40% greater, at this instant, than is realized by the mere use of the quick action brake. The air pressure immediately begins to escape from each brake cylinder, through the automatic reducing valve, & continues to do so until the brake cylinder pressure becomes 60 lbs., which is thereafter retained until the brakes are released by the engineer.

On account of the high pressure normally carried in the auxiliary reservoirs (110 lbs.), a full service application of the brakes (charging the brake cylinders with air at 60 lbs.) may be made, & still leave the pressure in the auxiliary reservoirs at nearly 100 lbs. If, after releasing the brakes, a second application of the brakes should be called for before there has been time to recharge the reservoirs, there is abundant air yet stored in the reservoirs to make a second, & even a third, full service application, & still leave sufficient air pressure to make an emergency stop equal to that of the ordinary quick action brake. These advantages, coupled with such a restricted brake cylinder pressure for all service applications of the brake, that wheel sliding is entirely avoided, require no comment to insure recognition of their importance upon trains of unusually high speed. By simple additions to the brake apparatus on the locomotive, the train pipe pressure is easily & quickly changed to 70 lbs., when the locomotive is used in other kinds of service, & vice versa.

One on C. R. Hosmer.

This is how the Daily Transcript, Moncton, N.B., announced Mr. Hosmer's recent election to the C.P.R. directorate:

"C. P. R. DISASTER.

"MONTREAL, Oct. 10.—Mr. C. R. Hosmer has been elected a director of the Canadian Pacific Railway."

Moncton is a "dry" town, so the Transcript proof reader will have to find some other excuse.

TO CALIFORNIA.

Via The Midland Route.

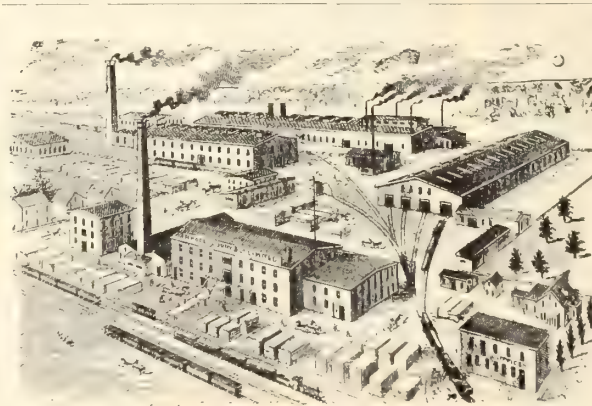
Every Friday night, at 10:45 p.m., a through Tourist Car for San Francisco, carrying first and second-class passengers, leaves the Chicago, Milwaukee & St. Paul Railway Union Passenger Station, Chicago, via Omaha, Colorado Springs and Salt Lake City (with stop-over privileges at Salt Lake City), for all points in Colorado, Utah, Nevada and California.

The Tourist Car berth rate from Chicago to San Francisco is only \$6.00, and the sleeping car berths should be reserved a few days in advance of departure of train.

Through tickets and sleeping car accommodations can be secured from any agent in the east, or by applying at the Chicago, Milwaukee & St. Paul Depot or City Ticket Office in Chicago.

Send for our free illustrated California folders. Address Geo. H. Heaford, General Passenger Agent, Chicago, Ill., or A. J. Taylor, Canadian Passenger Agent, 8 King street, E., Toronto, Ont.

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Special Cars for Coal, Ore,
Lumber, &c., with Ball-
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Direct Results from Advertising.

The new advertiser looks for direct & immediate returns from his advertising, & if he doesn't get them, is likely to think the advertising unprofitable.

The old & experienced advertiser is willing to wait for results, & it is he who generally gets them.

Only bargain advertising brings in business with a rush; & it must be remembered that bargain advertising is not profitable in itself—the profit comes later. Bargains bring people again, & it is the people who come again who make profitable customers.

Advertising lives a great deal longer than most people give it credit for.

An advertisement that is in to-day loses its value only when the last man who saw it is dead.

An experience of mine on the life of advertising may not be amiss.

In a monthly class publication I inserted an advertisement one month, from which immediate replies did not seem to justify continuance, & I stopped it.

Six months afterward I got a reply that brought me more business than the advertisement cost. About ten months afterward I heard from a man who paid me several times the cost of the advertisement.

Who knows but if I had continued the advertising it might have made me rich?

The direct & immediate results were almost nothing. The results that came after I had supposed the advertisement dead & forgotten were as profitable as they were surprising.

As a single advertisement can seldom be hoped to pay, & as the cumulative effect of repeated advertising is the strongest element in the success of advertising, it is not unreasonable to suppose that a continuation of that advertisement would have been highly profitable.—From Sacramento, Cal., Bee.

G.T.R. Brantford Shops.—The Brantford Co-operative Pork Packing Co. is negotiating with the G.T.R. Co. for a lease of the old shop buildings at Brantford.

ELECTRIC RAILWAYS.

Quebec Electric Railways.

Chaudiere Valley Ry.—The Canadian Electric Light Co. is about to develop the water power of the Chaudiere Falls, near Levis, by which a minimum of 5,000 horse power is expected to be secured. It is said the Co. will construct an electric railway, to be known as the Chaudiere Valley Ry., & to run through Levis, Bellechasse, & the neighboring counties.

Hull Electric Co.—The town authorities of Aylmer are applying for an injunction to restrain the Co. from removing its tracks on Main St., Aylmer, the Council believing that it would interfere with the town's business & progress to have the tracks altered, while the Electric Co. desires to make the change to avoid legal complications.

Montreal Park & Island Ry. At the annual meeting, Sep. 21, the report showed the following results for the year ended Aug. 31:

Earnings.	1898-9	1897-8
Car earnings.....	\$109,988 74	\$104,761 36
Miscellaneous revenue.....	1,072 00	207 99
	\$111,060 74	\$104,969 35
Operating expenses.	1898-9	1897-8
Car service.....	\$23,945 71	\$23,446 51
Power house.....	16,952 88	18,442 87
Salaries (office).....	4,461 50	4,725 80
Repairs motors.....	5,459 73	5,783 25
“ cars.....	3,338 35	3,701 30
“ track.....	3,000 39	3,481 05
“ overhead.....	1,000 84	1,300 00
“ power plant.....	594 85	1,031 72
“ buildings.....	139 28	272 02

“ tools & machinery.....	147 33	87 58
Car house.....	2,782 72	3,384 09
Track cleaning.....	2,233 30	2,283 80
General expense.....	2,203 08	1,838 77
Office.....	900 00	1,008 38
Injuries & damages.....	1,650 66	796 97

Balance.....	\$8,003 05	\$70,976 30
	\$42,997 09	\$33,993 05

Gross Earnings, 1898-9, \$111,060.74; 1897-8, \$104,969.35; 1896-7, \$79,986.93; 1895-6, \$56,446.10. Increase, 1898-9, \$6,991.39, or 6.66%.

Operating Expenses, 1898-9, \$68,963.09; 1897-8, \$70,976.30; 1896-7, \$64,621.15; 1895-6, \$55,878.81. Decrease, 1898-9, \$2,012.61, or 2.92%.

Net Earnings, 1898-9, \$42,997.05; 1897-8, \$33,993.05; 1896-7, \$15,365.78; 1895-6, \$567.29. Increase, 1898-9, \$9,004.00, or 26.78%.

Passengers Carried, 1898-9, 1,240,596; 1897-8, 1,216,370; 1896-7, 1,030,975; 1895-6, 730,494. Increase, 1898-9, 24,226, or 1.99%.

Car Miles, 1898-9, 666,314; 1897-8, 696,992; 1896-7, 520,901; 1895-6, 426,530. Decrease, 1898-9, 878, or 1.10%.

	1898-9	1897-8	1896-7	1895-6
Earnings per car mile.....	10.08	15.00	15.30	13.43
Earnings per passenger mile.....	9.02	8.63	7.70	7.73
Operating % of earnings.....	61.64	67.62	80.81	98.99

The old directors were re-elected as follows:—H. S. Holt, Hon. L. Beaubien, Hon. A. A. Thibaudau, Hon. J. R. Thibaudau, W. Strachan, A. Brunet, D. Morrice.

Montreal St. Ry.—The gross earnings are:			
	1898-9	1897-8	Increase.
Oct.....	\$133,419.69	\$110,003.09	\$17,340.60
Nov.....	125,126.10	110,068.08	14,427.12
Dec.....	127,678.00	113,000.33	14,648.67
Jan.....	125,276.04	110,155.96	15,120.08
Feb.....	113,850.00	102,425.99	11,424.01
Mar.....	123,541.11	111,470.08	9,071.03
April.....	130,405.96	110,000.27	19,786.69
May.....	145,100.38	123,268.88	21,831.50
June.....	136,858.34	132,064.61	2,893.73
July.....	154,048.07	143,086.63	10,061.44
Aug.....	163,394.47	143,800.10	19,594.37
Sep.....	146,185.06	139,704.82	9,420.26
	\$1,645,450.24	\$1,458,324.91	\$187,125.33

On Oct. 2 the Co. handed over to the City of Montreal \$70,608.57, amount of percentage on the gross earnings of the Co. within the limits of the city for the year ending Sep. 30. The Co. pays 4% on earnings up to \$1,000,000, & 6% on earnings between \$1,000,000 & \$1,500,000. The question of paying the city a percentage on the earnings of the lines outside the city is still in dispute, & no payment has been made by the Co. in this connection. Under the by-laws the Co.'s annual meeting is fixed for Nov. 1, but as that is All Saints' Day & a legal holiday in Quebec it is probable the meeting will be held Nov. 2.

The Co. is appealing against its assessment by the city, the assessors having valued the poles, wires & rails, independent altogether of the plant & machinery, at \$280,000. The Co. have about 96 miles of single track in the city, so that the valuation is on the basis of \$3,000 a mile. The Co. claims that the valuation for a similar tax in Toronto is only \$1,050 a mile, & asks that the assessment be reduced to the valuation imposed in Toronto. This would reduce their valuation by about two-thirds, & the assessment to something like \$100,000, instead of \$280,000. The Co. also objects to the imposition of the special business tax on the basis of the assessment of its real property, including that already taxed under the poles, wires & rail tax & the machinery tax. The Co. points out that in reality as the law is construed by the assessors, it is being taxed no less than three times on some of its property which the city charter designated as real property. The Co.'s protest to the assessors contends that the charter, while it authorizes the taxation of machinery as being part of the immovable property, & also the taxation of poles, etc., as forming part thereof, does not authorize the taxation of the rental value thereof as part of the business premises of the Co. The machinery, poles, etc., are not subject to water rates. The poles, wires & rails of the Co. have been

valued at a higher price than the Co. would be able to obtain for the same if desirous of disposing of them. The 2nd clause of the Co.'s contract with the city reads:

“The Corporation shall grant the said Co. all licenses, rights & privileges necessary for the proper & efficient use by electric power to operate cars in the said streets in the manner successfully in use elsewhere; including the right to open said streets,” etc., etc.

The understanding & agreement between the City & the Co., the document continues, was that the percentage of its earnings paid by the Co. was accepted by the City in lieu of all taxes, rates & assessments, with the exception of the tax upon immovable property & the water rate. This agreement or contract, it is argued, having been confirmed by the Legislature, cannot be annulled by the charter. In support of this sec., 567 of the charter is quoted, which reads:

“Nothing contained in this Act shall be construed as allowing the city to violate any of its obligations undertaken by contract or as affecting or repealing any powers specially granted by statute to corporations or companies.”

In conclusion the notice of appeal says: “The Montreal St. Ry. Co. respectfully submit to the Board of Assessors, That an excessive valuation has been placed upon its property on Delisle & Notre Dame Streets. That its machinery, poles, wires, etc., did not constitute, at the time of the contract, real estate, & consequently it is not liable for assessment thereon under the present charter of the city. That it is liable only for an assessment of the property which was immovable in 1893. That if the machinery, poles, etc., are immovable they should be assessed only at such value as the Co. could obtain for them if they were desirous of disposing of them. That it is not liable for water rates on any part of the assessment which represents machinery, poles, etc. That the Co., having a grant from the City of all licenses necessary for business, the city cannot levy any tax or license upon it, & inasmuch as all personal taxes, including business tax, are licenses within the meaning of the charter & the contract referred to, the Co. is not liable for the same.”

The Co.'s car shops at Hochelaga, on which work was started early in the spring, have been completed. They cover an acre & a half of ground at the corner of Harbor & St. Catherine Streets. The blacksmith shops & a portion of the storerooms are the only rooms occupied at present, the workmen in these having been removed recently from Côté St. The vacated building on Côté St. is to be used for storing reserve cars & for urgent repairs at all times. The new shops include those for machine, blacksmith, winding & car-building purposes. The latter building is nearest St. Catherine St., & is fitted with a full system of tracks, where a large number of cars may be kept in the course of alteration or construction at once. The premises are all to be heated by the hot blast system. The machine shop & storeroom are 35 ft. high, while the other building is only 20 ft. high, & is well lighted by hundreds of windows & a dozen large skylights. Near by the Co. is erecting a reading room & recreation building for employees, which is to be fitted with a gymnasium, bathroom & barber shop, & will be ready before the snow flies. On St. Denis St. the Co. has well under way large storage sheds, measuring 250 by 100 ft., which will accommodate nearly 100 cars.

The city attorney has given his opinion that the Co. is bound to remove the snow from its tracks, & also to pay half of the cost of removing the snow from the rest of the street from curb to curb, including that thrown from the tops of buildings.

The Co.'s winter cars now being put in service have the front vestibules entirely closed in, thus making the motor men more comfortable & keeping the cars warmer, owing to the doors on the front vestibules not being opened.

The city surveyor states he intends to take steps to compel the Co. to repair the asphalt near its tracks on the asphalted streets, as he considers that much injury is done to the asphalt by the vibration of the cars.

The Co. has placed a gang of men at work constructing the Cote des Neiges line. It is said work will be continued to the city limits on the Cote des Neiges road.

Quebec Ry. Light & Power Co.—At the annual meeting, Sep. 12, the following report was presented: The directors having been authorized at a special meeting of shareholders to complete the purchase of the stock, assets, franchise, etc., of the Montmorency Electric Power Co., take pleasure in reporting the satisfactory completion of the negotiations entered into, the Co. taking possession of the property Aug. 16, 1898. By the amalgamation of this division the original intentions of the Co. were accomplished, & it became advisable to apply to the Dominion Parliament for legislation ratifying & confirming the purchase of the Quebec District Ry. Co. & the Montmorency Electric Power Co., & advantage was taken of the application to change the name of the Co. to the Quebec Railway, Light & Power Co., & to obtain further important & valuable legislative powers, the principal being:—Sub-sec. 4 of sec. 10 of chap. 59 of the statutes of 1895 was repealed, & power to construct railways in municipalities without their consent, was obtained, provided the railway was not laid along the public highways. Power to acquire the business of gas & lighting companies. Confirmation of the agreements made with the Quebec District Ry. & Montmorency Electric Power Co. Power to expropriate for pole lines & other purposes under the provisions of the Railway Act. This bill was assented to, & became law July 10, 1899.

The by-laws passed at a special general meeting on Mar. 20 last, were approved by the Governor-in-Council, & in accordance therewith the number of directors was increased from 7 to 9, W. Shaw & G. H. Thomson being added to the board. The directors submit a statement showing the result of the year's operations, which may upon the whole be considered satisfactory, taking into account the broken period on the power division, & the fact that the winter was excessively severe, over 120 inches of snow having fallen, the summer unfavorable & the inability of the Co. to properly operate its electric cars, owing to the paving & asphaltting of the streets. The legal, notarial & other expenses incident to the amalgamation of the several companies, & which have been very large, have been charged & included in the year's operations. Judging from the results of the past year & of the previous year, the directors expect for the future very considerably increased earnings, & they are confirmed in their belief by the results of the last two months, which show an increase on the Montmorency division of 16% & 7¼% on the Citadel division over the same period of last year.

During the past year the mileage of the Citadel division has been increased from 13.77 to 17.22 miles, the principal extension being from Aqueduct st. to St. Valier Toll Gate or St. Charles Cemetery, & the Co. is only awaiting the sanction of the Railway Committee of the Privy Council before operating this extension. The Beauport & Montmorency extension has been left in abeyance for future consideration. The cars, electrical equipment, & everything necessary for the electrical conversion of the steam road, except the copper & other material for the overhead construction & bonding, have been purchased or ordered, & the directors expect that this work will be fully completed during the ensuing year. The Co.'s financial arrangements did not contemplate any provision for the cost of installing the necessary plant for the electrical power for

the railway to Ste. Anne, or for the railway to Montmorency, nor was there any provision made for the extensions of the Citadel division, which have been found essential to the profitable working & operation of the whole system. The cost of all these improvements is estimated at \$150,000, & the directors have called a special general meeting of shareholders for Oct. 9, to consider this subject, when they will recommend that the treasury stock remaining in the hands of the Co. be issued & sold by tender for the purpose of providing the additional necessary capital.

Montmorency, Citadel and Power divisions; general financial statement for year ended June 30, 1899:

ASSETS.	
Road and equipment, real estate, buildings, etc.	
Montmorency division.....	\$2,055,091 71
Power division.....	1,526,689 05
Citadel division.....	1,107,790 04
Beauport & Montmorency division.....	52,107 92
Stores in hand.....	
Montmorency division.....	5,057 67
Power division.....	9,813 21
Citadel division.....	3,076 00
Cash on hand.....	
Montmorency division.....	1 50
Citadel division.....	1,518 36
Power division.....	286 47
Head office.....	137 93
Accounts receivable.....	2,044 03
Montreal Trust and Deposit Co.....	372,500 36
	\$5,136,114 85
LIABILITIES.	
Capital stock.....	\$3,000,000 00
Less treasury stock.....	500,000 00
	\$2,500,000 00
Bonds, 5 p.c.....	2,500,000 00
Accrued interest on bonds.....	165 34
Accounts payable.....	90,251 94
Rolling stock.....	2,020 47
Subsidy account.....	16,523 32
Insurance fund account.....	12,720 00
Profit and loss account.....	14,433 78
	\$5,136,114 85
PROFIT AND LOSS ACCOUNT.	
Net earnings, Montmorency division.....	\$24,561 02
Net earnings, Citadel division.....	41,007 51
Net earnings, Power division, 10½ months only.....	51,358 17
	\$116,926 70
LESS.	
Interest on bonds.....	\$96,096 88
Directors' fees, legal and notarial charges, general expense.....	9,967 99
	106,064 87
	\$10,861 83
ADD.	
Profit and loss account, Power division.....	3,571 95
	\$14,433 78

*System was only taken over on Aug. 16, 1898.
Net earnings during 6 weeks between July 1, and Aug. 16 was over \$8,000 00.

The following were elected: President, A. Thomson; Vice-President, F. Ross; other directors, H. J. Beemer, Judge Chauveau, W. Shaw, W. Hanson, Hon. S. N. Parent, G. H. Thompson, E. E. Webb.

It is stated that during the 4 months from May 1 to Aug. 31, 1899, there was an increase, of \$15,817.83 in the gross receipts over the corresponding months of 1898.

Roberval.—It is said the British American Pulp & Paper Co., in which R. Prefontaine, of

Montreal, & J. Tessier, of Quebec, are interested, will construct an electric railway from a point on the Quebec & Lake St. John Ry. around the lake to Roberval, with branch lines.

Ontario Electric Railways.

Brantford Electric Railway.—The Co. has expended about \$8,000 in improvements this year. A rumor recently current to the effect that the Electric Ry. Co., the Electric Power Co. & the Gas Co. were about to amalgamate, has been denied by officials of each company.

Brantford to Port Dover, etc.—T. Elliott recently returned to Brantford from a trip through the lake townships in the interests of electric railway extension. He interviewed the town council of Port Dover, & also the councils of rural municipalities, & reports very favorable feeling towards the project.

Glenora to Wellington.—G. W. Goodwin recently wrote a Picton paper suggesting the building of an electric railway from Glenora to Picton, the sand banks, & thence skirting the shore of Lake Ontario to Wellington. He claimed it would prove an attractive route, & predicted that Kingston citizens would subscribe \$250,000, Picton \$250,000, & Deseronto \$150,000.

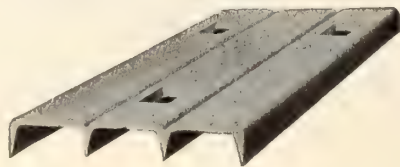
Hamilton, Ancaster & Brantford.—The negotiations which have been pending for some time between the promoters of the Hamilton, Ancaster & Brantford Electric Railway & Mr. Marcus, of New York, have not resulted satisfactorily, & the project has received a set-back. It is said the Cataract Power Company may possibly take hold of it later on.

The Hamilton Consolidations.—The Cataract Power Co. has now complete control of the Hamilton Street Ry. Co., the Hamilton Radial Electric Ry. Co. & the Hamilton & Dundas Electric Ry. Co. Some time ago J. Patterson, acting on behalf of the Cataract Co., obtained some \$90,000 worth of stock of the Hamilton Street Ry. Co., which, however, was not a majority; the other holders of stock pooled their interests so that Mr. Patterson had to secure all or none of the balance, consequently the balance, some \$125,000 or \$130,000, was bought. The new officials of the Co. are: President, Hon. J. M. Gibson, M.L.A.; Vice-President, J. Dickenson, M.L.A.; Sec.-Treas., J. B. Griffith.

The management of the Hamilton Radial Electric Ry. Co. has been reorganized as follows: President, J. Patterson; Vice-President, Hon. J. M. Gibson; other directors, J. Dickenson & J. A. Kammerer; Secretary, S. E. Malloch; Treasurer, J. Moodie; Manager, C. K. Green.

For the Hamilton & Dundas Electric Ry. it is said the Cataract Co. paid over \$110,000 in cash & assumed the bonds of the H. & D. Co., amounting to some \$90,000. Since its conversion into an electric Co. the H. & D. has obtained its power supply from the Cataract Co. Its new officers are: President, J. W. Dickenson; Vice-President, J. A. Kammerer;

Q. & W. TIE PLATES



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Montreal

Secretary, J. Patterson; Treasurer, J. Moodie; other director, Hon. J. M. Gibson.

Supplementary letters patent have been issued under the Ontario Companies Act, extending the powers of the Hamilton Electric light & Cataract Power Co., so that when the Co. has acquired at least two-thirds of the capital stock of any corporation, being one which the Co. is, by its charter, authorized to promote, the Co. may assist such corporation in carrying on & extending its business, &c., by furnishing by way of bonus, loan or otherwise, moneys for such purpose. The Co. is also authorized to act as the agent, or manager of any such corporation in the carrying on of its business upon such terms as to remuneration or otherwise as may be agreed upon.

It is again rumored that the Cataract Power Co. is after the Hamilton, Grimsby & Beamsville Electric Ry.

J. Patterson is said to have assured the Mayor of Berlin that grading on an electric line from Hamilton to Berlin will be started this season.

London St. Ry.—A special general meeting was called for Sept. 29, to authorise an increase of capital to \$750,000, or less.

It would appear that the strikers have no intention of withdrawing from the fight. They recently took out four more bus licenses. The Trades & Labor Council has purchased 10 teams for the use of the strikers. For the winter closed buses have been engaged. They will be heated by stoves, & when snow comes will be put on sleighs.

Proceedings have been taken by the Co. against the Police Magistrate & the Mayor to recover \$20,000 damages, for alleged illegal licensing of buses. The by-law passed under the statute fixed the license at \$10, & it is claimed that the Mayor & Magistrate, as members of the Police Commission, granted bus licenses to J. Garnett & others for a less amount. The reason Judge Elliot, the third member of the Police Commission, is not made a party to the suit is said to be that he voted against issuing licenses at less than \$10.

Metropolitan Railway Co.—At the annual meeting at Toronto, Sep. 8, the following were elected:—President, C. D. Warren; Vice-President, S. M. McElroy; other Directors, W. A. & F. B. Warren; Sec.-Treas., R. Jenkins.

Niagara Falls Park & River Ry.—The power house in Queen Victoria Park was totally destroyed by fire Sep. 4, the loss being placed at \$85,000. The railway was crippled for a couple of days until power lines were run over from the U.S. side. The power house will be rebuilt as soon as possible.

The two high wooden trestles near the Whirlpool are being gradually filled in. One of them will require 20,000 yards of earth, & the other about 15,000.

A large number of ties are being replaced. About 3,000 new ones have already been put in, & about 7,000 more will be laid, oak being used. The first track which was laid had tamarac & hemlock ties, & most of these have to be renewed. The second track in which cedar was used is in better shape.

The Co. is building at its shops, 4 open motor cars, 36 ft. long, with double trucks.

Ottawa Electric Ry.—Hency & Smith, of Ottawa, have the contract for building an electric railway for this Co. from Ottawa to Britannia, on Lake Dechene, 7 miles, & it is expected to have it completed by Nov. 1.

Owen Sound.—The Town Council recently rejected a report of a committee proposing that a delegation of the Mayor & two aldermen should visit Berlin & Guelph to obtain information about the conditions under which electric railway franchises have been granted in those places. J. McLauchlan & other promoters of the proposed line to Owen Sound recently waited on the Town Council & asked

the sanction of the Council as required by statute before a charter could be secured. They stated that the municipalities of Derby & Sarawak had already given consent. When the Co. was organized it was the intention to extend the line to Meaford, Chatsworth, Durham & Southampton, but it has since been decided to confine the undertaking, for the present at least, to Owen Sound & the immediate vicinity, it being the intention to go down the shore as far as Balmy Beach & to the cement works. The Council appointed a special committee to deal with street railway matters.

The Port Stanley Electric St. Ry. Co. has been incorporated under the Ontario Companies Act, subject to the provisions of the Street Railway Act, to construct & work street railway lines in Port Stanley & adjoining municipalities. The capital is \$40,000 & the head office is at St. Thomas. The provisional directors are E. H. Caughell, A. E. Marlatt, Mary L. Caughell & Emma L. Marlatt.

Rideau Route.—It is proposed to build an electric railway to connect the towns along the Rideau Canal & Lakes. Good water power is available at Jones Falls.

Queenston Heights Bridge Co.—At the annual meeting at Niagara Falls, Ont., Sept. 12, the following directors were elected: E. B. Osler, W. H. Beatty, T. G. Blackstock, W. Nesbitt, Toronto, Ont.; W. B. Rankine, New York City; W. C. Ely, B. Van Horn, Buffalo, N.Y.

St. Catharines, Niagara Falls & Toronto Ry.—This is the new name of the St. Catharines & Niagara Central Ry., which runs from St. Catharines to Niagara Falls, 12.35 miles. Manager F. A. Cheney recently stated that work will commence on the extension of the line from St. Catharines to Port Dalhousie during Sept., & that it will be built as an electric line, the intention being to convert the old line into an electric one at an early date.

St. Thomas Electric St. Ry.—Manager J. E. Taylor having resigned, President J. H. Still is looking after the Co.'s finances, & F. Dart is superintending the operating. On leaving Mr. Taylor was presented with a gold watch & address by the employees, who evidently have a high regard for him.

Sarnia St. Ry.—The following officers were recently elected:—President, J. S. Symington; Vice-President, S. A. McVicar; Secretary & Manager, H. W. Mills; directors, C. Mackenzie, J. Cowan, J. H. Jones, J. Flintoft & F. Smith.

It is proposed to change the horse car system to an electric one & the preliminary work is being done by J. H. Jones, C.E. The route of the new line will be along Front & Christina sts., & from Christina st. north to St. Clair st., Point Edward, through that village to the lake shore & thence along the shore to a point to be decided upon. The southern end of the line will be by the present route to the tunnel & also along Christina st. to the Imperial Oil Works & the proposed new nail & wire works factory. These lines are laid out with a view to increasing the mileage of the road by belt lines, &c., as the town grows & business demands them. The present horse system has proved of great value to the town by giving connection with Point Edward, the G.T.R. employees at which place do most of their shopping in Sarnia.

Toronto Railway.—The gross earnings are:

	1899.	1898.	Increase.	Decrease.
Jan.	\$6,000.00	\$5,000.00	\$1,000.00	
Feb.	91,866.35	84,100.00	7,766.35	
Mar.	103,234.88	92,318.42	10,916.46	
April	95,212.37	86,868.83	8,343.54	
May	101,840.00	91,000.00	10,840.00	
June	109,063.18	94,119.32	14,943.86	
July	116,824.94	104,302.92	12,522.02	
Aug.	123,282.70	110,300.54	12,982.16	
Sept.	137,621.10	138,021.74		\$400.64
	\$977,596.21	\$887,536.67	\$90,059.54	
	Increase, Jan. 1 to Sep. 30, \$89,658.90.			

For the year ended Aug. 31, 1899, the Co. paid the city \$109,108.65 as percentage, an increase of \$14,821 over the previous year.

Negotiations are in progress between the Co. & the town council of Toronto Junction, for the extension of the Co.'s lines to the corner of Keele & Dundas streets in that town. Further information on this matter will be found under the head of Toronto Suburban St. Ry.

Toronto Suburban St. Ry.—A deputation from Toronto Junction Town Council recently met the directors of this Co. in Montreal & arrived at the following understanding: The Co. is either to abandon its franchise over the portion of Dundas st. between Keele st. and Humberstone avenue, or grant running powers over it to the Toronto Ry. Co. In return for this the town is to forego its right to collect an annual mileage rate from the Suburban Co., but this Co. is to pay \$125 a year towards the maintenance of the track allowance of the portion of its road which it will continue to operate in the town. The franchise of the Suburban Co., which has about 12 years to run under the old agreement, is to be extended for a further term of 10 years. This new agreement will not go into effect unless the Toronto Ry. Co. undertakes to run its cars over the portion of Dundas st. which the Suburban Co. is to give up. It is also a part of the scheme to have the Suburban line extended along Dundas st. as far as Cooksville, & out the Weston road to Woodbridge. The proposed transfer point at Keele st. is the business centre of Toronto Junction.

In the Ontario Court of Appeal, Sept. 29, in the case of the City of Toronto vs. this Co., counsel for city appealed from judgment of Ferguson, J., in so far as it holds that plaintiff is not to be entitled to mileage payments in respect of the 950 ft. of street railway track on Queen st. or the lake shore road west of Roncesvalles avenue, Toronto, & against the judgment upon defendant's counter claim for a reference to ascertain the damages sustained by the conversion by plaintiff of the pavements & roadbeds & interest of defendant therein under the contract of sale & conditions & act of incorporation of defendant. Osler, Q.C., & J. Bicknell, for defendant, opposed appeal, & cross-appealed from the finding of the judgment that plaintiff's contention as to meaning of the word "turn out" in clause 15 of the contract is correct, & declining to exclude from payment of mileage any of the tracks where there is more than one double track on the "street railway" part of a street, or where there are "connecting railway tracks" or "Y tracks," or temporary tracks, or tracks to sheds, or broken parts of a mile, or tracks in places where plaintiffs have not put down permanent pavements in conjunction with the laying of the tracks. Judgment was reserved.

The Lines in Western Canada.

British Columbia Electric Ry. Co. The earnings & expenses for Aug. are as follows:

	GROSS EARNINGS.	1898.	1899.	Increase or Decrease
Railway—Vancouver division	\$8,000	\$9,718	\$1,479	
Victoria	7,998	8,441	443	
Westminster	994	800	194	
Lighting—Vancouver	5,993	7,032	1,129	
Victoria	4,084	4,757	673	

Gross earnings	\$33,171	\$38,000	\$4,828
Working expenses	\$20,114	\$20,700	\$586
Net earnings	\$14,047	\$17,754	\$3,707

Aggregate gross earnings April 1 to Aug. 31	\$154,411	\$108,850	\$45,561
Aggregate net earnings April 1 to Aug. 31	\$60,903	\$71,974	\$11,071
+ Increase. — Decrease.			

C. A. Vanner, director of the Southern Punjab Ry., the Doodar Tea Co., & of the Russian Petroleum & Liquid Fuel Co., has been named director of the B.C.F. Ry. Co., to fill the vacancy on the board caused by the death of R. Northall-Laurie.

The Co. has placed on its interurban route between Vancouver & New Westminster, two new cars which, instead of being numbered, are named Vancouver & New Westminster respectively. The aisles are placed in the centre, & the handsomely upholstered reversible seats on either side accommodate about 90 passengers in each car.

The Co. is considering two extensions of its system in Victoria, one to take the cars near the outer wharf, & the other to improve the Gorge road service. It is expected the outer wharf extension will be made very shortly & that the cars will be run right down to the wharf. The building of a line to the Gorge depends upon the residents along the road giving the necessary financial assistance.

There has been some misunderstanding lately between the Co. & the city of New Westminster, but an agreement has been entered into which is said to be satisfactory to both parties. The Council allows track to be run from Columbia St. into a lot about to be purchased by the Co. for terminals. The Co. promises to put up the terminal station at once; to put up a shelter shed at the city limits terminus of the city line, to build the Sapperton extension next spring; to put on a two-car service in the city immediately after the fair; to grant transfers for city passengers between interurban & city cars, & to give the same terms as to low rate tickets that are given in Vancouver, which means 3 cent fares within certain hours.

The Nelson Tramway Co. has let a contract for the erection of the trolley poles along the line of the road. Work has been started on the power station, which is erected at the end of the Hall Mines switchback, near Cottonwood Creek. The Bonnington Falls Power Co. is clearing the right of way for its pole line, & promises to have the line over the 9 miles to the power station & deliver power by Oct. 15. The car barn has been located at the corner of Kootenay St. & the Mines Road. An order has been given for 2 motor cars, with removable vestibules & double trucks. Each car will be equipped with four 40 h.p. motors, owing to the steep grades to be encountered. The overhead trolley sys-

tem will be used. The power from Bonnington Falls will be transformed to a lower working voltage by oil cooled transformers, & then will drive a synchronous motor of 450 h.p. which will be directly connected to a rotary-converter-motor-generator of the same size. The alternating current will then be converted into a direct current. The synchronous motor will be of the revolving field type, & the railway generator of the multipolar ironclad armature type. On the grades 60 lbs. rails will be laid, lighter ones being used on the level.

Rossland, B.C.—T. G. Duncan & W. A. Macdonald, of Nelson, are applying for the incorporation of the Rossland & Sophie Mountain Electric Ry., Ltd., with power to construct lines within the limits of the City of Rossland, & extending on Washington St. from the city limits around the southern slope of Red Mountain, the southern slope of Spokane & O. K. Mountains, crossing Record Creek, along the east slope of Sophie Mountain, crossing the summit of Sophie Mountain near the crossing of the Dewdney Trail, along the west slope of the mountain to the Velvet Mine, thence to Main Sheep Creek, a distance from Rossland of some 12 miles.

Winnipeg Electric Railway.—A second track is being laid on Broadway & River Ave. so as to afford a double-tracked belt line.

Maritime Provinces and Newfoundland.

Halifax Electric Tramway.—A press report to the effect that this Co. has been authorized by the City Council to obtain Parliamentary powers for extending its line, & that it is estimated the cost of the proposed extension will be about \$110,000, appears to be without foundation, as the Manager advises us he knows nothing whatever about it.

The Co. has declared a quarterly dividend at the rate of 5% per year, warrants for which will be mailed to shareholders Oct. 2.

St. Johns, Nfld.—Good progress is being made with the construction of the street railway by R. G. Reid & Sons, the work being under the management of W. McKay. Some of the equipment has already arrived.

Electric Roads in the Future.

In a recent paper on Canadian water power & its electrical product in relation to the undeveloped industries of the Dominion, T. C. Keefer, C.M.G., says: The substitution of electricity for steam as the motive power for railways on many roads is regarded as inevitable sooner or later. It has already taken place as regards suburban railways, notably in the case of the Quebec, Charlevoix & Montmorency road, & the Hull & Aylmer railway, where water is doing the work which has heretofore been done by coal. The chief obstacles to an early change on the larger roads are the hundreds of millions invested in locomotives, & the very large outlay required to equip existing steam roads with the electric system. The principal inducement would be the passenger service, owing to the increased speed possible, it being confidently stated that, with electricity, a speed considerably over 100 miles an hour could be attained. Moreover, there would be entire abolition of the poisonous smoke which drops upon the sleeping car in preference to any coach ahead of it.

While the conversion of trunk lines would be attended with a cost which is for the present prohibitory, this objection does not apply to new lines, which may be worked independently, or in connection with electric ones. When the time arrives for such railways, water power will have a field of usefulness of which we can at present form little conception. Water wheels & wires would displace the coal docks, the coal-laden vessels, the huge coal yards, & the trains required for distributing their contents over hundreds of miles of lines.

An interior line connecting Lake St. John, on the Saguenay, with Lake Temiscamingue, on the Ottawa, which could ultimately be extended, via Missanabie, Nepigon & Lac Seul to the Saskatchewan, would be a colonization road, removed from the frontier—one which could be worked possibly altogether by water power, & would open a virgin tract in

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Note the word R.I.P.A.N.S. on the packet. Send 3 cents to Ripans Chemical Co., No. 10 Spruce St., New York, for 10 samples and 1,000 testimonials.

which electro-chemical & electro-metallurgical industries might arise, as well as those connected with the products of the forest & the mine.

Electricity for Main Line Railways.

At the recent convention of the American Society of Civil Engineers a prominent place was taken by the discussion upon the applicability of electricity to main line railways, & it is rather interesting to notice how the views of the various speakers indicated their present affiliations. It is very difficult for any railway man to see anything good in electric propulsion for anything but local and suburban traffic, & the possibility of railway traffic ever becoming modified because of the use of electricity is something which the orthodox railway engineer does not want to think about. Col. Haines showed that electricity was more suitable for light, frequent trains than for heavier ones running less often, but no one seemed to see in that an argument for running light, frequent trains altogether, obvious as the suggestion might appear. The fact that the fuel-saving of power houses over locomotives is not great, was brought out strongly in opposition to the use of electricity, but the absence of reciprocating parts, & the advantages of independent motor cars were features altogether too radical for the average railroad man to accept. It must not be forgotten that the traffic conditions which are assumed to control the subject, are themselves the creation of the present railroad system, & that a new system may create new traffic conditions adapted to its capabilities, & none the less effective because they happen to be different from those which now exist. No one doubts that if aerial navigation should become a practicability, an entirely new set of traffic conditions would instantly be created, & the old conditions would be altogether powerless under such circumstances. When the mechanical conditions which are necessary to adapt electric traction to main line surface are fulfilled, the traffic conditions may be found equally powerless.—*Engineering Magazine.*

Fair Warning.—Visitor—Does the trolley line lead to the cemetery? Citizen—Yes, if one isn't careful.

F. A. Huntress, Manager of the Halifax Electric Tramway Co. has been visiting Barbadoes, Port au Prince, & Georgetown, in the West Indies, where it is said there are favorable openings for electric railways, which are likely to be taken advantage of by Canadian capitalists.

At the recent Trades & Labor Congress in Montreal, it was decided to petition the Dominion Government for the passage of an Act to provide that employees of electric railways shall be compelled to serve an apprenticeship of 30 days, & to pass an examination as to competency before entering upon active duties.

General Telegraph Matters.

The Commercial Cable Co. has declared its usual quarterly dividend of 1¼% payable Oct. 1.

The C.P.R. Co.'s telegraph is extending its service along the Columbia & Western Ry., between West Robson & Midway as fast as track is laid, offices being opened at the principal stations.

J. H. Helmcken, of Victoria, B.C., is advocating the establishment of telegraph communication between Vancouver Island & the smaller islands adjacent to it, particularly a cable from Comox to Texada.

The Spokane & Northern Telegraph Co.'s lines have been extended to Midway, B.C., via Republic, Wash. It is the intention to ex-

tend through the Boundary Creek country, including Cascade City, Grand Forks, Columbia, Curlew & Greenwood.

The Dominion Government telegraph line, connecting the Cape Beale & Alberni lines, thus circling the southern end of Vancouver Island, has been completed. The wire follows the coast line, but is strung on trees, cleared of branches, & a good trail has been cut, so there is not likely to be much trouble from falling timber. The line is 60 miles long.

The C.P.R. Co.'s telegraph office in Vancouver has been removed to the General Passenger Agent's office on Granville Street where the work of the office will be carried on pending the completion of the building being erected on Hastings St. When the new station is completed a branch office will be opened in it, which, with the Carrall St. branch, will give the Co. three telegraph offices in the city.

At the annual meeting of the G.N.W. Telegraph Co. in Toronto, Sep. 27, the directors & officers were re-elected, viz.:—President, H. P. Dwight, Toronto; Vice-President, A. Brown, Hamilton; Directors, H. N. Baird, J. Hedley, A. S. Irving, W. C. Matthews, Toronto; R. Fuller, Hamilton; Hon. W. McDougall, Ottawa, & C. A. Tinker, New York; Secretary & Auditor, G. D. Perry; Treasurer, A. Cox. The Co. does not make its report public, but it is said the financial statements presented showed a marked improvement in the revenue of the Co. over the previous year, & it was stated that the outlook for the coming year was still more hopeful.

The establishment of the Marconi system of wireless telegraphy in the northern part of Newfoundland, & along the Labrador coast, seems to be seriously contemplated by the Newfoundland Government, whose Minister of Marine & Fisheries, in a recent interview, stated that the plan at present thought of, if arrangements can be made with M. Marconi for instruments, fitting up, etc., is to connect the whole Labrador coast with the nearest telegraph station on the island, probably Tilt Cove. The distance between Tilt Cove & Rama, Northern Labrador, in a line along the coast, is something over 850 miles. This means that about 18 stations at a distance of about 50 miles apart will be placed. The system will probably be worked only during the fishing season of some four months in the year.

General Superintendent McGuigan, of the G.T.R., has issued a circular in which he points out that numerous complaints have recently been made that public telegraph business at several stations is not handled in a prompt or satisfactory manner. "It is our desire," he says, "that this service be made as satisfactory to the public as possible. Therefore, agents & operators will be expected to expedite the handling of this class of business, & will, hereafter, be held strictly to account for unnecessary delays or failures. Passengers & others offering messages at our stations for transmission are to be given prompt & courteous attention, & their messages transmitted with the least possible delay consistent with the proper performance of railway duties. The delivery of such messages must also be made without unnecessary loss of time."

The Plant S. S. Co.'s str. La Grande Duchesse is to carry an excursion to the International yacht race between the Shamrock & Columbia, & will have Marconi on board to transmit a report by wireless telegraphy. A cable ship will be stationed at some convenient point & connected with the cable, the land end of which is at Coney Island. The cable ship will at times be 20 miles or more from La Grande Duchesse, but it is claimed that it will be possible to receive messages on the latter & transmit them to England in one

minute's time. The Duchesse is particularly adapted to the work from the fact that a long spar is necessary in order to convey the sound successfully. The fore truck of La Grande Duchesse is 135 ft. from the water line, upon the extreme top of which will be placed at right angles a short gaff, or arm, about 3 ft. long. From this arm will be suspended an insulated wire, the lower end of which will connect with the operating instruments in a room immediately below the arm or gaff.

The extension of the Dominion's Gulf of St. Lawrence telegraph system to the Strait of Belle Isle will shortly be effected. The line on the north shore of the Gulf extends from Murray Bay to Big Romaine, 500 miles. The stretch between Big Romaine & Chateau Bay on the Strait of Belle Isle is 315 miles, & the contract for the construction of the line between these points has been let to X. Gendreau, of Quebec. The poles are being laid along the route. Chateau Bay is the nearest point on the Labrador coast to Belle Isle, the light station at the "front door of the St. Lawrence," which station it is intended to connect with the government signal system. But the experts are as yet undecided how the connection shall be made. A cable could easily be laid from Chateau Bay to Belle Isle, but the grinding of the immense masses of ice which pass through the straits in early spring would make short work of a cable. The only alternative, therefore, seems to be the adoption of a scheme of wireless telegraphy, & the experts of the Public Works Department are eagerly following the experiments being made in Europe, with a view to adopting wireless telegraphy as a means of connecting Belle Isle with the coast signal system.

At the hearing of the North Waterloo, Ont., election protest recently, subpoenas were served upon the G.N.W. Telegraph agents at Berlin, Waterloo, Elmira, & the C.P.R. Co.'s telegraph agent at Berlin, requiring them to produce all telegrams relative to the election which had passed through their respective offices. Large batches of messages were produced. The G.N.W. T. Co.'s Berlin agent, on the advice of his superior officers, submitted to the court that the subpoena served upon him was not sufficiently definite, as it referred to certain telegrams passing through his office during a period of 5 or 6 months, & did not give names or dates. He was instructed by Judge Osler to obey his subpoena. The Elmira agent, when called, said that his instructions from the Co. were not to produce telegrams without an order from the judge, who declared emphatically that he would not give an order; that telegraph people must understand that they must obey a subpoena. President Dwight, of the G.N.W. T., & Superintendent Pingle, of the C.P.R. Co.'s telegraph, were called upon to produce all telegrams sent in & out of Toronto & the different stations in North Waterloo by the Ministers of the Province & various others interested in the election. These gentlemen, however, did not respond, & it is now stated that application will be made to set aside the subpoenas served upon them. The effect of this subpoena, it is argued, would be to place in the hands of the petitioner & solicitors all the public & private despatches of the Ministers for months together, whether relating to the case or not, & also to destroy confidence in the telegraph companies & thus injure their business. The local manager of the Bell Telephone Co. at Berlin, & the telephone agent at Elmira, were also subpoenaed & testified as to conversations in reference to the election having taken place over their wires.

The Yukon Telegraph Line.

The Dominion Government's line was completed in Aug. to Fort Selkirk, 417 miles from its starting point at Lake Bennett, and the 176

ASSESSMENT SYSTEM.



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THE SPLENDID RECORD OF THE I. O. F.

Cost to Join the I.O.F.

(For \$1,000 Mortuary Benefit.)

Initiation fee (minimum).....	\$1.00
Certificate fee.....	1.00
Registration fee.....	1.00
Medical Examination fee.....	1.50

Total minimum cost.....\$4.50

(For more than \$1,000 Mort. Benefit.)

Cost to take \$2,000 Mort. Benefit.....	\$6.00
" " \$3,000 " " " " " "	7.00
" " \$4,000 " " " " " "	9.00
" " \$5,000 " " " " " "	10.00

Sick benefits, when required, cost extra.

Benefits given by the I.O.F.

- 1.—**Social and Fraternal Privileges** of the Court Room.
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- 3.—**A Sick Benefit** of \$3 to \$5 per week, subject to provisions of the Constitution and Laws of the Order; optional, and when taken costs extra.
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- 5.—**An Old Age Benefit** consisting of exemption from payment of premiums and Court dues after age 70.
- 6.—**An Old Age Disability Benefit** of one-tenth of face value of policy payable yearly for ten years, on being declared totally and permanently disabled by infirmity of age after the seventieth birthday.
- 7.—**An Old Age Pension** payable during disability, which may be taken as a substitute for the Old Age Disability Benefit.
- 8.—**A Burial Benefit** of \$100 at death of a Pensioner.
- 9.—**A Funeral Benefit** of \$50 at death of a member enrolled in Sick and Funeral Benefit Department.
- 10.—**The Mortuary Benefit** of \$500, \$1,000, \$2,000, \$3,000, \$4,000 or \$5,000.

The Members, the Benefits, and Their Assurance

At 31st December Each Year.

Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300.00	\$ 4,568.55	\$ 4.48	4.50
1882	1,134	12,058.86	2,967.93	2.61	11.00
1883	2,216	9,493.68	10,857.65	4.91	4.73
1884	2,538	13,914.31	23,081.85	9.01	4.23
1885	3,642	26,576.99	29,802.42	8.18	7.76
1886	5,804	28,499.82	53,981.28	9.30	4.85
1887	7,811	59,014.67	81,384.41	10.44	5.78
1888	11,800	89,018.16	117,821.96	9.98	6.43
1889	17,349	116,787.82	188,130.36	10.84	5.85
1890	24,604	181,846.79	283,967.20	11.54	5.18
1891	32,303	261,436.21	408,798.20	12.65	6.40
1892	43,024	344,748.82	580,597.85	13.49	6.25
1893	54,484	392,185.93	838,857.80	15.76	5.47
1894	70,055	511,162.30	1,187,225.11	16.94	5.47
1895	86,521	685,000.18	1,560,733.16	18.03	5.67
1896	102,838	820,941.91	2,015,484.38	19.60	5.50
1897	124,685	992,225.60	2,558,832.78	20.52	5.36
1898	144,000	1,176,125.14	3,186,370.36	22.12	5.67

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Oronhyatekha, M.D., S.C.R., Toronto, Ont.

James Marshall, 24 Charing Cross, London, Eng.

John A. McGillivray, Q.C., S.S., Toronto, Ont.

A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.

Or Any Officer or Member of the Order.

miles from Fort Selkirk to Dawson were completed Sep. 28.

Frank Richards, Surveyor for the telegraph construction party, was drowned in Five Finger Rapids, Aug. 2.

The present rate for a 10-words message from Bennett to Five Fingers, 319 miles, is 75c.

A. B. Clegg has been appointed Manager of the office at Dawson, & W. Brownlow has been appointed to the Selwyn River office.

It was recently reported in Victoria, B.C., that the Government intends constructing a line from Tagish to Atlin, about 115 miles. A telephone system is already in operation in the Atlin district.

The cheques accompanying tenders put in on Aug. 24 for the supply of telegraph wire for the proposed line between Quesnelle, B.C., & a connection with the line from Bennett to Dawson having been returned to the tenderers it was reported that the Government had abandoned the idea of constructing this line, for the present at least. The Government press announces that the report is unfounded, that the policy of the Government has undergone no change, & that a contract for the supply of wire has been let to the same contractors as supplied that necessary for the Bennett-Dawson line.

Arrangements have been made by the C.P.R. Co.'s telegraph by which messages received by it at Vancouver for transmission to the Yukon, will be forwarded by steamer every other day from Vancouver, & every intermediate day from Victoria & Nanaimo, making practically a daily service with the north. At Skagway the messages will be handed to the White Pass & Yukon Ry., & sent over its wires to the starting point of the Government line at Bennett. It is expected that messages can be got to Dawson within 4 days after leaving Vancouver. Coming down the same arrangement will be in effect. The steamers will bring messages from Skagway, and at the first port of call, whether Comox, Nanaimo, Victoria or Vancouver, the messages will be delivered to the telegraph office for transmission to the points to which they are addressed.

The Pacific Cable Scheme.

All the Australian colonies interested in the proposed Pacific cable from Vancouver, B.C., to Sydney have been discussing the subject of late. The Victoria Assembly has passed a motion declaring it expedient that that colony co-operate with the United Kingdom, Canada, New South Wales, Queensland & New Zealand in the construction & working of a cable across the Pacific Ocean from B.C. to Australia, touching upon British territory only. Victoria is thus committed to the Pacific cable, & if the Eastern Extension Co. wants the Cape route it must carry it out itself. In New South Wales nothing will be done in the direction of bringing the Pacific cable question before Parliament until a definite agreement has been arrived at on the subject. The latest phase of the matter is the representation on the board which is to arrange all the preliminary business & prepare the tariff. The original proposal was that a board of eight should be appointed, comprising three delegates from Great Britain, two from Australia, one from New Zealand & two from Canada. The Australian colonies, & especially New South Wales & Victoria, considered that the representation for Australia was too small, & the suggestion has been made that the three

Australian colonies & New Zealand shall each have a member on the board, thus making four for Australia. This it was recognized would necessitate an increase in the representation of Great Britain & Canada. The matter is now under the consideration of the home authorities.

Subways for Electric Wires.

City Engineer Galt, of Ottawa, having been instructed by the city council to report upon the feasibility of having all electric wiring underground, has done so as follows:

Underground wiring is quite practicable from a civil, mechanical & electrical standpoint notwithstanding all the objections, difficulties & obstacles to be encountered. The most important feature to be considered from the standard of municipal requirements is the system of underground work. The ideal method, unquestionably, would be separate open subways on each side underneath the sidewalks or along the street roadway close to the gutter or curbing, large enough in size for the accommodation of water & gas mains, electric wiring, etc., including facilities for examining, making all repairs & house connections. This seems to be the only suitable plan of subway construction, & will give separate underground space on each side of the street for pipes & wire service to the street line. Of course, this would require duplicate water & gas mains, etc., but there could be no objection outside of the extra cost, because in the central portion of the city this is most desirable & highly advantageous, subway or no subway. My conclusions are as follows:

In cities overhead wiring is objectionable from every standpoint.

Underground systems are practicable for all kinds of service, notwithstanding the serious objections urged, including interference on account of electrical induction.

A single subway in the middle of the street, although practicable, is entirely unsuitable, because connections to house properties would require constant cutting up & repairing of streets.

It is more than apparent, without further explanation or illustration, that under municipal ownership the extent & interference in the tearing up of streets will be reduced to a minimum.

In the end the results will be highly satisfactory & economical to all concerned, while at the same time the dangerous, annoying & objectionable overhead system will be abolished.

I submit a preliminary sketch showing a brick lined underground subway 4 ft. wide by 4½ ft. high, located inside the roadway close to the curbing. The total cost of the actual construction of this double subway on the ordinary macadam roadways would be \$12 per lineal foot & on permanently paved roadways \$16 per foot, to which would have to be added all the other large incidental expenses connected with the conversion of the present system into the new. If subways were placed directly underneath the concrete sidewalks the cost of construction would be increased to 25%, & would still have to cross over road-

ways at all street intersections; & in addition be a serious hindrance to pedestrian traffic during period of construction.

General Telephone Matters.

A telephone line has been established between Atlin, B.C., & Discovery, a distance of 6 miles.

The poles for the extension of the N.B. Telephone Co.'s line from Moncton to Buc-touche have all been placed.

The Town Council of Neepawa, Man., has awarded contracts for the installation of an electric light & telephone service.

The Bell Telephone Co. will shortly have all its wires on Main St., Winnipeg, under ground & next season will extend the conduit system to other central streets.

Salt Spring Island, Strait of Georgia, B.C., has a telephone service with about 35 miles of wire & 12 'phones. The postmaster keeps the central & maintains the lines, etc.

The Winnipeg City Council has extended its contract with the Bell Telephone Co. for the operation of the fire alarm system for another year, at the old figure, \$3,000.

The Hudson's Bay Co. has decided to establish telephone communication between Fort Smith & Smith Landing, on Great Slave River, N.W.T., a distance of 16 miles.

The Bell Telephone Co. gives notice that a direct heavy copper wire having been built from Toronto to Buffalo, improved communication can now be had with places in the U.S.

The New Westminster & British Columbia Telephone Co. has now over 800 subscribers on its Vancouver list & will shortly have to install a switchboard of larger capacity than the present one.

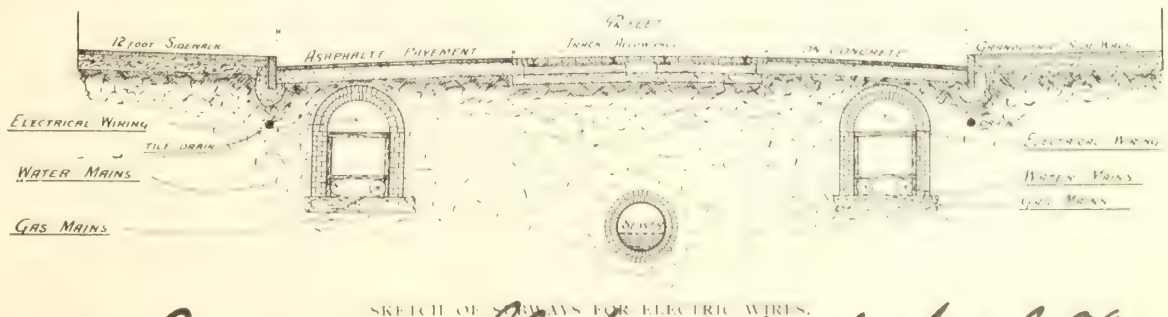
The Vernon & Nelson Telephone Co. intends to string another wire to accommodate its rapidly increasing business. It makes connection with the C.P.R. Co.'s telegraph at Cascade, B.C.

Telephone communication has been established between Mine Centre, Algoma, & all the mines of the Vermilion group, including the Golden Star, Decca, Manhattan, Olive, Lucky Coon, Aria, Alice A, & many others.

The premises of the Telephone Exchange & Public Works Warehouse, at Kingston, Jamaica, were recently destroyed by a fire caused by some mishap to the West India Electric Co.'s trolley wire. The loss is estimated at £6,000.

Rat Portage, Ont., municipal council has made a contract with the Citizens' Telephone & Electric Co. for street lighting. The Co. gives free lighting for the town hall, free telephone service for the same & for the police station & pump house, as well as a fire alarm service without cost to the town.

The Bell Telephone Co.'s plant in Ottawa is to be greatly improved, in fact almost entirely renewed, at an expenditure of about \$150,000. The present switchboard, which cost \$35,000 when installed, is to be replaced by one which will be 50% quicker. All the wiring is to be renewed, copper wire being used solely. A



Ref to Canadian Electrical News Nov. 2. 99.

conduit is being laid along Elgin St. for the co-termini, & it is probable that one will also be laid to the Parliament Buildings.

The Eastern Townships Telephone Association, is the name of a new company which is now about to start business in the eastern townships of Quebec. The points to be connected are Waterloo, Knowlton, Magog, West Shetford, Cowansville, Sweet'sburg, East Carleton, Adamsville, Roxton Pond, Roxton Falls, St. Valerien, St. Anne de Stukely, Lawrenceville, Bonsecours, St. Alphonse, Angeline, L'Ange Gardien, Valcourt, St. Marie, Mawcock, Milton, St. Cesaire, Farnham & Granby. The association purposes connecting with the Sherbrooke line at Magog, & the new St. Hyacinthe Co., at St. Hyacinthe.

A Grand Forks, B.C., despatch of Sept. 12, says: "C. O'Brien Reddin, of Spokane, President & General Manager of the Columbia Telephone & Telegraph Co., is here to carry out a contract with J. P. Graves for the construction of 50 miles of private telephone lines connecting the head offices here with the City of Paris, Majestic, Knob Hill & Old Ironsides & Aetna mines, the Granby smelter & the smelter dam on the North Fork of Kettle River. Connection will be made at Eholt with the trunk line of the Columbia Co. between Grand Forks & Greenwood. The Co. has a system extending from Rossland to Camp McKinney, & there are local exchanges at all leading intermediate points. Later on the line will be extended to Pentictic & Vernon. Its U.S. ally is the Spokane & B.C. Telephone Co., which reaches Spokane, Republic & other points in Washington. Mr. Reddin occupies the same executive position in the U.S. Company, which with the Canadian Corporation owns 350 miles of telephone lines."

For the purpose of preventing the free use of the telephone by persons who are not entitled to the privilege of communication, the Bell Telephone Co. has adopted the nickle-in-

the-slot machine, to open up a new source of revenue. The Co. complains that its telephones are very improperly used by a large number of persons, especially the instruments in drug stores, grocery establishments & hotels, who pay nothing whatever for service which in many cases must be of great value. Business people who have telephones in their establishments are usually willing to oblige any person who politely asks for the favor, and they are in a measure repaid for their courtesy by the popularity which attaches to a kindly act which costs them nothing. In fact, some subscribers go so far as to provide an extra 'phone with a switch for the use of their customers & the public generally. The Co.'s records state that in some semi-public places as many as a hundred people a day use the instruments promiscuously & thus entail a large amount of work upon the Co.'s staff, for which it receives no remuneration whatever. The five-cent-in-the-slot instrument is to be distinct from the ordinary telephone in the office or store. The person desirous of using the instrument calls up the central operator, who responds by a request to put 5c. in the slot. If this is done an interrupted battery current signals through the operator's telephone that the money has been deposited. The number required is then called & the user can then proceed with his business; but if no money is put into the slot there is no service so far as the central is concerned. It is the intention of the Co. to keep a strict watch on all private 'phones where there is a slot instrument available, to see that the former are not put to an improper use. The nickel-in-the-slot machine is being put in in Montreal, Toronto, Hamilton & London, & will probably be introduced in Ottawa & Quebec a little later on.

Among the Express Companies.

The Dominion Ex. Co.'s office in the Hotel International, Fort Steele, B.C., was recently destroyed by fire.

The Dominion Ex. Co. has opened offices at Gladstone, Cascade, & Grand Forks, B.C., on the Columbia & Western Ry.

The Yukon Overland Express & Transportation Co. has been incorporated under the Dominion Companies Act, with a capital of \$500,000, & with powers to construct & operate a waggon toll road from Cariboo crossing, on Lake Bennett, to Dawson. It is specified in the charter that the whole work shall be completed by Aug. 1, 1901. The provisional directors are, J. T. Cornforth & Jos. Roos, of Denver, Col.; I. R. Hedges, Vancouver, B.C.; Irwin Mahon, Carlisle, Pa.; W. Hutchinson, M.P., & T. McVeity, Ottawa, Ont. The Co. will operate a stage waggon line in summer & a line of sleighs in winter. Mr. Cornforth is said to be an old hand at the stage coaching business, having many years ago conducted a stage line from the Missouri River to Denver. He has gone over the ground of the projected line & believes that when the stages are running, the 400 miles between Cariboo crossing & Dawson can be done in from 3½ to 5 days for express stages. Of course the heavier laden coaches or sleighs will take considerably more time to take in loads of freight. In the place of following the sinuosities of the river a bee line will be made across country from Bennett to Selkirk, thus making a 200 mile journey out of what by the river would be a 350 mile trip. It is the intention to erect way stations every 15 miles, where passengers can rest for the night, & where meals can be obtained. The stages will start from Bennett twice a day, & the directors hope that by the new year the road will be built within 50 miles of Selkirk. It is said to be intended to charge only small tolls to vehicles using the road & not belonging to the Co., as it will be easily seen that the business of the organization will be the better the greater the number of travellers who put up at the wayside inns. The coaches will be constructed in Concord, N.H., but the sleighs & other equipment will, it is said, be purchased in Canada.

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Aerated Waters E. L. Drewry.....Winnipeg.	Forgings Rhodes, Curry & Co.....Amherst, N.S.	Shafting Rice Lewis & Son.....Toronto.
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Ales E. L. Drewry.....Winnipeg.	Gates Page Wire Fence Co.....Walkerville, Ont.	Ship Carpenters' Tools Rice Lewis & Son.....Toronto.
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Anchors Rice Lewis & Son.....Toronto.	Grain Elevators John S. Metcalfe & Co.....Chicago, Ill.	Shovels Rice Lewis & Son.....Toronto. The Hudson's Bay Company.....
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G.T.R. SEMI-ANNUAL MEETING.

At the semi-annual meeting in London, Eng., Oct. 12, there was a large attendance of proprietors, with Sir C. Rivers Wilson, President, in the chair.

After routine proceedings the President said: When we met this time last year in this hall it was my province to announce to you that the $\frac{1}{2}$ -year which we had to treat of—the $\frac{1}{2}$ -year ended June 30, 1898—had been the most prosperous June $\frac{1}{2}$ -year which we had had since 1890, & further, that we were in a position to declare the full dividend on the guaranteed stock for the first time for $4\frac{1}{2}$ years; & in making those communications to you, I ventured to predict that we should continue to have a further measure of success in the near future. I am happy to say that the expectation I then held out to you has been fairly realized, because upon the present occasion we have gone a step further, & are in a position, after declaring a full dividend on the guaranteed stock, to declare a dividend of 1% on the 1st preference stock. I will not trouble you at such length as I generally do with a detailed explanation of the figures in the accounts. It will only be necessary for me to refer to some of the more salient features of the working of the line during the past $\frac{1}{2}$ -year. The capital expenditure during the $\frac{1}{2}$ -year has been kept within very reasonable bounds; indeed, I may say that the increase would have been almost infinitesimal if it had not been for the obligation imposed upon us by the Safety Appliances Act of the U.S. to equip our rolling stock with automatic couplers & air brakes, which accounts for £33,330 out of a total capital expenditure of only £49,733 in the past $\frac{1}{2}$ -year. The remainder of the capital outlay consisted mainly of £3,256 for the further extension of the double track between St. Hubert & St. Lambert, near Montreal, & in connection with two important bridges on the main line, & £5,403 was expended on account of the new general offices at Montreal on the excellent site so liberally presented to the Co. by the City Corporation for that purpose. The contracts for the masonry & ironwork for the new offices have been placed, the latter, owing to increased prices, at rather a higher figure than was originally estimated; but it is so far satisfactory that had these contracts been delayed, a much larger cost would have been incurred, owing to the extraordinary rise which has recently taken place in the price of iron & other materials. I may mention that we have authorized the General Manager to proceed with the doubling in sections of about 10 miles of the line at points where the traffic is heaviest, & where the existence of only a single line

militates against the safe, expeditious & economical movement of our through freight & passenger trains. You will remember that the distance between Montreal & Toronto is 333 miles, of which, when the additional mileage now authorized is completed, only about 48 miles will be single track, & we hope within a reasonable period that the whole of that important section of the line will be doubled. Turning, now, to the revenue account, it will be observed that all the items of which the revenue receipts are composed show an improvement. The receipts from passengers

than in the corresponding $\frac{1}{2}$ -year. The large haulage per train will be still further increased when the reconstruction of the bridges in heavier material & of greater bearing capacity on the Portland section & on the Southern division is completed, so as to allow of heavier loads being run over them. Looking to the expenditure side of the revenue account, it will be seen that the total working expenses including taxes, were £54,361 in excess of those for the June $\frac{1}{2}$ -year of 1898. The total maintenance of way charges were more by £8,219. The expenses for repairs of roadway were reduced by £14,194, & the clearing of snow cost less by £7,664 in consequence of the open winter last year, but the charge for repairs & renewals of bridges & culverts was £10,789, & for the repairs & renewals of buildings & fixtures £7,308 in excess of those charges in the corresponding $\frac{1}{2}$ -year. I daresay those of you who were present at the $\frac{1}{2}$ -yearly meeting in March last will remember that Mr. Hays made certain remarks in regard to expenditure on the line. He said most distinctly that the proprietors must not expect economies either in maintenance of way or in maintenance of rolling stock, & we must endeavour to economise in other branches of the expenditure, & not in those which would imply the starving of the line. Although a portion of this expenditure consists—especially in connection with bridge renewals—of improvements to the property, the whole of it has been charged to revenue, & the same remark applies in some measure to the increased charge for the repairs & renewals of rolling stocks—about £20,000—inasmuch as the new engines recently provided out of revenue are of modern type & of greater haulage capacity than those they have replaced. The cost of fuel for locomotives shows an increase of £25,328, or 14%, which the General Manager explains to have arisen from the larger number of tons hauled 1 mile, which increased by 17%, & from the larger consumption of fuel caused by the increased speed at which the more powerful locomotives now being introduced are run. I am happy to say that, on the other hand, there has been no appreciable increase in the



CHARLES R. HOSMER,

Director of the Canadian Pacific Railway Co., and Manager of the Co.'s Telegraphs.

were £50,988, from freight & live stock £43,749, from mails & express business £1,815, & from rents & tolls £14,933, in excess of the earnings of the corresponding $\frac{1}{2}$ -year, making an aggregate increase in the revenue receipts of £111,485, or 5.96%, while the train mileage only increased 1.4%, & the engine mileage 3.13%. This comparatively small increase in the train & engine mileage is not an unsatisfactory feature in the operations of the $\frac{1}{2}$ -year, when the larger ton mileage carried of 17% is taken into consideration, proving, as it does, that the tonnage hauled per train was materially larger

price of coal. The result of the $\frac{1}{2}$ -year's operations, compared with those of the corresponding period of 1898, may be briefly summarized. The revenue receipts show an increase of £111,485, & the working expenses of £54,361. The net traffic receipts were, therefore, £57,124 better than in the June $\frac{1}{2}$ -year of 1898. The net revenue charges, after deducting the credits to that account, were less by £749, leaving an increased G.T. revenue surplus of £57,873. On the other hand, the advances to the Chicago & G.T., & to the Detroit, Grand Haven & Milwaukee under our existing agree-

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NEXT ANNUAL MEETING at Montreal, Oct. 16, 1900.

ments with those companies were £28,119 more in the past than in the corresponding ½-year, owing to the increased working expenses of the Chicago & G.T. line. The improvement in the G.T. net revenue surplus amounted, therefore, to £29,754, which, with the balance brought forward from the previous ½-year, permits of the payment of the ½-year's dividend on the guaranteed stock & of 1% on the 1st preference stock, with a small balance carried forward. You will always bear in mind that the ½-year with which we are dealing now is the lean ½-year.

Turning aside from the accounts, I will just mention some of the experiences I brought back from Canada, which I visited this year in company with Mr. Hubbard, one of our directors, & our Secretary, Mr. Lindley. The particular objects of my attention upon the occasion of my recent visit were the Central Vermont & the Chicago & G.T.—the Central Vermont on account of the recent reorganization of the line, the particulars of which were explained to you at the special general meeting in May last, when you passed a resolution approving the agreement in connection with that line. We travelled over the whole of that line from its junction at St. John's in the north, down to New London in the south, & then we branched off eventually on to the Boston & Maine Ry. to Boston. We were accompanied during the greater portion of our examination of the line by Mr. Smith, the President of the line, & by E. Baker, who was the President of the late bondholders' committee, and, of course, by the officials of the line, & the conclusion we arrived at was favorable. We found that there was a great deal of work to be done, but that it was being done well & efficiently, & with every prospect of leading to the success which we anticipated when we made that arrangement with the Central Vermont. The rails were nearly all 65-lb. rails, & they will have to be gradually replaced with heavier rails. The rolling stock leaves a good deal to be desired, & there are various other matters which will have to be attended to. But already, under the improved management, & under the control of our own officers, during the first 4 months of the new administration, the receipts for May, June, July & Aug. were considerably in excess of the fixed charges. That is a satisfactory result, & all the more so to ourselves, inasmuch as we are the largest holders—more than 2-3 of the whole—of the ordinary stock of the C.V. Co., & the fixed charges, being once provided for—I do not mean to say immediately, because we may use the balance for the improvement of the line—there is a substantial prospect, as I held out to you last May, of our shares becoming a valuable asset. I did not upon the present occasion go to Portland, which was visited, however, by Messrs. Hubbard & Lindley. I went on to Montreal, & for the first time over the new Victoria Jubilee bridge, & I can assure you I experienced a feeling of the greatest satisfaction, I may now say of the very greatest possible relief, to feel that I was going over a bridge which has a carrying capacity, as Mr. Hays explained to you last year, of 11,000 lbs. per lineal foot instead of 2,400 lbs. which the old bridge was originally designed to carry, & which I am bound to say was the cause of no little anxiety. I cannot express to you the feeling of security & satisfaction with which my colleagues & myself went over this magnificent structure, which, as far as one can

judge, will last to the crack of doom. The double track over the bridge was opened for traffic last Dec., & since then the work has been almost entirely completed. There are one or two little matters of detail connected with the bridge which have not yet been finished, but virtually this great structure has been successfully completed. Again, I must express our satisfaction to our engineer, Mr. Hobson, for the great intelligence & ability which he has brought to bear upon that work. Passing on to the west we were very pleased to inspect two round houses which have been erected, one at Port Huron & the other at Sarnia, the western & eastern ends of the St. Clair tunnel. There had been great inconvenience in consequence of the long distance at which the former engine sheds were from the terminals of the tunnel, & the result was that great expense was incurred by moving locomotives backwards & forwards to their stables. That has now been obviated. Other matters in connection with our visit I need not go into in detail, but we carried away an impression that the line was improving in all respects. The permanent way is well kept up. You cannot travel over 20 miles of the road without seeing indications of the improvements in every branch of the line. We have acquired for ourselves, I can assure you, a reputation in Canada which I do not think we ever possessed before. But, in order to keep the line up in its present condition, & to continue improvements, a liberal expenditure is necessary, & it requires all the ability & all the efforts of our management to resist the influences which we have to encounter, namely, the influences which tend to force up the working expenses, & the continued falling off of the rates. There is also another element which is naturally incidental to a great undertaking like ours, & also to the prosperous times through which we are passing, namely, the demands—I will not say the unjustifiable demands—for better wages on the part of our employees. We have had, you will remember, I dare say, some little agitation amongst some of our men, which, I am happy to say, has been amicably settled. We have had, no doubt, to make concessions to our employees, but they have never been unreasonable, & I believe they are perfectly satisfied with what has been done. I could only wish that we had been always left face to face with our employees, who, as I said before, are reasonable people, but I am sorry to say that politicians & other persons very often try to get up a little cheap popularity in espousing a cause which does not require them to put their hands in their pockets. We have had to contend with a great deal of that sort of thing, but I am happy to say that the press has, on the whole, been extremely fair in these controversies which have been going on on the subject of wages. I call to mind, however, one instance where a rather too enthusiastic writer, who, on my having timidly advanced some of the most elementary principles of political economy, accused me of having preached the "fiendish doctrine of supply & demand." There were references also from the pulpit, not from the most distinguished of ecclesiastics, in which we were held up to execration as a bloated, corrupt & greedy corporation. Now, I think if there was ever an unfortunate company of which this cannot be said it is the G.T.R. of Canada & its long-suffering proprietors. Another important consideration which must enter into our calculations at the present time is the enormous rise in the price of materials, especially iron & steel. The last contract that we entered into for steel rails was in Nov., 1898, when we contracted for a large quantity at \$17.75 a ton delivered on our line. The prices now—the last quoted prices which I have seen—are \$32 at the works. By the foresight of our General Manager, on the occasion of the last contract made, he fortunately stipulated for a

considerable quantity in advance of our immediate requirements, &, therefore, for the moment we do not feel the pinch in this respect. But then this increase goes through the whole of the steel & iron trade, & the increases between Jan. & Aug. this year have varied from 50% to something like 150%. For instance, steel boiler plates have increased by 125% in value, & steel tank plates by 136%. The result of all this—and it affects, of course, every other company as well as ours—is hesitation & reluctance to embark upon new works. We all of us shall postpone as many important works as we possibly can in the hope that prices will come down, & the fact of our abstention, coupled with the fact that a large quantity of new capital will probably go into this industry, will tend, I hope, to bring prices down. Meanwhile, we must watch things very carefully, & we shall certainly not embark in any unnecessary expenditure. Even in the case of lumber, of which you would think there was such an unlimited supply in Canada, the price has also risen in every class by about 19½%. As to rates, I am sorry I have nothing very satisfactory to tell you—in fact, Mr. Hays reports that the open tariffs are lower than ever. The only remedy for this state of things, as far as I can see, is that which I have mentioned upon one or two occasions previously—namely, legislation by the U.S. Congress. I think that the mind of the public is being gradually crystallized to recognize the fact that something must be done for the railways in that respect, to allow them to pool their earnings, & to give them the legal power to enforce contracts among themselves. You see, as I said before, there are always these conflicting elements at work in the administration of the great railways. First of all, the natural pressure of increased expenditure, & against that the countervailing efforts of the management to introduce more economical methods of working, & also, of course, to obtain more profitable business. You will remember what Mr. Hays said last year, “that to save money you must spend money,” & that must be our note, I am afraid, for some time to come.

We shall have to ask you to pass a resolution approving of the agreement which has been entered into between our Co., subject to your approval, & the Dominion Government, for the lease to the Intercolonial Ry. of running powers over a portion of our line. The matter has been mentioned on one or two previous occasions, but it is only now that we are in a position to ask you to give your formal sanction to the arrangement, because it was only in Aug. last that the Act of the Dominion Parliament received the Royal Assent. The matter hung fire for some little time in consequence of the opposition of the Senate. The Bill passed the Lower House last year, & when it went to the Senate certain modifications in the agreement were insisted upon so that it was thrown out, but this year it was reintroduced, & modifications have been made which do not affect the general purport of the agreement, & the matter is now complete. I must explain to you generally what the nature of the agreement is. The chief points are, that in consideration of the joint use by the Intercolonial Ry. of the G.T. bridge across the Chaudiere River & the joint use of the G.T.Ry. & property between Ste. Rosalie & St. Lambert stations, together with the use of our railway & property between & including Ste. Rosalie & Bonaventure station, Montreal, the use of the Victoria bridge & of the termini in that city, the G.T. Co. is to receive a yearly rental of \$140,000, payable in equal monthly instalments, & also a share of the cost of maintaining the railway appurtenances & appliances between & including Ste. Rosalie & Bonaventure station, of the Chaudiere bridge & connections, & also the cost of maintaining the tracks of

the Victoria bridge in the proportion that the combined engine & car mileage of the I.C.R. trains, made over each of the above-mentioned joint sections, bears to the total combined engine & car mileage running over the said joint sections during each month. There are also provisions as to the I.C.R. paying a portion of salaries & wages & also imposing upon them the obligation, in the event of doubling the track or erecting new stations, that they shall pay 4% on a proportion of the capital outlay. There are also provisions for the conduct of traffic, the application of receipts, & arbitration in case of necessity. I must explain to you that the point to which the Senate took exception, & which was afterwards conceded by the Government, was this: Under the agreement an arrangement was to be entered into between the two companies for the interchange of traffic, & inasmuch as the traffic arrangement was to run concurrently & continuously with the main agreement for 99 years, it was objected that the Government would tie its hands for too long a time. That matter has been conceded, & is now arranged that the traffic agreement may be put an end to at any time on 6 months' notice. It is a matter of no great importance to us, because we feel thoroughly convinced that there can be no reasonable chance of competition in view of the great convenience to the I.C.R. afforded by our valuable terminals at Montreal. That is explained in the supplementary agreement which will have to be approved by you. May I take the agreements as read? (Voices: “Yes.”) I will take the opportunity of mentioning in respect to this arrangement, that it is one that recommends itself to the judgment of the board, & I hope it will to yours. It is part of the policy which we have pursued for the last 3 or 4 years of entering into friendly agreements with our connecting lines. The result is that at present we are in receipt of rents under 3 of these agreements—namely, that with the Wabash, that with the C.P.R., with respect to its running powers between Toronto & Hamilton, & the present agreement. The aggregate which we receive now as a yearly rental amounts to about £86,000, which will be increased in view of the progressive increase in the rent payable by the Wabash, to over £100,000 a year. That is a very comfortable amount to come yearly into our coffers, irrespective of other considerations.

Now I come to a matter of considerable interest & importance which has engaged the anxious consideration of the board for some time past—I allude to the position of the Chicago & G.T.R. You are familiar with the history of that line. You know how it was built up mainly by the energy & ability of Sir Joseph Hickson, formerly General Manager of this Co. You know it is a line which runs from Port Huron to Chicago, a distance of 335 miles. You know it is our great means of communication with the West, & that we also have a very large financial interest in the undertaking. But what perhaps you may not be aware of, if you have not studied our reports very closely, is the fact that there has gradually accumulated a very large indebtedness from the Chicago & G.T. Co. to the G.T. The Chicago & G.T. has not been in a position to raise capital for the improvement of its line, because the conditions of the 2nd mortgage preclude any amount being raised in excess of the 1st mortgage. The consequence of that has been that it has had to fall back upon the G.T., & that large sums have been advanced for many years past for general capital purposes, & for loans on rolling stock indebtedness, cars, & so forth. That amount at the present time is no less than about £650,000, & I think I may take credit to ourselves in saying that since the present board came into office, no addition has been made to that indebtedness. Indeed, I may say we have been able to decrease the amount by

some £111,000. But over and above that indebtedness, we have, under the traffic agreements which we could not evade, advanced over this period of years about £695,000; the consequence is, up to the present moment, we have had to put our hands into our pockets to the extent of between £1,300,000 & £1,400,000. Well, the condition of the Chicago & G.T. line is not at all satisfactory, particularly when you have to take into consideration that it is competing with other vigorous & wealthy lines running out of Chicago, & it has become perfectly obvious that if the Chicago & G.T. is to hold its own against this competition, it must spend a considerable sum of money in doubling the track & improving the grades. It is a matter of the most absolute necessity. Therefore, the question arose, how was this to be done? & we considered that a very opportune moment presented itself for the consideration &, I hope, the settlement of this question, in view of the fact that on Jan. 1 next a large number of 1st mortgage bonds fall due, & at that time the traffic guarantee under which these bonds receive their interest ceases, & I may just remark that we, the G.T., are not responsible for the principal. The Chicago & G.T.Co., let me remind you, is a separate corporation, & an American line. It is maturing a scheme which it is hoped will place the Co. upon a thoroughly sound & paying basis, & at the same time provide sufficient funds to carry out these indispensable improvements to which I have alluded. I am not in a position to go further into the question to-day, but a circular will shortly be issued by the Chicago & G.T. board to the mortgage bondholders, stating the proposals which they deem it their duty to make in the general interest, & to carry such a plan, which is so desirable for all parties concerned, into effectual operation, the co-operation of the Chicago & G.T. bondholders, as well as of the other creditors of that Co., of which the G.T. Co. is the chief, will be invited, & I think I may say on your behalf that any assistance consistent with the protection of your interests the G.T. Co. can render will be cheerfully afforded with a view of placing the Chicago & G.T.Co. in a permanently self-supporting position.

There are no further topics of prominent interest on which I need dilate to-day, & I have only a few words to say in conclusion. We may look back, I think, with justifiable satisfaction upon what we have done during the last 3 or 4 years. I think we may also fairly say that the prospect in the immediate future is bright. In the current ½-year, although it is a little premature to estimate exactly what the outcome will be at Dec. 31, yet so far for the 1st 2 months of the ½-year our net receipts have exceeded those of the corresponding period for last year by £43,000, & for the first 14 weeks of the ½-year, concluded 5 days ago, the gross increase of receipts has been £178,000. The general outlook is promising. The crops are good. I believe that the harvest is not likely to realize altogether the expectations that were formed a few weeks ago, but, at the same time, it is an excellent harvest, & in all other respects business is going ahead in a manner which has never been seen before, either in the U.S. or in Canada. Prosperity—to use Mr. Gladstone's expression—is advancing by leaps & bounds. The aggregate amount of exports & imports in Canada has been enormously increased. There have been large budget surpluses, almost a new feature in the history of Canadian finance. The banks say they have never had such a year before. Money is freely subscribed for new companies, and, in short, there seems to be enterprise all round. Therefore, I say, for the immediate future we have nothing to apprehend. Yet, at the same time, it is my duty to point out to you that prosperous times cannot always last, & we must be prepared for vicissitudes in the

figure. The moral of that is that we must make the best use of prosperous times by putting the line into as good condition as we possibly can. A useful note to this effect was struck by Mr. Gardlestone at our last general meeting, when he spoke some encouraging words to the board, & told them to act courageously by using their resources freely in good times for the betterment of the line. I was very glad to hear him make these observations, & I hope & believe that he echoed the sentiments of the proprietors at large. I need only say that the board will continue the same conservative & prudent line of policy which has hitherto been attended with so much success.

Resolutions for the adoption of the report and accounts, for the payment of dividends as announced, & to confirm the agreement between the Dominion Government & the Co., respecting the I.C.R., were unanimously adopted.

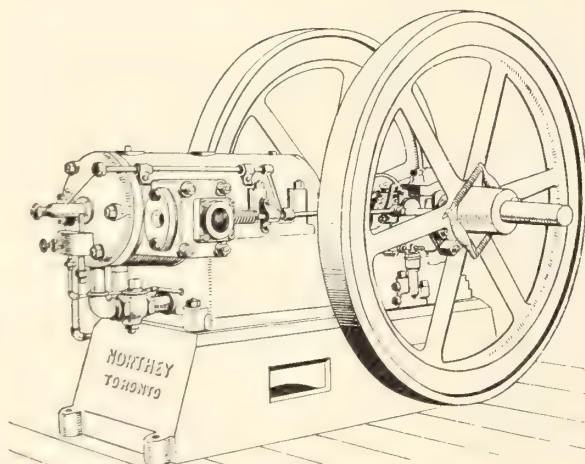
A. Hubbard, one of the directors, said:—It is hardly necessary for me to occupy much of your time after the very clear & exhaustive statement which you have just listened to from our Chairman, but at his request I may perhaps say to you what passed through my mind when I went over the line with him. When I visited the line about 7 years ago, a great depression was passing over not only Canada but the U.S.; one company after another was gradually going into liquidation, & one-third of the railways at that time in the U.S. had passed into liquidation. The G.T. happily escaped that, but everything looked very dark, & everything was against the executive being able to give a favorable report. But when I accompanied the President this summer everything was changed, & changed for the better. Prosperity succeeded adversity, & the leading men of Canada were telling us that never before in its history had Canada

been so prosperous as at the present time. As you heard just now, the traffics are increasing rapidly; the harvest has been good, & we are able to spend more on the line, so that we are now in a very different position to what we were in 7 years ago. The President has told you that we went from New York, & we travelled through by night to Montreal. We did not let the grass grow under our feet anywhere, & after we had spent a day or two at Montreal we went over the Central Vermont line, & I heartily agree with what the President said in regard to that line, that it will prove of great benefit to the G. T. system. But it was manifest to all who saw it that the line had been much neglected, the ties, though many had been renewed, required attention. The ballasting also was neglected, so that the maintenance of the line for some time to come will require a good deal of expenditure to bring it up to the standard of the G.T. From Boston the President went to Montreal & I went to Portland, where I found the change more marked than in any part of our system. Seven years ago only a few vessels could come along the wooden jetties, because the jetties were in bad condition, but on this occasion I found they had all been thoroughly renovated & put in good order, & vessels were lying alongside. An elevator has been erected, forming a large building 120 to 150 ft. high, capable of holding 1,000,000 bushels of corn, with all the latest improvements, & now we can discharge up to 6 vessels at the same time. I was told that last year we raised 10,000,000 bushels of corn into that elevator. That represents not only the rental for the corn and charging for loading & unloading, but the rate over our line for each bushel so disposed of. So great was the success there that some of the officers even thought it would be wise to put up another elevator, but such an outlay as that would require much consideration, & I

am sure the board will not enter hastily into that undertaking, for it would be rather too much in times of prosperity to go so far ahead that when changes came we might not have enough to fill one elevator. Portland has one of the finest harbors in the U.S., & it is a favorite port now. We are doing remarkably well, and that elevator has been a great success. From Portland I went to Gorham, & we travelled over our own line, which was in a capital condition. In many parts we travelled 60 miles an hour without any inconvenience or unpleasantness. From Montreal, we went over that magnificent structure, the Victoria Jubilee bridge, which was not quite completed, though traffic had been passing over it for some time. It is one of the finest bridges in America, & is a great credit to all concerned, to us as a Co. & to our engineer, Mr. Hobson, & it was carried out without the loss of a single life, except two cases, when men fell from the scaffolding into the St. Lawrence, which, of course, could not be provided against. That bridge now has a double track, & furnishes all we require for the traffic. In addition to that, each side of the bridge has roadways for carriages. There is a track 15 ft. wide on either side, & it will be a great convenience to the people living at Montreal. The Chairman has referred to our indebtedness to the Chief Engineer, which I thoroughly endorse. No one can look on that bridge without feeling that a master mind had constructed it. We then went further westward, travelling to Chicago. No one could travel over that portion without seeing the marked improvement that has taken place during the last 6 or 7 years. The road was in capital order. We are taking up light rails & laying down heavier ones, & in each mile 300 or 400 additional ties are laid to make it stiffer, so that with ballasting, everything is being got into as perfect condition as anyone would like

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to see. In coming from Chicago I had the pleasure to meet our General Traffic Manager, Mr. Reeve. He was one of the old officers, & he has at his fingers' ends all the mileage rates over the whole of our system, & instead of telegraphing to the different places he told me that for the last 5 weeks before I arrived in Canada he had hardly spent a day at his own house, because the pressure was so great at different places, & he chose to go himself instead of sending telegraphic messages as to the rates, & we are greatly indebted to him for the increased traffic we have had over the G. T. system. Another point struck me, & that was the changes made in connection with the maintenance of the line. On the former visit, the engineer, as on all lines in England, had not only charge of the construction work, but of the maintenance. Here a change had been made, & the General Superintendent, Mr. McGuigan, has the maintenance, in addition to the traffic work. So far, it seems to have answered very well. Mr. McGuigan is a very active man, & is doing all he can to advance the interests of the Co. In going through the various workshops I was very much struck by their being "live" shops. Anyone who knows anything of engineering shops will know what I mean. All the men seemed to be at work. There was no hanging about, nothing deadening, the men were all alive, & every person seemed doing his work, and doing it thoroughly. I could give more details, but I am sure you do not want to stay longer to-day.

The meeting concluded with a hearty vote of thanks to the board & the staff, in acknowledging which Sir Rivers Wilson said: I am extremely indebted to you all on my own behalf, & on behalf of my colleagues, for the very kind terms in which you have expressed our appreciation of our efforts. A large portion of the credit for the present condition of the undertaking is due to our General Manager for his efforts & the great ability with which he has seconded & carried out the policy of the board.

SEMI-ANNUAL REPORT.

The following summary shows a comparison of the ½-year's revenue account with that of the corresponding ½-year, ended June 30, 1898:—

June 30, 1898.		June 30, 1899.
£1,871,734	Gross receipts.....	£1,983,217 9 10
1,243,883	Deduct—	
	Working Expenses, being at the rate of 65.46 %, as compared with 66.46 % in 1898.	1,298,244 7 5
627,851	Net traffic receipts.....	684,973 2 5
12,930	Received from International Bridge Co.....	12,930 12 9
5,254	Interest on Toledo, Saginaw, & Muskegon bonds.....	5,957 17 1
3,087	Interest on bonds of Central Vermont Ry.....	3,087 10 8
64,840	Interest on securities of controlled lines & on St. Clair Tunnel bonds acquired by the issue of G. T. 4% debenture stock.....	64,781 3 6
16,710	Balance of general interest account.....	16,448 19 11
£730,672	Net revenue receipts.....	£788,179 6 4

Following are the net revenue charges for the ½-year:—

Rents (leased lines).....	£73,174 8 3
Interest on debenture stocks & bonds of the Co.....	441,578 18 8
Interest on debenture stock & bonds of lines consolidated with G. T. Co.....	70,477 15 7
Interest on Michigan air line bonds.....	7,750
	592,981 2 6

Amount advanced to Chicago & G. T. Co. under traffic agreements towards payment of interest on its bonds, ½-year to June 30, for which interest coupons are held..... 36,425 12 10

Amount advanced to Detroit, Grand Haven, & Milwaukee Co. towards payment of interest on its bonds,

under agreements, ½-year to June 30.....	22,368 2 2
	58,793 15 ..
£651,774 17 6	
Leaving a surplus of.....	136,404 8 10
	£788,179 6 4

There was a balance at the credit of net revenue account on Dec. 31, 1898, of £4,212 os. 8d., which added to the above surplus for the past ½-year makes £140,616 9s. 6d. available for dividend.

The directors recommend the payment of the ½-year's dividend on the 4% guaranteed stock, amounting to £104,395 17s. 6d., & a dividend of 1% on the 1st preference stock, amounting to £34,168 6s. od., leaving a balance of £2,052 6s. od. to be carried forward to the next ½-year's accounts.

The net revenue surplus for the ½-year ended June 30, 1898, amounted to £106,651 18s. 7d. The result of the past ½-year's operations shows, therefore, an improvement of £29,752 10s. 3d.

This table exhibits a comparison of the receipts for the ½-years ended June 30, 1899 and 1898:—

Description of receipts.	1899.	1898.	Increase.
	£	£	£
Passengers.....	493,247	442,259	50,988
Mails and express.....	92,479	90,665	1,814
Freight and live stock.....	1,329,508	1,285,819	43,749
Miscellaneous.....	67,023	52,901	14,932
	1,983,217	1,871,734	111,483

TRAFFIC STATISTICS.

	1899.	1898.	Increase.	Decrease.
Passengers carried.....	2,870,082	3,096,641	—	138,659
Average fare per passenger.....	3s. 5½d.	2s. 11¼d.	6d.	—
Tons of freight and live stock.....	4,878,259	4,437,440	440,819	—
Average rate per ton.....	5s. 5½d.	5s. 9½d.	—	440,819
Tons carried one mile.....	1,106,187,159	943,041,005	163,146,154	—
Earnings per train-mile.....	530sd.	513sd.	17sd.	—

Although there was a decrease of 138,659 in the number of passengers carried, mainly owing to additional travel induced by the abnormally low local fares in operation during the greater part of the corresponding ½-year, the total receipts from passenger traffic show an improvement of £50,988, & the average fare received increased from 2s. 11¼d. to 3s. 5½d.

The quantity of freight carried increased by 440,819 tons, & 160,544,064 more tons were carried 1 mile, of which much the larger proportion was represented by through business. This preponderance of the increase in the through-freight ton mileage, together with lower rates for that description of traffic, had an adverse influence on the average receipt per ton per mile on the entire freight traffic, which decreased from 0.66 of a cent in the corresponding ½-year of 1898 to 0.58 in the past ½-year.

The working expenses, including taxes, amounted in the ½-year to £1,298,244, or 65.46 % of the gross receipts, as compared with

£1,243,883, or 66.46 %; an increase in amount of £54,361, but a decrease in the proportion to the gross receipts of 1%.

This table exhibits a comparison of the revenue expenditure, excluding taxes, for the ½-years ended June 30, 1899 & 1898:—

Description of expenditure.	June 30, 1899.	June 30, 1898.	Increase.	Decrease.
	£	£	£	£
Maintenance of way, & structures.....	195,205	186,180	8,219	—
Maintenance of equipment.....	244,407	224,187	20,280	—
Conducting transportation.....	702,204	769,078	—	22,586
General expenses.....	53,848	50,717	3,131	—
Total.....	£1,285,784	£1,231,568	£54,216	—
Percentage of gross receipts.....	64.83	65.80	—	0.97
Expenditure per train-mile.....	34.75d.	33.70d.	0.09d.	—

The train mileage of the ½-year compares with that of the ½-year ended June 30, 1898, as follows:—

Description.	June, 1899	June, 1898	Increase.	Decrease.
Passenger.....	3,133,197	3,069,188	64,009	—
Freight.....	5,209,113	5,127,515	79,398	—
Mixed trains.....	540,166	557,129	—	16,954
Total.....	8,880,276	8,753,823	126,453	—

From the foregoing statements it will be observed that the G. T. gross receipts for the ½-year show an increase of £111,483, or 5.96%; the working expenses, including taxes, an increase of £54,361, or 4.37%, the train mileage an increase of 126,453, or 1.44%.

The number of engines & cars owned by the Co. is shown in the return of working stock. No additions to the stock have been made at the expense of capital during the ½-year. Twelve engines were constructed during the ½-year in the Co.'s shops at the cost of revenue. Eight passenger, 374 coal & flat cars, & 50 cinder cars were built in the Co.'s shops or purchased in part replacement of cars broken up. At June 30, 1899, there were 5 locomotives in excess of the official stock; & to replace the cars out of service, there was at the end of the ½-year £117,173 os. 4d. at the credit of car renewal fund. There also remained a reserve £33,259 14s. 5d. at the credit of engine renewal fund available for future renewals.

The outlay on capital account for the ½-year amounted to £49,733 13s. 10d.; the principal item of expenditure being £33,330 18s. 6d. for the further equipment of engines & freight cars with air-brakes & automatic couplers, in compliance with the Safety Appliance Act. There has been credited to this account £11,785 6s. od., consisting chiefly of the premium received on the issue of £200,000 4% debenture stock, thus reducing the total charges to capital account for the past ½-year to £37,948 7s. 10d.

RENEWAL OF BRIDGES.

£15,402 being the proportion of the expenditure chargeable to revenue for the reconstruction of the Victoria Jubilee Bridge & of the cost of renewing the bridges between Montreal & Portland & on the southern division on the basis mentioned in the report for the ½-year ended June 30, 1898, has been included in the maintenance of way charges of the past ½-year. There has been expended to June 30, 1899, on account of these renewals, £139,438 2s. 3d., of which £71,883 9s. 10d. has been, up to that date, included in the maintenance charges, leaving £67,554 12s. 5d. at the debit of bridge renewal suspense account on June 30, 1899.

The gross receipts of the Chicago & G. T. Ry. Co. for the ½-year to June 30, 1899, amounted to £394,585, against £376,387 in 1898, an in-

crease of £18,198. The working expenses were £341,812, against £294,541, an increase of £47,271, attributable partly to the cost of handling the larger tonnage carried, & partly to the increased expenditure necessary for placing the line & rolling stock in a condition of greater efficiency. The net profit amounted to £52,773, against £81,846, a decrease of £29,073. The net revenue charges for the year were £80,100, against £90,238 in 1898, so that there was a net revenue deficiency in 1899 of £36,426, as compared with a deficiency for 1898 of £8,392. The number of passengers carried during the ½-year was 578,922, against 539,084, an increase of 39,838, or 7.39%, & the passenger train receipts, including mails & express receipts, were £98,981, against £84,806, an increase of £14,175, or 16.71%. The quantity of freight moved during the ½-year was 1,268,027 tons, against 1,122,161 tons in 1898, an increase of 145,866 tons, or 13%, & the receipts from this traffic were £295,045, against £291,205 in 1898, an increase of £3,840, or 1.32%.

The gross receipts of the Detroit, Grand Haven & Milwaukee Ry. for the ½-year to June 30, 1899, were £90,163, against £86,470 in 1898, an increase of £3,693; the working expenses were £75,144, against £71,379, an increase of £3,765; leaving a balance of £15,019, against £15,091, a decrease of £72, compared with the corresponding ½-year of 1898. The net revenue charges for the ½-year were £37,387, against £37,373 in 1898, so that there was a net revenue deficiency of £22,368, as compared with £22,282 for the corresponding period of 1898. The number of passengers carried during the ½-year was 252,888, against 228,832, an increase of 24,056, or 10.51%, & the passenger receipts, including mails & express receipts, were £35,654, against £34,993, an increase of £661, or 1.89%. The quantity of freight moved was 356,616 tons, against 309,930 tons in 1898, an increase of 46,686 tons, or 15.06%, & the receipts from freight traffic were £53,273, against £47,581 in 1898, an increase of £5,692, or 11.96%.

The directors announced in their report dated March 23, 1898, that a provisional arrangement with the Dominion Government for allowing the Intercolonial Ry. running powers over about 38 miles of the G.T. line & the Victoria Bridge into Montreal, with terminal facilities in that city, at a rental of \$140,000 a year & a payment of a proportion of the working expenses, had come into operation on Mar. 1, 1898. They have now the satisfaction to report that an agreement

for a term of 99 years, giving formal effect to these arrangements, was, subject to the conditions subsequently embodied in an agreement supplementary thereto, confirmed by an Act passed in the last session of Parliament, which received the Royal assent on Aug. 11. The main & the supplemental agreements are printed as appendices to the report & will be submitted at the general meeting for the approval of the proprietors.

Following are extracts from the appendices to the report:

On June 30, 1898, the G.T. system comprised 3,506 miles of roadway, 411¼ miles of second track & 770½ miles of sidings, a total of 4,688¼ miles, of which 4,649 miles are laid with steel rails & 39½ with iron.

The charges for the maintenance of the Co.'s property during the ½-year ended June 30, were \$40,000 greater than in the corresponding period of 1898. The cost of the repairs of roadway, of docks & wharves, & of clearing snow, was exceptionally low; that of the renewal of ties, repairs, & renewals of bridges, culverts & buildings, was higher than during the first ½ of last year.

The Superintendent of Motive Power reports expenditure, mileage, etc., as follows:

½-year ended.	Expenditure.	Train mileage.	Rate of Expenses per mile.		
			Train.	Engine.	Car.
June, 1899	Dollars.		Cents	Cents	Cents
" 1898	2,231,463	8,880,276	25.13	20.52	1.56
	2,055,474	8,753,823	23.48	19.49	1.47

An increase in expenditure of \$175,989, or 8.6%, compared with an increase in train miles of 126,453, or 1.4%, & with an increase in the ton miles of 160,544,064, or 17%.

	Passenger trains.	Freight trains.	Mixed trains.
The average number of cars moved per train was.....	4.3	23.8	10.0
And for the corresponding period.....	4.3	23.5	10.5

The comparative cost of repairs per train, engine & car mile was:

	Repairs and renewals of locomotives.		All repairing charges including shop machinery and tools, and marine equipment, &c.	
	1899.	1898.	1899.	1898.
Train.....	Cents. 4.78	Cents. 4.39	Cents. 6.05	Cents. 5.68
Engine.....	3.90	3.64	4.94	4.72
Car.....	0.30	0.275	0.38	0.36

The Superintendent of Car Department reports expenditure, mileage, etc., as follows:

4-year ended.	Cost of Repairs and Renewals	Miles run by cars.			Cost per mile.	
		Passenger.	Freight.	Total.	Car.	Train
					Cents.	Cents.
June 1899	\$ 632,271	14,708,439	128,300,822	143,009,261	456	7.35
" 1898	593,768	14,624,117	124,965,419	139,589,536	425	6.78

An increase in expenditure of \$58,503, or 9.9%, with an increase in car miles of 3,419,725, or 2.4%.

Chicago & Grand Trunk Finances.

President C. M. Hays has issued the following circular to the 1st & 2nd mortgage bondholders, under date of Montreal, Oct. 17:

The capital of the Co., as constituted in 1882 & now existing, consists of:—

1st mortgage 6% bonds C. & G.T.R. Co., due Jan. 1, 1900.....	\$5,437,000
1st mortgage 6% bonds North-Western G.T. Ry., due Jan. 1, 1910.....	563,000
2nd mortgage 5% bonds, due Jan. 1, 1922....	\$6,000,000
Common stock.....	6,000,000

No fresh capital has been raised since the 2nd mortgage bonds were issued in 1882, but in order to provide for the capital & other requirements of the Co. a floating debt has accumulated of \$1,991,300, for which amount the Co. has issued to the G.T.R. Co. its bonds, secured by 3rd mortgage on its railroad, excluding the advances made by the G.T. Co. under traffic agreements towards the deficiencies in the earnings of the C. & G.T. Co. to meet the interest on the bonds, amounting

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to a further sum of \$3,207,000. Moreover, additional capital is urgently required for the purpose of the doubling of the line, for its proper equipment, & for the reduction of the gradients. The principal railroads out of Chicago with which the Chicago & Grand Trunk competes have expended large sums in the double tracking & improvement of their property, & it is deemed absolutely essential to enable this Co. to maintain its position in competition with other lines, that it should be placed in a condition to fully develop & economically work the traffic which it would then command. This further capital is estimated for the above purposes to amount to about \$4,000,000. The Co. as at present constituted is unable, without the co-operation of the bondholders, to make provision for these requirements, & for meeting the 1st mortgage bonds on Jan. 1 next, inasmuch as the conditions of the 2nd mortgage prohibit the issue of bonds in excess of the existing 1st mortgage of \$6,000,000. Therefore, there appears to be no alternative but to foreclose the 1st mortgage at the maturity of the bonds on Jan. 1, 1900, & reorganize the capital of the C. & G.T. Co. on a permanently sound basis. It is suggested in the interest of all parties concerned that at the maturity of the 1st mortgage on Jan. 1, 1900, the property be sold under a friendly foreclosure of the two mortgages, & a new Co. organized on the following basis:—

Creation of \$15,000,000 1st mortgage 50-year 4% bonds, interest & principal payable in gold, to be appropriated as follows:—

To be reserved for that portion of the North-Western G.T. mortgage bonds maturing Jan. 1, 1900, which are a prior lien of the C. & G.T. mortgages on the eastern division of the road at par.....	\$563,000
To be issued for the 1st mortgage bonds falling due Jan. 1, 1900, at par (\$484 for each £100 bond).....	5,437,000
	\$6,000,000
To be issued to the 2nd mortgage bond holders at the rate of \$750 for each \$1,000 2nd mortgage bond.....	4,500,000
To be issued for capital purposes.....	4,500,000
	\$15,000,000

Creation of \$6,000,000 of ordinary stock to be issued to the G.T. Co. in repayment of its advances & in full satisfaction of the floating debt of the Co.

The board of the G.T.R. Co., who hold about $\frac{1}{4}$ of the C. & G.T. 1st mortgage bonds & $\frac{1}{2}$ of the 2nd mortgage bonds, have intimated their willingness to assent to the foregoing proposition, & will also agree, in consideration of the reconstruction of the capital account & its appropriation, as above set forth, to enter into a traffic agreement, undertaking to contribute, during the currency of the new 1st mortgage 4% bonds, towards any deficiency in the C. & G.T. earnings that may arise from time to time in meeting such interest, an amount of 30% of its gross earnings on traffic interchanged between the two companies, which, according to past results, would of itself secure the interest on the proposed new 1st mortgage without taking into consideration the largely increased earnings which must naturally follow the doubling & improvement of the line. Holders of the 1st & 2nd mortgage bonds approving the scheme are requested to deposit their bonds not later than Dec. 1 next with Glyn, Mills, Currie & Co., London, Eng., who will issue receipts for them on behalf of Sir C. Rivers Wilson, J. Price, & Lord Welby, who have consented to act as trustees. Holders of bonds in America may deposit their bonds with the Bank of Montreal, in Montreal, or any of its branches. The interest coupons on the existing 1st & 2nd mortgage bonds due Jan. 1, 1900, must be detached therefrom before deposit as above. The coupons thus detached will be paid at maturity. Pending the delivery of the definitive bonds, which will bear interest as from Jan. 1, 1900, the bankers' receipts

will be exchanged for interim trustees' certificates, for which an application for a quotation will be made to the London Stock Exchange.

A London, Eng., cablegram of Nov. 4 says: The reconstruction scheme of the C. & G.T.R. Co. is being opposed by some of the bondholders. Nevertheless the Co. announces to-day further arrangements for an exchange of bonds. The opposing bondholders declare that the G.T. officials have worked the C. & G.T. line in their own interests instead of the interests of the bondholders, that Mr. Hays, who signs as president of the C. & G.T. Co., has no money of his own in it, that as a trustee for the rights of the C. & G.T. debenture holders the G.T. has no right to convert trust property to its own advantage; that the whole matter is a breach of good faith, being an Anglicisation of Yankee methods of foreclosure; and that other companies would offer the C. & G.T. road better terms.

H. W. Smithers, Great Baddow, Essex, Eng.:—"As a holder of the Co.'s 1st mortgage bonds I would recommend my fellow holders not to accept the proposals for conversion just announced without much further consideration. In view of the large number of 2nd mortgage bonds held in Holland, the uncertainty as to their action in the event of default & the possibility of prolonged litigation it would be very unwise of the 1st mortgage bondholders whose security is perfect & whose principal falls due on Jan. 1 next to commit themselves prematurely."

C.P.R. Earnings & Expenses.

Gross earnings, working expenses, net profits and increases over 1898, from Jan. 1, 1899.

	Earnings.	Expenses.	Net Profits.	Increase.
Jan.	\$1,864,570.36	\$1,247,036.50	\$617,533.86	\$101,906.27
Feb.	1,753,382.82	1,134,081.31	619,301.51	176,034.12
Mar.	2,109,607.58	1,280,772.01	828,895.57	75,002.06
Apr.	2,196,312.40	1,270,008.91	920,303.49	20,312.80
May	2,402,151.29	1,369,392.68	1,032,758.61	106,006.30
June	2,362,278.67	1,339,218.47	1,023,060.20	205,664.83
July	2,385,025.17	1,412,003.84	972,021.33	242,272.84
Aug.	2,474,016.83	1,445,293.13	1,028,723.70	135,804.81
Sept.	2,649,785.37	1,590,869.82	1,058,915.55	54,471.80

\$20,197,810.81 \$12,036,878.70 \$8,160,932.11 \$1,301,025.95

Approximate earnings for Oct., \$3,083,000, as against \$2,685,000 in Oct., 1898; increase, \$398,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—Approximate earnings for Oct., \$244,173; increase over Oct. 1898, \$89,118.

Net earnings for 8 months to Aug. 30: \$570,302, as against \$407,303 for corresponding period.

MINERAL RANGE, HANCOCK & CALUMET.—Approximate earnings for Oct., \$52,254; increase over Oct. 1898, \$15,858.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Approximate earnings for Oct., \$558,014; increase over Oct. 1898, \$49,474.

Canadian Pacific Railway Land Sales.

	Acres.	Amount.
Jan.	147,108	\$22,044
Feb.	13,747	20,650
Mar.	22,045	33,401
April	36,626	53,115
May	36,573	53,048
June	51,775	76,773
July	47,402	69,512
Aug.	35,214	49,118
Sept.	25,517	38,007
Total	282,578	\$401,048

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.:

	1899	1898	Increase	Decrease
Jan.	\$1,059,281	\$1,016,332	\$42,949	
Feb.	1,824,434	1,674,453	149,981	
Mar.	2,189,450	2,048,970	140,480	
April	1,942,543	1,918,477	24,066	
May	2,030,230	1,918,477	111,753	
June	2,062,137	1,886,884	175,253	
July	2,105,403	2,002,802	102,601	
Aug.	2,488,229	2,261,148	227,081	
Oct.	2,500,581	2,260,573	240,008	
Total	\$21,497,365	\$19,765,021	\$1,732,344	

The following figures are issued from the London, Eng., office:

GRAND TRUNK RAILWAY.

Revenue statement for Aug:

	1899	1898	Increase	Decrease
Gross receipts.....	£402,500	£333,542	£68,958	
Working expenses.....	261,700	218,588	43,112	
Net profit.....	£140,800	£114,954	£25,846	

Aggregate for 2 months, July 1 to Aug. 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts.....	£752,647	£642,023	£110,624	
Working expenses.....	496,815	426,161	70,654	
Net profit.....	£255,832	£215,862	£39,970	

CHICAGO AND GRAND TRUNK RAILWAY.

Revenue statement for Aug., 1899:

	1899	1898	Increase	Decrease
Gross receipts.....	£65,200	£55,482	£9,718	
Working expenses.....	52,700	46,045	6,655	
Net profit.....	£12,500	£9,437	£3,063	

Aggregate for 2 months, July 1 to Aug. 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts.....	£123,855	£113,112	£10,743	
Working expenses.....	103,872	92,650	11,222	
Net profit.....	£19,983	£20,462		£479

DETROIT, GRAND HAVEN AND MILWAUKEE RV.

Revenue statement for Aug., 1899:

	1899	1898	Increase	Decrease
Gross receipts.....	£11,000	£99,131	£1,140	
Working expenses.....	13,800	13,068	732	
Net profit.....	£7,800	£7,386	£414	

Aggregate for 2 months, July 1 to Aug. 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts.....	£21,304	£36,715	£4,580	
Working expenses.....	20,611	25,085	640	
Net profit.....	£14,693	£10,750	£3,943	

DETAILS OF G.T.R. RECEIPTS JULY 1 TO SEPT. 30

	1899.	1898.
Passengers, number.....	2,108,335	2,232,877
Immigrants, number.....	3,043	3,619
Mails, express, &c.....	2,490	2,062
Freight, tons.....	2,581,813	2,136,803
Miscellaneous receipts.....	£33,287	£31,745
Total receipts.....	£1,180,237	£1,025,605
Increase.....	£154,632	

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, July 1 to Sept. 30.

	1899.	1898.	Increase.	Decrease.
Grand Trunk.....	£1,180,237	£1,025,605	£154,632	
Chicago & G.T.....	17,700	17,000	700	
D., G. H. & M.....	61,275	50,000	11,275	
Total.....	£1,429,323	£1,256,473	£172,850	

Chicago Terminal & Transfer Co.—After long waiting, this Co. formed in Chicago by A. B. Stickney, of St. Paul, Minn., many years ago, is now going into business under the management of E. W. Winter, of St. Paul. Mr. Stickney bought a large tract of land for this Co. in the western outskirts of Chicago, & the purpose was to use it for the transfer of freight between the various railroads running into the city, so as to save the cost of switching from one depot to another, as is done at the Minnesota Transfer between St. Paul & Minneapolis. Lack of funds during the hard times caused the delay in carrying out the project. It now has the backing of most of the strong Chicago roads.

RAILWAY FINANCE, MEETINGS, &c.

Alberta Ry. & Coal Co.—The report for the year ended June 30 last says, that the aggregate coal sales made during the year amounted to 181,764 tons, against 143,707 during the previous year; the cash earnings, apart from coal traffic, of the Montana Ry. were \$76,745.71 against \$64,383.77. The accounts show a profit of \$11,361 providing for interest on the 4% prior lien debenture stock, of £7,275, which, with the balance brought forward, amounts to £7,202. The directors, however, regret to say that owing mainly to the capital requirements during the year, rendered necessary through increased business, having exhausted the above balance, there is at present no money available with which to pay the "A" debenture stockholders, & that, to provide the necessary funds & additional working capital, it is proposed to utilize the £25,000 of 4% prior lien debenture stock remaining unsold.

Baltimore Coal & Railway Co.—At a meeting of this Co. at Moncton, N.B., Oct. 21, C. Archibald, Halifax; J. H. Harding, St. John; Wm. Steeves, Wasse; J. Ritchie, St. John; W. Taylor & J. W. Patterson, Salisbury; & M. Lodge, Moncton, were present. The money paid over by New York capitalists to the shareholders of the Co. was distributed. The new Baltimore Company will be formed partly of the old board, with the addition of M. Lodge & W. B. Chandler to the new board of directors. Renewed operations are said to be expected soon.

The Alex. Gibson Ry. & Mfg. Co. has taken over the Canada Eastern Ry., including property in the Counties of York, Carlton, Victoria & Northumberland, N.B., valued at \$5,000,000. In addition to the railway the property embraces lumber mills, forest lands & the manufacturing town of Marysville.

Calgary & Edmonton.—Net loss in operating for Aug., \$8,596.49, against net loss of \$3,017.68 for Aug. 1898. Net earnings for Sep., \$10,254.31, against net earnings of \$5,767.93 for Sep. 1898.

Canada Atlantic.—At the annual meeting, Sep. 26, the following officers were elected: President, C. J. Booth; Vice-President, C. McLachlin; other directors, W. Anderson, J. F. Booth, J. A. Seybold, E. C. Smith & N. McIntosh.

Under the provisions of an Act passed at last session of the Dominion Parliament, the Ottawa, Arnprior & Parry Sound Ry. Co. has

been amalgamated with the C. A. Ry. Co., & both are now known under the latter title.

The Canada Atlantic Transit Co., recently incorporated, has elected officers as follows: President, J. R. Booth, Ottawa; Vice-President & Counsel, H. F. Stevens, St. Paul, Minn.; Secretary, J. T. Rose, Duluth; Treasurer & Assistant Secretary, C. T. Fleck, Ottawa; Assistant Treasurer, W. H. Burk, St. Paul; General Manager, E. J. Chamberlain, Ottawa. Most of the officers are connected with the C. A. Ry., with which the new company will operate.

Canadian Pacific.—Land grant 5% bonds of 1881 to the value of \$250,000 have been drawn for redemption at 110 & interest at the Treasurer's office at Montreal; interest to cease Dec. 11.

Central Counties.—W. S. Herrington, of Napanee, Ont., who was recently appointed Commissioner of the Ontario Government to investigate the claims of workmen & others against this Co., a subsidiary of the Canada Atlantic, has not yet completed his investigation & will probably make an interim report to the Government as to the disposition to be made of the Provincial subsidy.

Central Vermont.—The American Loan & Trust Co. recently gave notice that the new securities under the plan of reorganization were ready for delivery.

The Quebec Court of Review has given judgment in the case of Barker vs. the C. V. Ry., with the receivers of the road as opposants & the American Loan & Trust Co., of Boston, as intervenants. The case goes back to 1895, when the Ducey Lumber Co., of Brandon, N.Y., sold some \$3,200 worth of lumber to the C. V. Ry., & gave a promissory note for the amount payable some months later. In the meantime the road went into the hands of receivers. Under the law of Vermont, when a receiver takes charge of a road all the creditors have to stand aside so as to be placed later on an equal footing. There is no preference for any. The Ducey Co. transferred the note, which ultimately stood in the name of E. H. Barker, of Montreal, as prete-nom. The Ducey Co. seems to have concluded that if it could not get paid in Vermont it would try to be paid in Canada, & so sent the note across the line. An action was instituted in Montreal by Barker against the Co., & judgment was obtained for the amount asked for. An execution was taken against the Co.'s property in the Province of Quebec, & a number of cars & locomotives were seized. An opposition to the seizure was at once taken by the receivers & the action taken to review, with an intervention from the American Loan & Trust Co., which had a mortgage on the road. The main question which the court had to decide was: Could the plaintiff, acting for the Ducey Co., be given a preference in Canada that his principal did not possess under the laws of Vermont? or, in other words, if it could not touch the Co.'s property in Vermont, could it come into Quebec & do so, & thus secure a preference over the other creditors of the road? The court unanimously decided it could not. These are the main features of an elaborate judgment which will settle any points for the future regarding such claims on roads running between Canada & the U.S., & the rights of creditors in either country. Therefore the judgment dismissing the demurrer was confirmed with costs; the judgment maintaining the opposition was confirmed with costs; the judgment maintaining the intervention was reversed, & the intervention dismissed with costs.

Dominion Atlantic.—Earnings for 9 months to Sep. 30, \$554,570, against \$467,217 for corresponding period.

The Co. will apply to the Dominion Parliament next session for an act confirming its issues of capital stocks, the conveyance to the Co. by the Windsor & Annapolis Ry. Co., dated Dec. 31, 1895, the mortgage trust deeds made by the Co., & the 1st & 2nd debenture stocks, issued & to be issued, thereunder, to the amount of \$940,000, & also to enable the Co. to increase its capital stock, borrow & secure money upon ships & other outside property of the Co., to create reserves, & for other amendments to the act incorporating the Co.

Great Northern (U.S.A.)—The annual report to June 30 shows the capital stock has been increased from \$25,000,000 on June 30, 1898, to \$90,000,000, & the dividend paid has been raised from 6% paid on the old capitalization to 7% on the present volume of stock. Of the new stock, \$15,000,000 was used to retire the same amount of collateral trust bonds, the only mortgage debt of the Great Northern proper; \$10,000,000 was used to purchase the stock of the Seattle & Montana; \$25,000,000 to acquire the stock of the St. Paul, Minneapolis & Manitoba, & of the remaining \$15,000,000, \$7,500,000 was used to take up new stock of the Eastern Minnesota, to purchase the Spokane Falls & Northern, & to acquire various other properties. The earnings of these lines were:

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RAILWAY SUPPLIES:

HAND CARS. PUSH CARS. MOTOR CARS.
BARROWS OF WOOD AND STEEL. SHOVELS.

THE FAIRBANKS CO., 749 Craig St., MONTREAL.

	1888-9.	1889-90.
Gross earnings.....	\$25,017,004	\$25,577,524
Operating expenses.....	12,164,002	10,854,706
Expenses & taxes.....	13,091,361	11,555,647
Net earnings.....	\$10,920,541	\$11,667,171

The revenue account of the Co., which includes the results of the operation of the Manitoba lines, makes the following showing for 1899:

Gross receipts.....	\$19,057,814
Net earnings.....	8,002,225
Rentals.....	4,835,299
All charges.....	4,016,510
Net charges (less dividend on Manitoba stock).....	417,881
Balance.....	4,764,401
For improvements.....	1,800,000
Surplus.....	2,964,401

The traffic statistics show that the tons one mile increased 11.36%, the car miles 6.24% & the freight train miles only 4.84%. The average train load increased from 316 tons to 336 tons, or 6.29%.

With a drop of 1 1/4% in the average ton mile rate from 9.32 mills to 9.16 mills, the train mile receipts increased nearly 5% from \$2.99 to \$3.13. The reduction in wheat rates averages 1.3c. a bushel, equivalent to about \$875,000 on the tonnage carried. No commodity table is given, but the wheat tonnage is said to have increased 1,913,000 tons, & other business 1,433,000 tons.—*Railroad Gazette*.

Great Northwest Central Ry. Co. Nearly the whole of the stock of this Co., \$450,000 out of \$500,000, having been sold to T. G. Shaughnessy & R. B. Angus, of the C.P.R., the board has been reorganized. J. W. Leonard, General Superintendent of the Ontario & Quebec Division of the C.P.R., has been elected President of the Co., & W. Whyte, Manager of the C.P.R. Western Lines, has been appointed also General Manager of the G. N.W.R.

The Hereford Ry. Co. gives notice of application to the Dominion Parliament for an amendment to its act of incorporation to provide for the removal of the chief office from the township of Eaton, Que., to Sherbrooke, Que.

Intercolonial.—At Montreal, Nov. 7, the Minister of Railways & Canals completed the purchase of the Drummond County Ry. by paying J. N. Greenshields, W. Mitchell, & W. Farwell \$1,438,000, less \$136,000, the amount of the lease, and \$25,000 which has been retained by the Department owing to delay in perfecting certain titles.

London & Port Stanley.—A special meeting of shareholders will be held at London, Dec. 5, to authorize the issue of 1st preferential bonds to secure to the city of London moneys advanced, also to authorize the renewal of mortgage bonds.

The Miles Canyon & Lewes River Tramway Co.'s annual meeting will be held at Victoria, B.C., Nov. 13.

Minneapolis, St. Paul & Sault Ste. Marie.—A St. Paul paper recently printed a story to the effect that in order to get rid of the competition of this line in passenger & freight rates, interested roads had agreed on united action to buy up all the individual holdings of stock & to secure sufficient voice on the board to accomplish the desired purpose. The paper admitted that the C. P. R. has control of a majority of the stock & securities, in view of which it is difficult to see how the would-be directors propose to elect even one member of the board.

Ottawa & New York. The following officers have been elected for this Co. & also for the New York & Ottawa R.R.: G. F. Peabody, Chairman of the Board; H. W. Gays, President & General Manager; G. B. Moffatt, Vice President; L. G. Myers, Secretary; A. Nichols, Treasurer; G. B. Colpas, Auditor & Asst. Secy. & Treas. The change in

the new board was the election of Mr. Gays as a director & President in place of C. B. Hibbard.

Pontiac Pacific Junction.—It was rumored in Ottawa recently that the C.P.R. was negotiating for a lease of this line to provide a short route between Ottawa & Pembroke, & other places up in that locality. The inauguration of such a service when the P.P.J. extension from Aylmer to Hull is completed, would mean the shortening of the distance from Ottawa to Pembroke by 13 miles. The P.P.J. now terminates at Waltham, opposite Pembroke, & the river would have to be bridged. The Canada Atlantic has recently taken over the Pembroke Southern Ry. connecting with its main line at Golden Lake, & is running a through service from Ottawa to Pembroke, the distance being about the same as by the C.P.R. Competition between the lines at Pembroke, as at other points, is keen, & both are naturally anxious to provide a quick service over as short a line as possible. Supt. Resseman, of the P.P.J., says he has no knowledge of the negotiations referred to & we are advised by the C.P.R. management that there is no foundation for the rumor.

A special meeting of shareholders will be held in Montreal, Dec. 14, for the purpose of authorizing the issuing of \$180,000 interim bonds of the Co., given as collateral security in connection with a contract entered into for building a further 9 miles of its railway, from Aylmer to Hull, & confirming directors' action in acceptance of the contract.

Port Arthur, Duluth & Western. In the suit of D. F. Burke the Court has granted an application to compel the purchaser to attend for examination & to answer questions which he refused to answer on his examination on Oct. 27. (June, pg. 164.)

Pullman Palace Car Company. At the annual meeting Oct. 19, R. T. Lincoln was elected President, succeeding to the place which has been vacant since the death of G. M. Pullman. T. H. Wickes was re-elected Vice-President, & A. S. Weinsheimer Secretary. The directors were re-elected as follows: M. Field, O. S. A. Sprague, H. C. Hulbert, H. R. Reed, N. B. Ream, R. T. Lincoln & J. W. Doane. The report of the operation for the year ended July 31, 1899, shows a total revenue of \$11,478,930.03, the total disbursements being \$9,183,465.36, leaving a surplus of \$2,295,464.67. The total assets as given amount to \$57,792,188.72, & the net surplus of assets over liabilities \$3,972,188.72. The number of cars owned & controlled is 2,526.

Pullman-Wagner Consolidation.—Official announcement was made towards the end of Oct. of the conclusion of negotiations for the absorption of the Wagner Palace Car Co. by the Pullman Co. It only remains for the stockholders of the companies to ratify the action of their directors, & for this purpose a meeting of the shareholders of the Pullman Co. has been called for Dec. 5. The assets, including contracts, of the Wagner Co., will be purchased with 200,000 shares of Pullman stock, to be issued for that purpose. It results in being merely a trade of Pullman for Wagner stock, since the capital of the latter corporation is \$20,000,000. The total capitalization of the Pullman Co. will be, when the deal is concluded, \$74,000,000. The Wagner Co. pays 8% dividends, having done so for a number of years, while the stock has within the last year advanced to 200. The Pullman Co. for a number of years paid 8%, but reduced the rate last year to 6, when the capital stock was increased from \$36,000,000 to \$54,000,000. But recently the dividend rate was advanced back to the old figure, a quarterly dividend of 2% being declared. The exchange of shares, therefore, will be that of one 8% dividend stock for another. The Vanderbilt & Morgan interests will be taken into the

Pullman board by an increase in the latter body, & the election thereto of W. K. Vanderbilt, J. P. Morgan, F. W. Vanderbilt & Dr. W. S. Webb. Although for a period of years there was considerable feeling between the Vanderbilt interests & the late Mr. Pullman, it is also true that in the last year before his death Mr. Pullman favored the idea of a union of interests. As a result of the consolidation of the Pullman & Wagner companies, it is thought the railways may have to pay a trifle higher rate per mile on sleeping, chair & dining cars furnished them by the big corporation. *Railway World*.

Qu'Appelle, Long Lake & Saskatchewan net loss in operating for Aug., \$5,861.38, against net loss of \$2,728.78 for Aug. '98. In Sep., 1899, the net loss in operating was \$4,607.45, against net loss of \$3,323.25 in Sep. 1898.

Quebec & Lake St. John earnings for Aug. \$4,838 more than for Aug., 1898.

Quebec Central gross earnings for Sep., \$52,391.49, against \$46,384.31 in Sep., '98; working expenses, \$32,446.86, against \$27,450.78; net earnings, \$19,944.63, against \$18,933.53.

Gross earnings, 9 months to Sep. 30, \$385,400.88, against \$345,450.05; working expenses, \$246,951.00 against \$229,190.63; net earnings, \$138,449.88, against \$116,259.42.

Toronto, Hamilton & Buffalo. It is said there is to be litigation between J. N. Young, the original promoter of this line, & some of the other members of the syndicate. The nominal plaintiff is B. S. Mayer, Assistant Cashier of the Continental National Bank, Chicago. The defendants are J. N. Beckley, Rochester, President of the T., H. & B. R.; the Dominion Construction Co., & the American Trust Co., of Boston. Plaintiff Mayer was, it is alleged, a transferee of J. N. Young of an order for \$100,000 upon J. N. Beckley & the Dominion Construction Co. This represented a portion of moneys expended by J. N. Young & Co. in the construction of the line between Waterford & Hamilton, prior to the amalgamation of J. N. Young & Co. with the Dominion Construction Co. It is claimed by plaintiff that under the terms of agreement the moneys contributed by J. N. Young & Co., & by the Dominion Construction Co. should be returned out of the proceeds of the bonds of the T., H. & B. These bonds have been realized on, but there is a shortage, owing, it is said, to the large sum of interest charged up by defendants for moneys advanced by them, & it is contended by defendants that they are entitled to be paid their interest in priority of J. N. Young's claim.

Victoria & Sidney.—The city solicitors of Victoria, B.C., have recommended that the Provincial Government be requested to call on this Co. to execute to the Government a mortgage of all its property, as security for the repayment of moneys paid by the Government & the city in respect of guarantees, etc. The solicitors contend that the annual statements made by the Co. to the Government are not sufficiently detailed.

The Buffalo & Fort Erie Bridge Co. is building the only foot & vehicle bridge above Niagara Falls. The bridge, or practically two bridges, is to cross the Niagara River from a point between Buffalo & Tonawanda, to Grand Island, across the island, & on to the Canadian shore. The eastern section is the one for which legislation was obtained at Washington in 1898. The location of the bridge has been approved by the War Department of the U.S., the contract has been let for \$4,485,400, & already several piers have been built. The Canadian section will cross from the opposite side of Grand Island to a point in Welland County.

Grand Trunk Betterments, Etc.

The new culverts at Ste. Hyacinthe & Victoriaville, Que., are almost completed.

The Co. has begun the construction of a tunnel in Girouard St., Ste. Hyacinthe, Que., the cost of which is to be borne by the Co. & the city jointly. It will also be completed till next spring.

The toll collector's shelters have been placed in readiness for occupancy on both sides of the Victoria Jubilee bridge & it is expected that the vehicle & foot passenger road ways will be opened to the public almost immediately. The track on the embankment at the approaches to both ends of the bridge is about completed. (Oct., pg. 281.)

The improvements in front of the Bonaventure Station, Montreal, are about completed, including the asphaltting. Next summer there will be flower beds & fountains in the space which heretofore has been very unsightly. Rigid regulations will be enforced in regard to the admission of carter's to the enclosed space. (Oct., pg. 291.)

Work will be continued on the new general office building in Montreal while weather permits, it being the intention to have the building completed as soon as possible. The architect is experimenting with non-inflammable wood, with a view to its introduction in the building, which will be the first attempt to realize in Canada a practical benefit from a discovery which the British Admiralty has employed in the construction of recent war-ships, thus obviating the danger of fire in case of an engagement at sea. The U.S. Government has adopted non-inflammable wood in the internal fittings of its recently built cruisers,

while contractors & builders are giving attention to the wonderful possibilities of its application to private dwellings. With the amount of steel & iron which will enter into the construction of the general offices, the employment of non-inflammable wood would make the building absolutely fire-proof, which is Mr. Hays desire.

The building of the bridge at St. Anne's, Que., has done away with the last tubular span bridge on the system.

The City Council of Kingston, Ont., & the County Council of Frontenac, are considering the question of building a subway under the Co.'s tracks at Montreal St., Kingston.

In addition to the remodelling of the yards at York, near Toronto, extensive improvements are being made in the yards at Fort Erie, Niagara Falls, and Palmerston, Ont. (Oct., pg. 291.)

The Co. will add an additional span to its bridge at Brantford, Ont., next spring, in connection with the city's scheme for flood prevention. The city has agreed to pay 37½% of the cost.

Large up-to-date coal shutes are being built at Sarnia, Niagara Falls & other points. The Sarnia one has a 600 ft. incline for the cars, the building being 280 by 18 feet.

The scheme for the reorganization of the Chicago & G.T. finances, which is detailed on page 319, provides for the double tracking of the line & the revision of grades, etc. H. A. Woods has been appointed engineer in charge of all new work in this connection, with office at Detroit, Mich. It is proposed to build a second track from Port Huron to Chicago, & to reduce grades throughout the line, to compare favorably at least, with other

lines leading to the east from Chicago. To accomplish this, it will be necessary to make diversions from the present line in several places. The work will be done gradually to avoid interruption to traffic. About 60 miles of the work will be opened early next year. For the present, at least, the Co. will do all the train work with its own force.

J. S. Metcalfe & Co., Chicago, have the contract for rebuilding the Co.'s elevator at Elsdon, Ill., recently burned. Work has commenced & it is expected to complete it by Jan. 31. It will hold about 125,000 bus. & will have a transferring capacity of 100 cars a day. The power plant will be equipped with three 72" x 18' boilers, one 22 x 42 Vilter girder bed Corliss engine, one 400 h.p. heater, boiler, feed pump, etc. It will be lighted by electricity & everything about it will be first-class in every respect. It will have 6 legs, 4 no. 9 oat clippers & six 1,400 bus. Fairbank's hopper scales. The roof will be of tar felt & gravel, & the outside covering will be no. 26 painted corrugated iron. The foundation will be of piles & concrete piers. It will be used for transfer & clipping purposes only, not for storage.

C.P.R. Betterments, Construction, Etc.

Atlantic Division.—The following improvements, etc., have been made this year: On the main line between Megantic & St. John, 64,200 ties have been placed in the road, 25 miles of ballasting done, & 24¼ miles of new 73 lbs. rails laid, 4 bridges have been replaced, partly with stone & the balance filled, 7 open culverts have been replaced with permanent box culverts & the openings filled, &

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the following sections, along the Main Line and Branches in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$2 to \$4 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in the Northwest Territory and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest on the same, due in instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments due on different sections of the acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.

160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.

160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.

160 acres at \$4.50 per acre, 1st instalment \$107.80, and nine equal instalments of \$90.

160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.

160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.

160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the price.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

L. A. HAMILTON, Land Commissioner,
F. T. CRIFFIN, Asst. Land Commissioner,
WINNIPEG.

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For Steam & Electric Railways, Steamship, Express, Telegraph, Telephone and Advertising purposes.

Railway Station Names, Street Car Route Signs, Express, Telegraph and Telephone Office Signs, Semaphore Arms, Switch Targets and Advertising Signs of every description of size and color made to order.

Railway, Steamship and Ferry Signs

For doors, etc., 23 x 3½ inches, blue letters and border on white ground, carried in stock with following lettering.

Waiting Room	Ladies' Toilet	Private Office	Dining Room
General Waiting Room	Men's Toilet	Freight Office	Lunch Room
Ladies' Waiting Room	Baggage Room	Ticket Office	Smoking Room
Men's Waiting Room	Agent's Office	Telegraph Office	No Admittance

The following are carried in stock, size 10 x 2½:—

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Numbers for railway bridges, mile posts, signal houses, etc.; single figures on plates.

These signs last practically for ever, they never fade or tarnish, they are ever bright and attractive, they are absolutely impervious to heat or cold, they are the only signs that will withstand the effects of weather in all climates.

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Agents for the Imperial Enamel Co. of Birmingham,
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Resident Agent at Winnipeg, S. A. ERSKINE, P.O. Address Box 190.

13 miles of wire fencing have been erected. A passenger station have been erected at Onawa. A boiler house has been added to the machine shop at Brownville Jct., & the shop & engine house improved. The machine shop at McAdam has been enlarged & a stationary engine, pump & air compressing plant has been installed. Ten houses for employes have been built at McAdam. At West St. John the grain elevator capacity has been increased to 1,036,500 bush., with conveyors serving 5 steamship berths, 4 of which can be operated simultaneously. On the New Brunswick branches 124,600 ties have been placed in the road, & 20 miles ballasted; 3 wooden bridges have been replaced with steel, & 7 renewed in wood; 8 Howe truss spans have been housed in to protect them from the weather; 80 open culverts have been replaced with permanent box culverts & the openings filled; 22 miles of wire fencing have been erected & a quantity of cedar protection work has been built along the banks of the St. John & Aroostook rivers to protect the roadbed from freshets. An engine house has been erected at St. Stephen.

Ontario & Quebec Division.—A large amount of work has been done on this division this year, & some is still in progress. Thirty miles of heavy steel, 73 lbs. to the yard, are being laid on the Sherbrooke section, releasing 60 lbs. rails which are being shipped to the Northwest for use in building branch lines. Three miles of heavy steel rail, 100 lbs. to the yard, are being laid between Montreal Jct. & Adirondack Jct., to carry more satisfactorily the heavy traffic over that portion of the line. On the lines east of Montreal new side tracks have been put in & old side tracks extended to the amount of 20,000 ft. of track for the better accommodation of the increasing traffic.

The second track between Montreal Jct. & St. Annes, 15.6 miles, built this year, has been laid with 100 lbs. rails. The old track between Montreal Jct. & Vaudreuil, 18.9 miles, is being relaid with rails of the same weight. With the possible exception of the Sarnia tunnel this is believed to be the first track in Canada on which 100 lbs. rails have been used. The manufacturers of the Bonzano joints which are being used have turned them out very slowly, delaying the work considerably. The grades between Western Jct. & Dorval have been reduced sufficiently to enable the ordinary locomotives to haul 200 tons more per train than they could formerly handle. (Sep., pg. 267.)

Considerable work has been done reducing grades west of Green Valley & east of Avonmore, which will enable the handling of increased tonnage. Siding facilities at St. Clet, Green Valley, Glen Roy & Suffel stations have been increased considerably, also on the Havelock section. A large amount is being expended near Bathurst & Tweed, changing alignment & taking out many of the sharpest curves. Full particulars of this work were given in our Oct. issue, pg. 291. Nineteen miles of 80 lbs. steel are being laid on Havelock & Toronto sections. About 15 miles have been ballasted on Toronto section, & siding facilities have been increased.

Between London & Woodstock, Ont., 27 miles have been ballasted, also all tracks in Woodstock yard, and 7 miles of 73 lbs. rails have been laid with broken joints. A large number of open cattle guards & culverts have been filled in, & surface cattle guards & under culverts provided.

On the Owen Sound section, about 3 miles of 73-lb. rails have been laid on heavy grades & curves. About 3½ miles of side tracks have been put in to accommodate increased traffic, most of them being at Toronto Jct., & 50,000 ties have been put in the track. On the branches 38,000 ties have been put in, & 2 bridges, one ¼ miles north of Snelgrove, the other ¼ miles west of Arthur, have been erected.

About 7 miles of track has been ballasted on the Teeswater branch.

Some important bridge work has been done, & some is in progress. The original bridge over Yamaska River, near West Shefford, Que., consisted of 1 span deck steel lattice girder, 100 ft. long, on masonry piers with wooden trestle approaches. One new steel girder, 40 ft. long, has been put in at each end of the old span, & the balance of the wooden approaches have been filled in. Two masonry piers have been built to carry the new girders, the work costing about \$10,000.

The old bridge over the Credit River at Streetsville, Ont., consisted of 1 span deck, Howe truss, 126 ft. long, on masonry piers with wooden approaches. The Howe truss span will be replaced with a steel deck truss, 126 ft. long, & the timber approaches will be replaced with 2 deck plate girders, each 40 ft. long, & 1 plate girder, 58 ft. long, on masonry pier & abutments. This work, which is costing about \$16,000, is not completed.

The old bridge over the Grand River at Galt, Ont., consisted of 5 spans, iron deck trusses, on masonry piers, with timber approaches, & was built by the Credit Valley Ry. Co. some 20 years ago. The increased weight of the rolling stock necessitated a stronger bridge, & the old trusses have been replaced with steel pin-connected deck trusses, 5 in number & each about 150 ft. long. The old piers, being in good condition, were used for the new bridge by building them up about 10 ft. higher. The timber approaches were replaced with 3 deck steel plate girders, each about 94 ft. long, on 1 new masonry pier & 2 new masonry abutments. The new bridge is 1,031 ft. long. The grade over the bridge was raised 5 ft. This work was commenced in the spring of 1898 & will be finished this fall. The cost is about \$70,000. The improvement of the Galt grade was done in connection with renewing the bridge. The grade out of Galt going west is about 2½ miles long, & was, before its improvement, very uneven & heavy in places. The total ascent has been reduced 5 ft. by raising the bridge as before mentioned, & the grade has been improved & reduced by filling the low places & by cutting down about 3 ft. at the top. The new grade is now 1% on tangent, compensated on the curve to 0.86% & 0.95%. The track has also been improved by replacing part of the old rail with new rails, 80 lbs. per yard. This work was commenced in 1898 & is now practically completed, costing over \$21,000.

Interlocking & derailling appliances have been installed at Western Jct., where the C.P.R. crosses the Jacques Cartier Ry., which is now a portion of the G.T. system, & at St. Polycarpe Jct., where the C.P.R. crosses the Canada Atlantic Ry.

A good deal of work has been done in improving stations. At North Troy, Vt., a station 55 x 20 ft., & freight sheds 24 x 60 ft., both frame buildings, are being built. The station has stone foundation & will be heated by hot water & equipped with all modern conveniences. Cost about \$4,000. At East Richford, Que., a frame station 20 x 40 ft., costing about \$1,300, is being built. The location has been changed so that the new station will be on the main line & near to the water tank. Richford station, Que., is being supplied with hot water heating apparatus. A shelter station has been built at Little Magog Lake, Que. At Galt, Ont., an office has been built for the agent & freight clerks & the freight shed accommodation has been increased. Woodstock, Ont., has been provided with an improved station, 30 x 80 ft., built of brick on stone foundations. It has a large general waiting room, ladies' waiting room, office & baggage room. The lavatories are fitted with the most improved fixtures, with sanitary plumbing. The building is heated by hot water. The yard has been remodelled & enlarged, & wide platforms

built for the convenience & safe handling of passengers. The freight shed has been moved to a more convenient place & new offices have been provided for agent, roadmaster & clerks. In connection with this work Winnett & Admiral sts. have been closed across the Co's lands, whereby the safety of the public has been greatly increased. The locomotive water service has been improved by erecting 2 modern stand pipes, one for east bound and one for west bound trains, so that engines can be watered while standing at the station. A shelter station has been provided at Crumlin, Ont., & the London & Windsor stations have been renovated.

At Sherbrooke, Que., a crane for handling heavy freight is being erected. Machine shops costing about \$3,000 have been built at Smith's Falls, Ont. A small store house has been built at Toronto. Two grain warehouses, 24 x 30 ft., have been erected at Hornby, Ont. Shelters for live stock awaiting shipment have been provided at Milton, Ayr & Tilbury, Ont.

At Chatham, Locust Hill, Perth & Dalhousie Mills, Ont., Sherbrooke, Magog & Scotstown, Que., 40,000 gal. water tanks are being built on masonry understructures, 2 stand pipes are being provided at Chatham, 1 at Magog, 1 at Locust Hill, & 1 at Dalhousie Mills. These improvements will enable passenger trains to take water in a shorter time & at more convenient places than before. The permanent masonry understructures are, of course, a great improvement on the timber understructures, which decay in 8 or 9 years.

Air testing plants have been provided throughout the yards at Megantic, Que., Smith's Falls, Havelock, Toronto, Toronto Jct., London, Windsor & Owen Sound, Ont., for testing & charging of trains with air so that despatch may be insured to freight by cars being thoroughly charged when trains are made up & that there may be no delay on account of cars having to be charged with air by pump on engine as formerly. Drop pits have been provided in the engine houses at Megantic & Farnham, Que., Smith's Falls, Havelock, Toronto Jct., & London, Ont. Sand & cinder hoists are being put in at Megantic & Farnham, Que., Havelock, Smith's Falls, & Toronto Jct., Ont., & are being equipped with air compressors. Over head coaling chutes for locomotives are being provided at Farnham, Que., Smith's Falls & Havelock, Ont.

Western Ontario Car Shops. The great demand for freight cars has led the management to decide to build additional shops for its car construction. In order to be near the raw material they will be located in Western Ontario. The plans which have been prepared provide for buildings with a capacity of 25 cars a day, & which when running at their full capacity would employ 1,000 men. We are informed that there is no authority for the statement in a Toronto daily paper that they will be located in Toronto, London, Windsor, & one or two other points are spoken of as likely sites, but no definite decision has been announced.

Windsor St. Station, Montreal.—Owing to the scarcity of iron for structural purposes, work in connection with the extension of this building is being much delayed. (Aug., pg. 233.)

Hotel at Ste. Agathe, Que. We are officially informed that there is no truth in the report to the effect that the Co. will build an hotel at Ste. Agathe. An hotel is, however, likely to be built there by the Ste. Agathe Hotel Co., Ltd., which is being formed, with Mayor Prefontaine, R. Wilson-Smith & J. Crathern, of Montreal, as provisional directors, & a capital of \$50,000. (Oct., pg. 291.)

Double Track Montreal to Vancouver.—A St. Paul, Minn., paper says the C.P.R. has announced its intention of double tracking the line from Montreal to Vancouver, that com-

plans for the work have already been awarded to districts, & that it will probably require 7 or 8 years to complete this gigantic undertaking. We have not heard of any such announcement & think the St. Paul paper is a little premature. There is no doubt the great increase of traffic west of Lake Superior will necessitate the early double tracking of the line between Fort William & Winnipeg, arrangements for which are already in progress, but it is hardly likely that the question of double tracking along the north shore of Lake Superior, or west of Winnipeg, has yet been seriously considered by the management.

Main Line Condition.—On returning to Ottawa recently from a trip to the Pacific Coast the Deputy Minister of Railways said the main line from Montreal to Winnipeg was in splendid order, but was a little rough across the prairies owing to the extremely wet weather this year. Through the mountains the roadway was excellent. The permanent way had been wonderfully improved, solid embankments with stone culverts taking the place of trestle bridges.

Ottawa Short Line.—The Co. is said to have secured options on all properties necessary for the building of its line of some 6 miles between the Co.'s station at the Chaudiere, Ottawa, & the round house at Hurdman's Bridge, Ottawa. It is said the cost of the property will be about \$60,000. The proposed line will shorten the route between the two points about 8 miles, as against the present haul by way of the Chaudiere Junction. (Sep., pg. 297.)

Fort William Roundhouse.—Good progress is being made with this building, the stone work & the brick fire wall which divides the building into two parts being completed. The structure is nearly in the shape of a semi-circle, the diameter of the arc being 370 ft., & its radius being 360 ft. (Oct., pg. 292.)

Fort William to Winnipeg. Survey parties have been at work for some time getting up data in connection with the double tracking of the line between these points, but we are informed that nothing will be done this year in respect to the construction of the second track beyond continuing the widening of the bridges, which are being improved to suit for double track. This work has been going on for several years past. A lot of sidings have been lengthened this year to over 3,000 ft. They are located so as to be available for a portion of the second track when required. (Oct., pg. 292.)

Rat Portage.—The new station is being roofed & is expected to be ready for occupation in Dec. (Oct., pg. 292.)

Jack Pine Ties.—The Co. is taking delivery of between 40,000 & 50,000 jack pine ties from Eagle Lake, which are being loaded at Vermillion Bay. They will be used on some of the branch lines now under construction in Manitoba.

The Bonnet Lake Branch will start from the main line at Molson, 45 miles east of Winnipeg, & will be about 22 miles long, but the section touching the lake has not been finally located. A contract has been let to A. C. Smith, of Winnipeg, for grading 10 miles this year, on which rails will be laid as soon as grading is completed. The line will traverse a timber country, sections of which will be very suitable for agricultural purposes when cleared. The terminus will be on the Winnipeg River at a point where it opens out into Bonnet Lake. (Oct., pg. 292.) See under head "Application to Parliament" on pg. 325.

Winnipeg Terminals.—When at Winnipeg recently President Shaughnessy showed a perspective view of the hotel & station building to be erected there. It will be a handsome structure with 3 towers, the principal one of which will be on the corner of Higgins Avenue & Main St. The tower is 10 stories high, with a conical top. The other towers are about 8 stories high, the main parts of the building being 6 stories. The building will have about 320 ft. frontage along Higgins Avenue & about 308 ft. on Main St. The 2 smaller towers are at the extremities of the building. The main entrance, which is beneath the main tower on the corner of Higgins Avenue & Main St., will have a doorway 20 ft. in width. The train shed will be north & east of the hotel & station building. It is expected that work on the hotel & station buildings will commence next spring, but it is not likely that it will be completed next year. President Shaughnessy & Manager Whyte had a conference with the Mayor & Aldermen of Winnipeg about the matter recently, when Mr. Shaughnessy stated that it was desired to lay 6 tracks, in addition to 2 already in existence, across Main St. & it was considered a viaduct or subway should be constructed to facilitate traffic. He proposed that the city construct at its own expense an overhead bridge at an estimated cost of \$104,000, or a subway at an estimated cost of \$100,000, the city to take the responsibility of settling with property owners whose property would be affected by diverting the traffic from the sides of the street by the erection of the subway or viaduct, which would be likely to run from Sutherland Avenue to Higgins Avenue. The Co. also asks for a grant of the blind end of Austin St. to be embraced in the station &

hotel site. It is probable that a by-law in connection with the matter will be submitted to the ratepayers at the next civic election. (Oct., pg. 292.)

Snowflake Branch.—On Oct. 27 we were advised that this branch would be completed & ready for traffic Nov. 1. It starts from the first siding on the Pembina Mountain branch, 118 miles south-west of Winnipeg, & is 17½ miles long. (Oct. pg. 292.) See under head "Application to Parliament" on pg. 325.

Deloraine-Waskada Branch.—The grading has been completed. On Oct. 27 we were informed that most of the material was on the ground & that it was expected to commence track laying on Nov. 1, & to complete it on Nov. 20. The branch is 18 miles long & will be opened for traffic as soon as completed. (Oct., pg. 292.) Power is to be asked from the Dominion Parliament to extend this branch 100 miles west. See under head "Applications to Parliament," pg. 325.

The McGregor-Varcoe Branch is being built from McGregor, on the main line, 22 miles west of Portage la Prairie, to a point near Varcoe on the G.N.W.C.R. On Oct. 28 we were informed that about 19 miles had been graded & that it was expected to complete the grading of 7 miles more this year, but that it was doubtful if any track would be laid this season. (Sept., pg. 267.) See under head "Applications to Parliament," pg. 325.

Pipestone Branch.—Grading has been completed for about 20 miles beyond Antler, which carries it to a point about 69 miles from Menteith Jct. An effort will be made to lay track on this grading this season but it may not be completed. It is expected to complete the grading to 30 miles beyond Antler this year, & to complete track laying on this grading next spring. (Sept., pg. 267.)

Crow's Nest Pass Ry.—There appears to be little doubt that the Co. will not attempt to complete the line from Kootenay Landing to Nelson in the time allowed under the contract with the Dominion Government, viz., Dec. 31, 1900, but that an extension of time will be asked, as it is absolutely necessary on account of the heavy nature of the work. It is probable that a portion of the line from Nelson east, about 25 miles, to Kootenay Lake, will be started very soon, President Shaughnessy having recently expressed himself to that effect at Nelson, & that work will be done in places all along this section. It is likely that one contract will be let for the construction & that the contractor will use his own discretion as to the work, provided he keeps within the time limit to be set. The building of this portion of the line would per-

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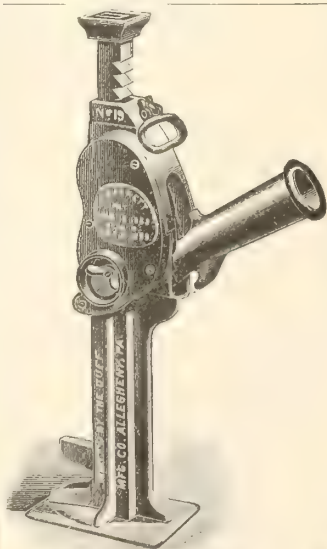
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mit of transfers from Kootenay Landing being made in about 2 hours by a car barge. (Sept., pg. 267.)

The Deputy Minister of Railways, C. Schrieber, who recently went over this line, said, on his return to Ottawa, speaking of the portion between Lethbridge & Kootenay Landing, that the Co. had done excellent work this season, notwithstanding the tremendous amount of rain which had fallen. A large force had been at work, & considerable money had been spent on the gumbo cuttings, the banks of which were being sloped so that there will be little trouble from gumbo slides hereafter.

The North Star Mine Branch is a branch of the B.C. Southern Ry., familiarly known as the Crow's Nest Pass Ry., leaving the latter line a mile east of Cranbrook station, thence running north-westerly for 8 miles to the St. Mary's River, which is crossed with two 150-ft. deck Howe truss spans with pile approaches. From this the line follows the east side of the valley for 4 miles, thence bearing north-westerly through Kimberley to the vicinity of the North Star & Sullivan group of mines. Total length of line 19.5 miles. Maximum grade, 147 ft. per mile, & maximum curve with radius of 410 ft. The line is expected to be open for traffic in Dec. (Sept., pg. 267.)

The North Star Mine Co. is building a wire rope tramway, 6,000 ft. long, to convey ore from the mine to the track. It will be operated by water-power.

Arrowhead & Kootenay Lake Branch.—The roadbed is finished & ready for the rails from Lardo, the southern terminus, to Duncan City, a distance of 12 miles. The clearing is completed beyond Duncan City to within a few miles of Trout Lake. A wagon road is finished to Trout Lake, & ties, timber, etc., for bridge work ready. It is expected work will be resumed early next March & then will be carried on rapidly to Trout Lake. Delay in forwarding rails prevented completion this season. A wharf is to be built at Lardo. (Oct., pg. 292.)

Columbia & Western Ry.—Negotiations are going on between the Co. & the city council of Rossland with respect to the establishment of divisional facilities at that point.

At the end of Oct., C. C. McCarthy left Rossland with a survey party & a train of pack horses to run the preliminary lines for a survey for a line to Sophie Mountain, where the Velvet mine, which is owned by a company of which Sir Chas. Tupper is Chairman, is situated. In an interview during his recent visit to Rossland, President Shaughnessy said he had been given to understand that there was considerable tonnage of ore available at Sophie Mountain, & as the C.P.R. was in the transportation business the road would be constructed, provided a practical route could be found. The C.P.R. tracks, he said, would have to be built for about 12 miles in order to reach the mines on Sophie Mountain, while the Red Mountain Ry. could tap these mines by a spur of about 6 miles. If, however, the tonnage was there & a road would pay the C.P.R. would endeavor to reach that section.

On the extension from West Robson to Midway, B.C., track has been laid to Greenwood, 95 miles from West Robson, & this portion of the line is being operated. Five miles of track has also been laid on branch lines from this line to various mines, but operation of the branches has not been commenced. (Oct., pg. 292.)

A large amount of freight has already been carried over the line, & it is going in faster than consignees can accept delivery. Several carloads reach Grand Forks each day, containing freight for Republic, Wash.

Reports from the Similkameen district are to the effect that several parties of C.P.R. surveyors have been taking the elevations of the various passes between the Similkameen

& Fraser valleys, & that it is probable that the route from Midway west will be by way of Princeton, One-Mile Creek, Quilchena Creek & Nicola River to Spence's Bridge, on the main line. This would be a considerably less direct route than to Hope & is hardly likely to be adopted unless the latter prove impracticable owing to the mountain difficulties. When at Vancouver recently President Shaughnessy said the Co. must move very carefully before deciding what to do west of its present operations in the Boundary Creek district, as the work now going on is the heaviest ever undertaken by the Co., the expenditure in B.C. during the past twelve months having aggregated \$14,000,000.

Revelstoke Shops.—In reference to the rumor that the capacity of these shops is to be considerably increased, we are informed that at present they are large enough for the amount of business done, but, of course, will be enlarged as demand requires. A lot of first-class machinery has recently been installed & the shops are well equipped. (Oct., pg. 292.)

Sicamous, B.C.—The station & hotel building are expected to be completed ready for occupation about Dec. 1, but the hotel will probably not be opened till about May 1, 1900. No official announcement has been made as to the running of the hotel, but an unconfirmed press report says that Mr. Patmore, ex-lessee of the Kalamalka hotel, Vernon, B.C., has secured a lease. (May, pg. 140.)

Application to Parliament.—The Co. gives notice of application to the Dominion Parliament next session for an Act authorizing it to construct or acquire & to operate the following railways:

From Deloraine, Man., south-westerly to township 1 or 2, thence westerly 100 miles. A portion of this line, the Deloraine-Waskada Branch, 18 miles, has been built this year, as stated on pg. 324.

From the Manitoba South-Western Colonization Railway, between Manitou and Pilot Mound, Man., southerly to or near the International Boundary. This line, known as the Snowflake Branch, 17½ miles long, has been built this year, as stated on pg. 324.

From a point on the last-mentioned railway in township 1 or 2 easterly 50 miles, also from a point in township 1 or 2 on the said line between the Manitoba South-Western Colonization Ry. & a point at or near the International Boundary, westerly 50 miles.

From McGregor, Man., on the Co.'s main line, westerly & north-westerly to Varcoe, about 56 miles. This line is already under construction. See page 324.

From West Selkirk, Man., northerly & north-westerly to a point on the west shore of Lake Winnipeg, about 60 miles.

From the Co.'s main line at or near Molson, Man., north & north-easterly to Bonnet Lake, or Winnipeg River, about 26 miles. A contract has been let for grading the first 10 miles of this line. See pg. 324.

From the Co.'s main line at New Westminster, B.C., to Vancouver, by such route as may be found most direct & feasible. This is the proposed line to place New Westminster on the main line.

Surveys, Construction, Betterment, &c.

Algoma Central.—The organization of the Ontario, Lake Superior Co., with a capital of \$20,000,000, is attracting attention to the Michipicoten mining district, where some valuable discoveries of iron have been made within the last year or two. F. H. Clergue, of Sault Ste. Marie, is the owner of one of the richest iron deposits, & he has been a leading figure in the formation of the Co. It is expected that the company will devote itself to iron mining, but as the development of the Michipicoten district promises considerable

freight, it will also pay some attention to railway business. A charter exists for the construction of the Algoma Central Ry., which will give connection between the iron mines & deep water on Lake Superior, a distance of some 40 miles. This railway is at present under way, & will be completed to the mines early next season. The extension of the line northwards for a little over 100 miles would enable a junction to be made with the C.P.R. at Missanabie, & this, it is stated, will ultimately be carried out. The O.L.S. Co. is said to have completed arrangements for acquiring the charter of the A.C.Ry., & with it the title to 2,000 square miles of timber & mineral lands. During the first year it is expected to handle no less than 1,500,000 tons of ore from the Consolidated Lake Superior Co. with whom it will have intimate business relations. (Oct., pg. 293.)

Bangor & Aroostook. The extension of this line from Caribou to Van Buren, Me., 33½ miles, has been completed & is being operated. It is intended to connect at St. Leonards, N.B., with the Restigouche & Western, when the latter line, part of which has been built from Campbellton, N.B., reaches St. Leonards.

Canadian Northern. On the extension from Cowan, last year's terminus, towards the Saskatchewan, it is hoped to lay rails this season to about 30 miles beyond Swan River. (Oct., pg. 293.)

Fair progress has been made with grading on the branch from Dauphin into the Gilbert Plains & it is hoped to complete 15 miles this season ready for track laying. (Oct., pg. 293.)

The Cape Breton Ry. Extension Co., which was incorporated by the N.S. Legislature early this year, proposes to build a line from Louisburg, on the east coast of Cape Breton Island to Port Hawkesbury (Point Tupper) on the Strait of Canso, a distance of about 86 miles. At Port Hawkesbury connection can be made with the Intercolonial Ry. Louisburg, which is 2,240 nautical miles from Liverpool, is said to have an excellent harbor, & it is contended that by the completion of the proposed line considerable saving could be made in the carriage of mails from Europe. Press reports say that the Vanderbilt interests are behind the scheme. A survey party is at work under Chief Engineer Armstrong, making surveys from the Port Hawkesbury end. Col. Alton, who is stated to be the General Manager of the Co., is reported to have stated that the scheme has been financed, & that work will shortly be commenced.

Cassiar Central. An unconfirmed press report says that about 4 miles of grading has been done on this line from Glenora, B.C. (July, pg. 209.)

Coast Ry. of N.S.—We are officially informed that on the 20 miles extension from East Pubnico to Barrington the grading is all completed, including the Y at Barrington. Sixteen miles of track have been laid, & 9 miles have been ballasted. The bridges have been erected. Thirteen miles of wire fencing have been completed. Four of the 6 station buildings have been completed, & with two trains working at track laying & ballasting with a large force of men, it is expected that the entire line will be completed ready for operation early in Dec. It is probable that grading will be carried on during the winter season towards Shelburne, but no definite arrangements have been completed in this regard. A small steamer has been secured to connect with the line at Barrington Passage, to run between that point & the important places on Cape Sable Island, also to Port La Tour, North East Harbor & the adjacent islands, in connection with the live lobster shipments & general traffic. It

is expected that the shore steamer of the Yarmouth & S. S. Co. will run between Barrington & Halifax in connection with the road, instead of running all the way to Yarmouth. The Western Union Telegraph Co. is rapidly completing the telegraph line along the railway between East Palmer & Barrington, so that it may be ready for operation when the road is opened. (Oct., pg. 207.)

Dyea, Alaska, to Bennett.—A person who arrived in Victoria, B.C., recently from Skagway, stated that 200 men & 100 horses were engaged in grading for a railway from Dyea to Bennett. In the absence of confirmation, this story should be accepted with reserve, as it is doubtful if capital could be found for another line in that district, the White Pass & Yukon already connecting Skagway & Bennett.

Edmonton, Alta., Bridge. The raising of the piers of the Dominion Government's bridge 8 ft. has been completed, & the iron superstructure is now being placed in position. (Oct., pg. 293.)

Great Northern of Canada. The contractors' engineer recently stated that early next summer the line will be completed from the St. Maurice to the Ottawa, & connection made between deep water at Quebec & Parry Sound. Grading was about to commence on two new sections, from Shawenegan to Montcalm, 53 miles, & from St. Jerome to Hawkesbury, 35 miles. A middle section of the road between St. Jerome & Montcalm has been practically rebuilt. Track laying is still being pursued between Lachute & St. Jerome. A regular train is running between St. Jerome & St. Elizabeth. Many bridges have had to be built, including one over the Ottawa. The contractors hope to have the whole line completed by Aug., 1900. (Oct., pg. 294.)

Great Northwest Central.—The 20 miles extension from Hamiot, Man., to Parkissimo, has been completed. (Oct., pg. 294.)

Intercolonial.—It is said W. Kitchen has been given a contract for enlarging the tunnel through Morrissey's rock, about 5 miles west of Campbellton. It is intended to increase the height of the tunnel about 4 ft.

An extension of about half a mile is being built from the terminus at Pictou, N.S., to the Copper Crown Co.'s works. The work is rather heavy, there being 2 or 3 deep cuttings.

Increase of business at Sydney has necessitated considerable enlargement of the freight shed, also an increase of siding accommodation.

The grain elevator at the deep-water terminus at St. John, N.B., is about completed.

It will have a capacity of about 500,000 bush. (June, pg. 175.)

Interprovincial Bridge, Ottawa & Hull.

On Oct. 26 we were officially informed as follows:—"All the water piers of the bridge are now completed, with the exception of one course & the coping still to be laid on the deep-water pier. Work on the Ottawa approach is now being rushed, & the Hull approach will be started in a few days. The foundations of the piers are composed of concrete deposited in bottomless caissons which were sunk on bed-rock, the concrete being deposited in the usual way in buckets holding about one yard & being tripped when they reached bottom. The best Portland cement was used & the greatest care exercised in mixing, depositing, etc. The concrete for 4 of the water piers was mixed by hand, & for the other 2 piers by a concrete mixer, an excellent machine which gave very satisfactory results. The concrete was so deposited to within a few feet of low-water mark, after which the caisson was pumped out, the concrete levelled off & masonry constructed in the usual manner. The superstructure is exceedingly heavy & massive, & is probably one of the largest bridges of its design in Canada. The cantilever span is 556 ft. long. Considerable trouble was experienced with sawdust, which was around one of the piers to a depth of about 25 ft. The design would have been simplified had it not been for the amount of sawdust under the cantilever span, the depth of which was found, by using a diamond bit, to be about 60 ft. No. 2 pier is also very deep, being about 70 ft. to top of concrete & about 25 ft. masonry over this. Owing to the depth of this pier it was considered advisable, to satisfy everybody concerned of the stability of the structure, to make diamond drill borings through the pier to bed-rock underneath. This test was in every way satisfactory, core being produced all the way down. As far as can be learned this is the first test of the kind on record in the history of concrete in which a core was procured from any depth of bore." G. C. Dunn is acting Chief Engineer for the Bridge Co.

G. H. Duggan, C.E., from whose design the superstructure is being constructed, has supplied us the following information:—"The bridge has a total length of 2,050 ft., consisting of a cantilever span of 556 ft., which together with its anchor arms has a length of 850 ft., one 247-ft. span, one 140-ft. span, 750 ft. of trestle approach on the Hull side & 60 ft. of trestle approach on the Ottawa side. The trusses of the cantilever & other river spans are spaced 24 ft. apart centre to centre, giving room between for a single-track railway

& 2 wide sidewalks. Outside the trusses on each side brackets are extended 19 ft. to provide for the electric railways, & wagon traffic. The bridge has been designed for very heavy traffic,—a load of two 125-ton engines followed by a train of 3,000 lbs. per lineal foot having been taken for the railway track, & trains of 4 electric cars of 30,000 lbs. each on the electric railway tracks, the whole being taken at the railway unit stresses specified by the Department of Railways & Canals."

It is not expected that the superstructure will be erected before next spring. The Ottawa City Board of Works has not sustained the City Engineer's objections to the approaches to the bridge on the Ottawa side. (Oct., pg. 294.)

Inverness & Richmond.—Good progress is being made with the first section of this line from the Strait of Canso to Port Hood, N.S., 30 miles. Tracklaying is going on & it is expected to finish the same early in Dec. Ballasting has commenced, & the section is likely to be operated early in 1900. The present contract with the N.S. Government provides for the building of the line from the Strait of Canso to Broad Cove mines, 58 miles, & it is expected to complete this next year. An extension to Cheticamp, some 50 miles further, is contemplated. Messrs. Mackenzie & Mann were in Nova Scotia recently in connection with the enterprise, & their visit gave rise to press reports that they will develop the Inverness coal fields & ship the coal to Quebec & Ontario points. Cheticamp would be the port for summer shipments. (Oct., '99, pg. 295.)

James Bay.—A partial survey has been made of the proposed 5-mile section from the main line of the Canada Atlantic to the town of Parry Sound, but construction has not been started, & the Parry Sound Star says the survey party is now at work on another route, which would not touch Parry Sound. Some Parry Sounders are said to be in favor of the town itself building the 5 miles, for which bonuses have been granted by the Dominion & Ontario Governments, & which could then be leased to the Canada Atlantic, or to the Toronto-Sudbury line should the latter be built. (Oct., pg. 295.)

Kingston & Pembroke.—There is no present prospect of this line being extended from Renfrew into the mineral belt of Quebec in the vicinity of Bryson, though steps are being taken to interest the Co. in the matter. (Oct., pg. 295.)

Kootenay Ry. & Navigation Co.—The latest report about this Co.'s line from Bonner's Ferry, Idaho, to Kuskanook, B.C., was

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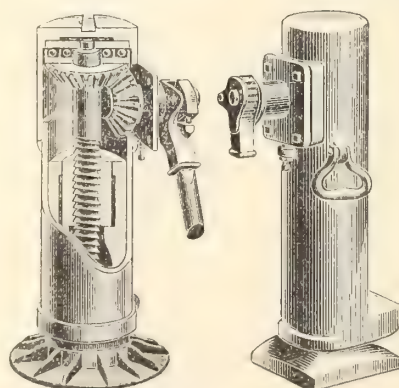
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to the effect that rails had been laid to within 7 miles of the point at which it will connect with the C.P.R., 4 miles west of Creston, B.C. Tracklaying had then to be stopped owing to want of rails. (Oct., pg. 295.)

On the Co.'s subsidiary line, the Kaslo & Lardo-Duncan, grading is said to be completed from Argenta to Duncan City, B.C.

Lake Erie & Detroit River Ry.—In reference to the report that this Co. will erect a summer hotel at Erieau, we were officially informed on Oct. 23 that nothing definite had been decided on and that it was then uncertain whether the hotel would be built or not. (Oct., pg. 295.)

Manitoba & Northwestern.—The extension of this Co.'s subsidiary, the Saskatchewan & Western, $2\frac{1}{2}$ miles at Rapid City, Man., to connect with the Great Northwest Central, has been completed. See also under head "Great Northwest Central," on pg. 326. (Oct., pg. 295.)

Manitoba & Southeastern.—On Oct. 31 we were informed that track had been laid from La Broquerie, last year's terminus, to a point about 85 miles southeast of Winnipeg & within 23 miles of the International Boundary. Grading was going on, & it was hoped to reach the Boundary before winter. The grading in Minnesota, on the Minnesota & Manitoba Ry., was reported as going on & as likely to reach the Boundary this year to connect with the M. & S.E.R., in which case track would be laid as far as War Road, Minn., which is about 10 miles from the Boundary, & will be a very important lumber point. (Oct., pg. 295.)

Michigan Central.—A contract has been let at \$150,000 for the iron work necessary to add a third truss to the cantilever bridge at Niagara Falls. The foundation work is being done by the Co. (Oct., pg. 295.)

Midland of Nova Scotia.—As mentioned in our last issue track has been laid between Windsor & the Shubenacadie River, 45 miles. Grading from the River to Truro, 15 miles, is about completed; track laying has been started, & it is hoped to complete that section this year. The bridge over the Shubenacadie will not be completed until well on into 1900. (Oct., pg. 295.)

Northern Pacific.—The branch from Portage la Prairie, Man., north towards Lake Manitoba, has been completed for 9 miles. Surveys have been made to the Lake, & it is possible the branch may be extended there next year. The branch from Portage la Prairie northwesterly has been completed to Beaver Creek, 20 miles. (Oct., pg. 295.)

In reference to a possible extension of the last mentioned line to Neepawa, Man., the Co.'s solicitors have written the press, saying among other things: "The most that can be said by way of encouraging an expectation of an extension in that direction some time in the future is that the President has authorized an examination of some sections of the province by a surveying party with a view of considering the question of possible extensions in the future. The deputation from the Neepawa council made very strong & encouraging representations as to the desire of the people of the town & district to have a branch of the company's lines competing for their traffic. We believe that similar representations have been made by other residents of the town interested in transportation. And we are led to hope that amongst others a surveying party may be instructed to make a report on the country tributary to that town."

The Nova Scotia Southern is projected to run from Shelburne, N.S., to New Germany on the N.S. Central & ultimately to Halifax. A provincial charter was granted for it years ago, a few miles were graded near Shelburne & then work was discontinued & the charter

lapsed. Last session the N.S. Legislature revived the charter, to come into operation by proclamation. Unconfirmed press reports say track has already been laid between New Germany & La Have River, & that it is expected to complete the first section of 90 miles by next June & the whole distance of 167 miles from Shelburne to Halifax by the end of 1900. R. G. Hervey, formerly of Brockville, Ont., is the promoter. (Oct., pg. 295.)

Ontario & Rainy River.—Track laying has been delayed by want of bridge lumber, but 5 miles have been completed, & it is expected to keep on till the grading is overtaken, some 40 or 50 miles west. The fine weather of the past month has been very favorable, & the grading on the first 50 miles from Stanley West is rapidly approaching completion. About 1,400 men are employed. A telegraph line has been built along the Port Arthur, Duluth & Western from Port Arthur to Stanley, & is being continued with the tracklaying along the O. & R.R. The completion of 50 miles will carry the railway to the Mattawin iron deposits. See also under head "Port Arthur, Duluth & Western," below. (Oct., pg. 295.)

Ottawa & Gatineau.—Construction is proceeding on the extension from Gracefield, 60 miles from Ottawa, to Maniwaki, & it is expected to take out all the rock during the winter & to finish the work to Maniwaki early next spring or summer. The extension skirts the shores of Castor, Trout, Blue Sea, Abitotbee, & several other large lakes, & will be between 23 & 25 miles in length. (Oct., pg. 296.)

Ottawa & New York.—We are advised that the work of rebuilding the steel bridge over the south channel of the St. Lawrence at Cornwall will be completed so that a through train service may be established through the Adirondacks between Ottawa & New York by July 1, 1900. The line is now being operated locally in two parts, the O. & N.Y. Ry. between Ottawa & Cornwall & the N.Y. & O. R.R. between Hogsburg & Tupper Lake, N.Y. (Oct., pg. 296.)

Port Arthur, Duluth & Western. The gradients & alignment between Port Arthur & Stanley Jct. are being improved to conform to the standard of the Ontario & Rainy River Ry., which will use this line between the points mentioned. (Oct., pg. 296.)

A telegraph line has been built from Port Arthur to Stanley, & is being continued along the O. & R.R. Ry.

It is reported that this line, which runs from Port Arthur, Ont., to Gunflint Mines, 92 miles, & which has been absorbed by the Ontario & Rainy River Ry., will be extended to Ely, Minn., about 45 miles, to connect with the Duluth & Iron Range Ry.

Pontiac Pacific Jct. On Oct. 26 we were advised that about 2 miles of the extension from Aylmer to Hull, Que., had been graded, that track laying would be commenced in a few days thereafter, & that it was expected to reach Hull with the track before the end of this year. (Oct., pg. 296.)

The line between Aylmer & Shawville is being rebalasted.

A by-law to grant the Co. \$30,000 for the establishment of its shops in Hull, has been defeated by the ratepayers, who voted on the basis of their assessment. E. B. Eddy, representing 95% of the E. B. Eddy Co.'s assessment of \$360,000, cast 1,710 votes against the by-law.

The Port Angeles Eastern is the Co. which wants Victoria, B.C., to bonus it to establish a ferry connection between that city & Port Angeles, Wash. The Co. has this season, it is said, built $\frac{3}{4}$ of a mile of trestle at Port Angeles up to the point where the docks will begin. About 6 miles of grading

is completed, & about 10 miles of right of way cleared. The surveys run east from Port Angeles across Sequim Prairie around the headwaters of Sequim Bay & Port Discovery Bay to Quilcene. Surveys are in progress for an extension to Shelton & Olympia, where connection will be made with the Northern Pacific.

Prince Edward Island. A contract for straightening the main line between Colville & Loyalist has been awarded to W. Kitchen, of Fredericton, N.B. Work has been begun & the contract requires it to be completed by June, 1900.

Ten miles of the Murray Harbor branch from Charlottetown is being located by H. J. MacKenzie, brother of W. B. MacKenzie, Chief Engineer of the I.C.R. It is expected that tenders will be asked for at an early date, & that construction will be started early next spring. The country through which the line is located is of a rolling nature, about the same as other portions of the Island, red soil & sandstone. It is fairly well settled all along the line, & would appear to warrant the belief that it would be quite up to, if not superior, to the main line in producing revenue. The gradients & curvature will be much less than in the present lines on the Island. Plans & specifications are being prepared by W. B. MacKenzie for the bridge over the Hillsborough River, & it is expected that tenders for it will be invited shortly. (July, pg. 210.)

Spokane & Northern.—Grading is reported begun on the cut-off from the Spokane Falls & Northern, a short distance north of Dugan, Wash., to run south-east about 3 miles to the G.N. main line. It is stated that the intention is to abandon the section of the S. F. & N. into Spokane when this section is completed. — Railroad Gazette.

St. John Valley & Riviere du Loup.—At the last Dominion Session the subsidy for 59 miles of this line, from Fredericton to Woodstock, was revoked. We are informed by one of the parties interested that a contract has been entered into between the Co. & the New Brunswick Government, which carries with it a provincial subsidy, & that an engineer has made a rough estimate of the probable cost of construction. (Oct., pg. 297.)

The Toronto, Hamilton & Buffalo has been granted an extension of time to Dec. 31, 1900, by Hamilton City Council, for the construction of the spur line to the northeast part of the city. (Oct., pg. 297.)

White Pass & Yukon.—Good progress is reported on the construction of the section between Cariboo Crossing, at the northeast end of Lake Bennett, & the White Horse Rapids, some 40 miles. About 20 miles of grading have been done, and tracklaying will soon be started. It is expected to go on with rock work all winter, & to have the section completed by the opening of navigation. (Oct., pg. 297.)

A Tacoma paper tells the following story about a cargo of 1,700 tons of steel rails which were loaded at Vancouver, & are to be used on the section above referred to:—The rails were made in the U.S., & were originally purchased for building an all-Canadian road to the Yukon from a point on the Stikine river. By the time the rails reached Vancouver the project had collapsed, when the rails were stored, & after some months were sold to a Japanese railway syndicate. This deal fell through, however, & the rails were bought by a Seattle firm, which recently made sale of them to the W.P. & Y.R. It thus happens that the rails will constitute a portion of a road to the Yukon, although it will not start from the terminus originally intended. As they must be taken over U.S. territory they had to be bonded for \$12,000, the amount covering the duty thereon.

Railway Equipment Notes.

The Albert Mfg. Co., Hillsboro, N.B., is building 14 passenger cars built.

Another mogul locomotive has arrived at St. Thomas, Ont., for the Wabash.

It is said the Quebec & Lake St. John Ry. will soon order 2 parlor cars & 20 coaches.

The White Pass & Yukon Ry. is building 100 cars, 60 of which will be box cars, 20 flats, & 20 stock cars.

The Newfoundland Ry. is ordering a number of compound locomotives, 5 sleeping cars, & some other equipment.

The Canada Atlantic's Ottawa shops have turned out 500 freight cars this year, & are now working on another 500 order.

The first locomotive for the Dominion Iron & Steel Co. was recently received at Sydney, N.S. Following are the general dimensions: Cylinder, 18x24; firebox, 34½ in. wide, 64 in. long; driving wheels, 50 in. dia.; boiler, 56 in., style straight; 202 2-in. flues, 13 ft. 3 in. long; wheel base 10 ft. 6 in.; weight, 98,000 lbs.

Four locomotives are being built in the Intercolonial shops at Moncton, N.B. They are of the mogul freight type, weight to be about 101,000 lbs., with 86,000 lbs. on the drivers, cylinders 18"x24", driving wheels 57" diameter, boiler pressure 180 lbs. per square inch, slide valves fitted with American balance valve. The locomotives will be fitted with Westinghouse air brake, sight feed lubricators, & the I.C.R. standard re-starting injectors. Capacity of tank 3,500 imperial gallons. There has been no new work commenced in the I.C.R. shops during October. Rhodes, Curry & Co., Amherst, N.S., have made delivery of 25 box cars of 60,000 lbs. capacity. No decision has been arrived at about the cars proposed to be built at Moncton.

At the recent annual meeting of the American Railway Association, the committee on standard dimensions of box cars reported that 96 roads, owning 464,455 freight cars, & operating 63,337 miles, favored the following

as dimensions for a typical box car: height, 8 ft., measurement taken from floor to bottom of car line immediately over plate at side of car; width, 8 ft. 6 in., measurement taken between linings; length 34 ft., measurement taken between end linings; cubical contents, 2,312 ft.; cubical contents per linear foot, 68 ft. Seventy-three roads, owning 540,222 cars, & operating 74,991 miles of road, did not favor the foregoing, & proposed other dimensions. The committee will continue its efforts at securing a typical box car.

Grand Trunk Equipment.

Following are the general dimensions of the 10 Vauclain compound consolidation locomotives, being built for the Co. at the Baldwin Locomotive Works, as mentioned in our last issue:

CYLINDERS.—High pressure.....	15½ in.
Low pressure.....	26 in.
Stroke.....	28 in.
BOILER.—Diameter.....	66 in.
Working Pressure.....	200 lbs.
FIRE BOX.—Length.....	114 3-16 in.
Width.....	41 1-4 in.
TUBES.—Number.....	260
Diameter.....	2 in.
Length.....	14 ft.
DRIVING WHEELS.—Diameter.....	56 in.
JOURNALS.....	8 x 12 in.
ENGINE TRUCK WHEELS.—Diameter.....	33 in.
JOURNALS.....	5 x 9 1/2 in.
WHEEL BASE.—Driving.....	15 ft. 3 in.
Total.....	23 ft. 6 in.
WEIGHT.—In working order.....	about 145,000 lbs.
on driving wheels.....	
Total.....	about 162,000
TENDER TANK.—Capacity.....	4,500 gallons
WHEELS.—Diameter.....	33 in.
JOURNALS.....	5 x 9 in.

These locomotives are for international service in the hilly districts between Portland & Montreal.

There has been a lull in G.T.R. equipment matters, nothing of any consequence having been ordered during October.

It is said the ordering of some 20 locomotives for the Central Vermont is being considered.

The rolling stock of the Central Vermont is likely to be improved as quickly as possible.

Modifications of M.C.B. Standards.

As a result of the letter ballot certain of the standards & recommended practice of the Association were modified as follows:—

STANDARDS.

Sheet 1.—Size of bolt holes changed to 1 1-16 in.

Sheet 2.—Size of bolt holes changed to 1 1-16 in.

Sheet 7.—Addition of axle with journal 5½ in. x 10 in., & the designation of the different standard axles by a letter.

Sheet 11.—Extension of contour lines; modification of standard limit gauge; change in radius of yoke; additions to the illustration of the automatic coupler.

Sheet 15.—General dimensions only for journal-bearing given.

RECOMMENDED PRACTICE.

Sheet B.—Play of shank of coupler in carry-arm changed to not less than one-half inch on each side.

Sheet C.—Diameter of boring gauge 3½ in. x 7 in., journal changed from 3 15-16 in. to 3 13-16 in. (This is not the result of letter ballot, but the correction of a clerical error.)

Sheet H.—Radius at top of pedestal changed from 50 in. to 5 ft. 0 in. (This is not the result of letter ballot, but the correction of a clerical error.)

Sheet I.—Fletcher journal box lid eliminated & sheet 1 used to illustrate the twist gauge for M. C. B. couplers, gauge for worn M. C. B. couplers; location of air brake parts on cars & label for air brake hose.

Sheet K. (new sheet).—Illustration of drop test machine & details for M. C. B. couplers.

These changes & additions have been made & lithographs illustrating the same are ready for delivery.—Railroad Gazette.

A. O. Norton, Coaticooke, Que., manufacturer of ball-bearing lifting jacks, has added additional special new machinery to his already well equipped plant, to keep up with the increasing demand for his product. He reports several large export orders.

MANITOBA

Population..... 200,000.
Number of Farmers.. 27,000.

Look Up Its Advantages

Before Going Elsewhere.

CROP OF 1895.	CROP OF 1896.
A Favorable Season.	An Unfavorable Season.
Average yield per acre.	Average yield per acre.
WHEAT..... 27.80 bushels	WHEAT..... 14.33 bushels
OATS..... 17.71 "	OATS..... 28.25 "
BARLEY..... 17.09 "	BARLEY..... 24.80 "
FLAX..... 17.08 "	FLAX..... 12.30 "

Over 10,000,000 acres in Manitoba that have never been cultivated. Price of land from \$2.50 to \$6.00 per acre. On easy terms.

Settlers coming to Manitoba should always

DROP OFF AT WINNIPEG

for a few days, and secure reliable information about settlements, free homesteads and lands for sale, from the heads of departments located in Winnipeg. For latest information and maps, all free, address

THOMAS GREENWAY,

Minister of Agriculture and Immigration
WINNIPEG, MANITOBA.

Or

C. H. JEFFERYS,

Manitoba Immigration Agent,
30 York St., Toronto, Ontario

THE FAVORITE ROUTE

To New York and
.....Philadelphia

GRAND TRUNK RAILWAY
in connection with the

LEHIGH VALLEY RAILROAD

Route of the "Black Diamond Express," handsomest train in the world.

Leaving Toronto daily (except Sunday) at 9 a.m., Hamilton 9.55 a.m., arrive New York 10.08 p.m.

Fast Night New York and Philadelphia Express, leaving Toronto 6 p.m. daily, arrive New York 9.13 a.m., Philadelphia 8.56 a.m.

Pullman Sleepers from Toronto, Hamilton & London to New York and Buffalo to Philadelphia.

Call on Grand Trunk Ticket Agents for tickets and further information, or address

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Canadian Pass'r Agent, 33 Yonge Street
Toronto.

Chas. S. Lee

Gen'l Pass'r Agt.
New York.

A. A. Heard

West'n Pass'r Agt.
Buffalo, N.Y.

All C.P.R. Agents in

MANITOBA,
ASSINIBOIA,
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sell through tickets to the Old Country, cheaper than if passengers bought railway tickets to New York or Montreal, and then re-booked.

They also sell prepaid tickets to passengers coming from the old country, cheaper than the rate obtainable in Europe, and on favorable terms.

Apply to any agent Port Arthur and west, or to

WILLIAM STITT,

C.P.R. Offices,
WINNIPEG.

Canadian Pacific Equipment.

The 12-compound locomotives mentioned in our last issue as having been ordered in the U.S. are to be built by the Richmond Locomotive Works, Richmond, Va., to be delivered in May next. An order has also been placed for the manufacture in Canada of 10-compound locomotives to be delivered by next spring. They are to be of the same type as a previous order for 6 which are about to be delivered, the general specifications being the same as for those to be built at Richmond, & which were given in our last issue.

Eleven freight cars a day are being turned out at the Co.'s shops at Perth, Ont., & as will be seen by reference to pg. 323, it is proposed to establish car shops of large capacity in Western Ontario.

At the Co.'s Hochelaga shops there are being built 2 1st class coaches & 2 standard wing plows. The coaches will be 65 ft. long, equipped with wide vestibules, standard steel platforms, electric light, steam heat, Westinghouse high speed triple brakes & C. P. R. standard 6 wheel trucks.

The following additional orders have been placed at the Co.'s shops at Perth, Ont. : 60

CYLINDERS.	
Diameter of cylinders	22 ins.
Stroke of piston	28 ins.
Horizontal thickness of piston	18 ins.
Diameter of piston rod	3 1/2 ins.
Kind of piston packing	Cast iron
Size of steam ports	18 x 1 1/2 ins.
Size of exhaust ports	18 x 2 1/2 ins.
Size of bridges	18 x 8 ins.

VALVES.	
Greatest travel of slide valves	5 1/2 ins.
Outside lap of slide valves	3/4 in.
Inside lap of slide valves	1 1/2 in.
Lead of valves in full gear	1-10 in.

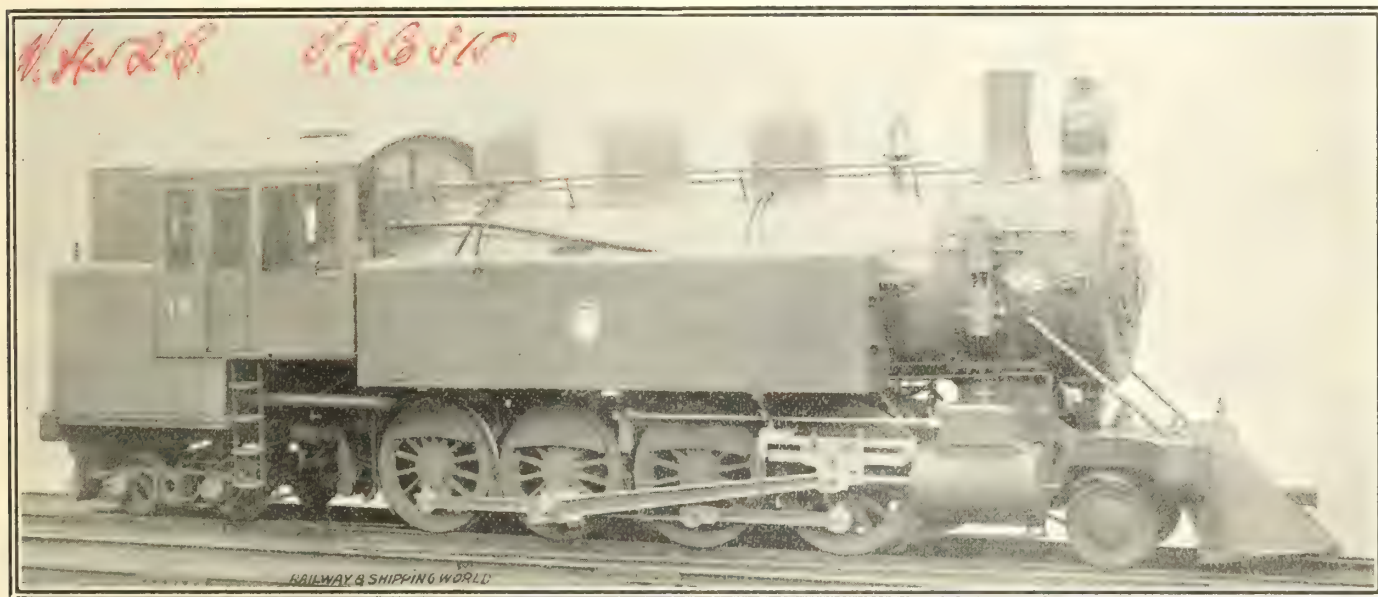
WHEELS, ETC.	
Diameter of driving wheels outside of tire	55 ins.
Material of driving wheels, centers	Main, cast steel ; Inter., steel cast iron
Tire held by	Shrinkage
Driving box material	Main, cast steel ; Inter., steel cast iron
Diameter & length of driving journals, main only	9 ins. diameter, 8 1/2 ins. dia. x 10 ins.
Diameter & length of main crank pin journals, (main side 7 1/2 x 5 ins.)	7 in. dia. by 6 1/2 ins.
Dia. & length of side rod crank pin journals, (15 x 4 ins.)	Inter., 6 ins. dia. x 4 1/2 ins.
Engine truck, kind	2-wheel swing bolster
Engine truck, journals	6 ins. dia. x 10 ins.
Diameter of engine truck wheels	30 ins.
Kind of engine truck wheels	Plate

BOILER.	
Style	Straight
Outside diameter of first ring	72 ins.
Working pressure	200 lbs.
Material of barrel & outside of fire box	Carbon steel

Both locomotives are equipped with Westinghouse 6 in. air pumps. The side tanks are supported by means of heavy braces resting upon the frames. In front this brace is a part of the guide yoke. The 3 tanks are all connected, & water is taken in at either one of the side tanks. The injectors take their supply from the back tanks. The total water capacity is quite equal to that of most tenders of the ordinary type. The cylinder saddle is double bolted to the smoke-box. About the only deviation from strict American practice is seen in the placing of the air pump upon the front end. The main & intermediate driving wheels have bald tires.

RAILWAY APPOINTMENTS, Etc.

Canadian Pacific. C. R. Hosmer, who was recently elected a director of the Co., has announced his intention of resigning the position of Manager of the Co.'s telegraphs, which he has held since their inception. As a director of the Co. he will no doubt pay special attention to the Co.'s telegraph matters. Jas Kent, Superintendent of the Eastern Division of the Co.'s telegraphs, is likely to be



DOUBLE END CONSOLIDATION LOCOMOTIVE FOR SYDNEY AND LOUISBURG RY.

45 ft. furniture cars, 100 30 ton Rogers' ballast cars, 700 standard 30 ton box cars, 200 standard 30 ton flat cars. Work has not yet been started on these.

The narrow gauge locomotives which were used on the Columbia & Western Ry., between Trail & Rossland, B.C., before it was standardized, are to be sent to the Chilliwack district, New Westminster, having been sold to a dyking contractor there.

It is said the Minneapolis, St. Paul & Sault Ste. Marie Ry. will order 10 heavy decapod locomotives, probably early next year.

Sydney & Louisburg Locomotives.

This Co. has recently added to its equipment 2 double end locomotives, 1 mogul & 1 consolidation, which are believed to be among the largest double enders ever built. An illustration of the consolidation one is given on this page. Following are particulars regarding it :

GENERAL DIMENSIONS.	
Gauge	4 ft. 8 1/2 ins.
Fuel	Bituminous coal
Weight in working order	239,000 lbs.
Weight on drivers	170,000 lbs.
Wheel base, driving	15 ft.
Wheel base, rigid	15 ft.
Wheel base, total	36 ft. 3 ins.

Thickness of plates in barrel & outside of fire box	3/4 in.
Horizontal seams	Butt joint sextuple riveted, with welt strip inside & outside
Circumferential seams	Double riveted
Fire box, length	41 ft. 7-8 ins.
Fire box, width	7-8 ins.
Fire box, depth	F. 70 1/2, B. 67 1/2 ins.
Fire box, material	Carbon steel
Fire box, plates, thickness	Sides 5-10 in., back 3-4 in., crown 3-8 in., tube sheet 1 in.
Fire box, water space	Front 4 ins., sides 3 1/2 ins., back 3 1/2 & 4 ins.
Fire box, crown staying	Radial stays 1-1-8 ins. dia.
Fire box, stay bolts	1 in. dia.
Tubes, material	Charcoal iron, no. 1
Tubes, number of	348
Tubes, diameter	2 ins.
Tubes, length over tube sheets	13 ft. 10 ins.
Fire brick, supported on	Studs
Heating surface, tubes	17,600 sq. ft.
Heating surface, fire box	1,760 sq. ft.
Heating surface, total	19,360 sq. ft.
Grate surface	33-21 sq. ft.
Grate style	Rocking
Ash pan, style	Sectional, dampers front & back
Exhaust pipes	Single, high
Exhaust nozzles	5 1/2 ins., 5 1/2 ins., 5 1/2 ins.
Smoke stack, inside diameter	40 ins.
Smoke stack, top above rail	41 ft. 9-206 ins.

TENDER.	
Wheels, number of	4
Wheels, diameter	28 ins.
Journals, diameter & length	5 in. dia. x 9 ins.
Tender trucks	4 wheel center bearing wing spring bolster carrying back end of engine
Water capacity	4,200 U.S. gallons
Coal capacity	1 tons

promoted to the managership, though no official announcement has yet been made.

A. D. MacTier, heretofore General Baggage Agent, has been appointed General Fuel Agent, with office at Montreal. This is a new position. Heretofore fuel has been purchased by the General Purchasing Agent & distributed by the Car Service Agent, but the vast growth of the Co.'s business has made it desirable to have a special officer to attend solely to fuel matters. Mr. MacTier has been in the Co.'s service since 1887, & before that was with the Southeastern Ry., now a part of the C.P.R. system.

R. H. Morris, heretofore Chief Clerk of the General Baggage Department, has been appointed General Baggage Agent of all lines of the Co., with headquarters at Montreal, in place of A. D. MacTier, promoted. Agents & train baggagemen on Western division will address Mr. Morris at Winnipeg, those on the Pacific division will address him at Vancouver.

E. Emery has been appointed Assistant Auditor of Passenger Receipts, with headquarters at Montreal. Mr. Emery, who is a son of a former Assistant Postmaster of Montreal, has been in the C.P.R. employ since the early days, & has been Chief Clerk in the

office of the Auditor of Passenger Receipts for a number of years.

In connection with recent changes in the Audit Department, notice is given that all bills from other lines for settlement, except freight overcharge claims, should be addressed to J. Leslie, Auditor of Disbursements, Montreal. Freight overcharge claims should be addressed to J. R. Steele, Freight Claims Auditor, Montreal.

In connection with the recent promotion of A. C. Henry to be General Purchasing Agent, & the appointment of E. N. Bender as Assistant General Purchasing Agent, F. E. Gautier who has been for some years in charge of the local purchasing office for the Western Division at Winnipeg, & A. J. Dana, who has held a similar position for the Pacific Division at Vancouver, have each been given the title of Assistant Purchasing Agent.

The time service on the lines east of Fort William has been reorganized. R. J. E. Scott has been appointed Chief Inspector of Time Service, with office at Montreal. His jurisdiction does not extend west of Fort William.

C. N. Coburn, Assistant Engineer on the double track work between Montreal & St. Annes, has been appointed Resident Engineer at Smith's Falls, Ont., succeeding A. E. Kirkpatrick, who has taken a position on the Egyptian Government Railways.

J. M. Guenette has succeeded J. B. O'Brien as Roadmaster on the Montreal & Ottawa section. S. J. Faught, heretofore section foreman at Nipissing Jct., has been appointed Roadmaster on the Sault Ste. Marie branch, between Wellwood & Sault Ste. Marie, vice W. S. Smith, resigned.

W. B. Way, despatcher at North Bay, has been appointed Chief Despatcher at Chapleau, Ont., succeeding C. Murphy, appointed Acting Superintendent.

J. B. McTaggart, of Fort William, Ont., has been appointed Superintendent of the Bridge & Building Department at Moose Jaw, Assa., vice P. Henselwood, resigned.

In reference to the change in the Superintendency of the Crow's Nest Pass branch, mentioned in our last issue, it may be stated that M. H. MacLeod, who temporarily discharged the combined duties of Engineer & Superintendent, will hereafter confine his attention to engineering matters, being in charge of the location and construction of lines in East Kootenay. He will also act as Engineer of the Crow's Nest Pass branch. His headquarters are at Cranbrook, B.C.

Central Vermont.—D. A. Sheedy, Superintendent of Bridges & Building, has resigned to resume his former position with the Edge Moor Bridge Co., at Edge Moor, Del. He has been succeeded by J. E. Toohey, heretofore with the Edge Moor Bridge Co.

J. J. Todd having resigned, J. P. Benny has been appointed Roadmaster of 1st & 2d districts. Office at Palmer, Mass.

Grand Trunk.—Jos. Munday, heretofore Chief Train Despatcher at Montreal, is appointed Superintendent Terminals, Portland, Me., including freight & stock yards at Deering. Office, Portland, Me.

G. F. Cotter, has been appointed Chief Train Despatcher at Montreal, succeeding J. Munday, promoted.

The following changes have been made in regard to road-foremen of engines, Eastern Division: T. Hardy, territory changed to 1st & 3rd districts, & 2nd district, Island Pond to Richmond; headquarters at Island Pond, Vt. F. Payette, territory changed to 2nd district, Richmond to Montreal, & 4th & 5th districts; headquarters at Montreal. N. B. Whitsel, appointed road-foreman of engines 6th & 7th districts; headquarters at Belleville, Ontario.

H. A. Woods has been appointed Engineer in Charge of all new work in connection with revision of grades & double tracking of the Chicago & Grand Trunk Ry. Office at Detroit, Mich.

E. H. Hughes, Western Passenger Agent, Chicago, having resigned, the position has been abolished.

Intercolonial.—W. K. Reynolds, Press & Advertising Agent at Moncton, N.B., has resigned.

J. Hardwell, Division Freight Agent, Montreal, has been appointed Assistant General Freight Agent with headquarters at Montreal. He will still attend to the duties of Division Freight Agent between Montreal & Dalhousie, N.B., & continue to act as Foreign Freight Agent.

H. A. Price, District Passenger Agent, Montreal, has been appointed Assistant General Passenger Agent.

J. W. Bryson, of the Montreal ticket office, has been appointed City Passenger Agent there, succeeding H. J. Sriver, assigned other duties.

Lake Erie & Detroit River.—Owing to the small amount of passenger business across Lake Erie, O. J. Hammon will, for the time being, take charge of both the freight & passenger business of this Co.

Northern Pacific.—A. Lovell has been appointed Superintendent of Motive Power, with office at St. Paul, Minn., & the office of Assistant Superintendent of Motive Power, previously held by him, has been abolished.

Oxford Mountain.—At a meeting of stockholders A. H. Moore & E. F. de Varnnes, were elected directors.

Sydney & Louisburg Ry.—P. L. Naismith having resigned his position with the Dominion Coal Co., A. N. McLennan, heretofore Roadmaster, has been appointed to succeed

him as Superintendent of Railway & Shipping. Mr. Naismith will remain for some time in the Co.'s employ in an advisory capacity in connection with the department over which he has presided. The foregoing is taken from the official circular. A press report says Mr. Naismith has received an appointment from the Alberta Ry. & Coal Co. at Lethbridge, Alberta.

White Pass & Yukon.—J. P. Rogers has been appointed Division Superintendent of the Pacific & Arctic Ry. & Navigation Co., B. C. Yukon Ry. Co., British Yukon Mining, Trading & Transportation Co., collectively known as the White Pass & Yukon Route, with headquarters at Skagway, Alaska, vice F. H. Whiting, resigned. This division includes the line as at present operated between Skagway, Alaska, & Bennett, B.C., together with the line in course of construction between Bennett, B.C., & Closeleigh, on the Lewis River below White Horse Rapids, N.W.T., distance from Skagway, 111 miles.

C. Moriarity, General Roadmaster of the Great Northern (U.S.A.) on the Cascade division, has resigned to accept a similar position with the White Pass & Yukon Ry.

Mainly About People.

"Canada's Hymn of Empire," written by A. Cox, Treasurer & Superintendent of Supplies of the G.N.W. Telegraph Co., has been set to music.

W. R. Callaway, General Passenger Agent of the Minneapolis, St. Paul & Sault Ste. Marie Ry., had an attack of fever in Oct., but has recovered.

Kenneth Bethune, son of the Superintendent of the G.N.W. Telegraph Co., at Ottawa, was married Oct. 11 to the daughter of H. N. Kittson, of Hamilton.

Lucius Tuttle, formerly Passenger Traffic Manager of the C.P.R., & now President of the Boston & Maine, has been also elected President of the Maine Central.

T. A. Burrows, M.L.A. for Dauphin, Man., & Land Commissioner of the Canadian Northern Ry., was married at Owen Sound, Ont., Oct. 25, to Miss G. K. Creasor.

D. G. Thompson, Manager of the Montreal Transportation Co. since 1869, died Nov. 5, having been attacked with paralysis while on the Montreal Board of Trade on that day.

Hamilton, eldest son of W. R. Baker, General Manager of the Manitoba & Northwestern Ry., died at Dawson City early in Oct., of typhoid fever. His body was taken to Winnipeg.

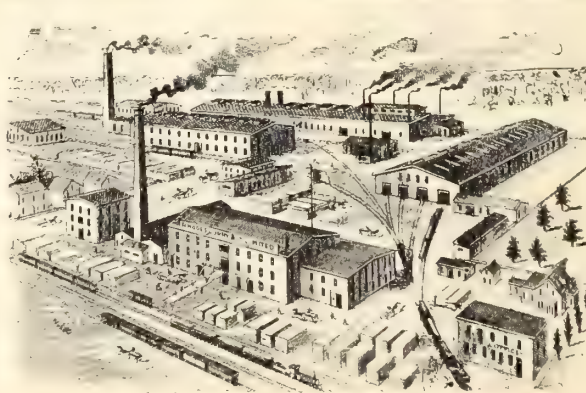
To Los Angeles and Southern California.

Every Friday night, at 10.35 p.m., a through Tourist Car for Los Angeles and Southern California leaves the Chicago, Milwaukee & St. Paul Railway Union Passenger Station, Chicago, via Omaha, Colorado Springs and Salt Lake City, for all points in Colorado, Utah, Nevada and California.

In addition to the regular Pullman porter, each car is accompanied by an intelligent, competent and courteous "courier," who will attend to the wants of passengers en route. This is an entirely new feature of tourist car service and will be appreciated by families or by ladies travelling alone. Particular attention is paid to the care of children, who usually get weary on a long journey.

These tourist cars are sleeping cars supplied with all the accessories necessary to make the journey comfortable and pleasant, and the berth rate (each berth will accommodate two persons) is only \$6.00 from Chicago to California. Ask the nearest ticket agent for a tourist car folder, or address A. J. Taylor, Canadian Freight and Passenger Agent, 8 King Street East, Toronto, Ont.

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**Railway and
Street Cars**

of all descriptions.

Special Cars for Coal, Ore,
Lumber, &c., with Ball-
Bearing Wheels.

**Car Wheels, Castings, Forgings, &c.
AMHERST, NOVA SCOTIA.**

The Royal Trust Co., which has been incorporated in Montreal, includes in its directorate Lord Strathcona, Sir Wm. Van Horne, R. B. Angus, C. M. Hays, T. G. Shaughnessy, C. R. Hosmer & Jas. Ross.

S. F. Forbes, ex-purchasing agent of the Great Northern (U.S.A.) has been appointed Assistant Superintendent of Motive Power of the Central of New Jersey, with headquarters at Salt Lake City, Utah.

It is reported from Seattle, Wash., that A. N. Gray, General Freight & Traffic Manager, & E. G. McMicken, General Freight & Passenger Agent of the North American Trading & Transportation Co., have resigned.

C. Schrieber, Deputy Minister of Railways, returned to Ottawa Nov. 1, from a trip over the C.P.R. to the Pacific coast, during which he inspected the Crow's Nest Pass Ry., & the Sault Ste. Marie canal. He was accompanied by a party of ladies.

J. A. MacMahon, of Dundas, Ont., who died in Toronto, Oct. 14, carried out some important contracts, including the Canada At-

Sir Wm. Van Horne recently visited East Selkirk, Man., where he is starting a 3,000 acre farm, with the intention of stimulating the progress of the Red River Valley as an agricultural district. Sir William thinks the land around Winnipeg is as good as any further west, & he means to demonstrate this.

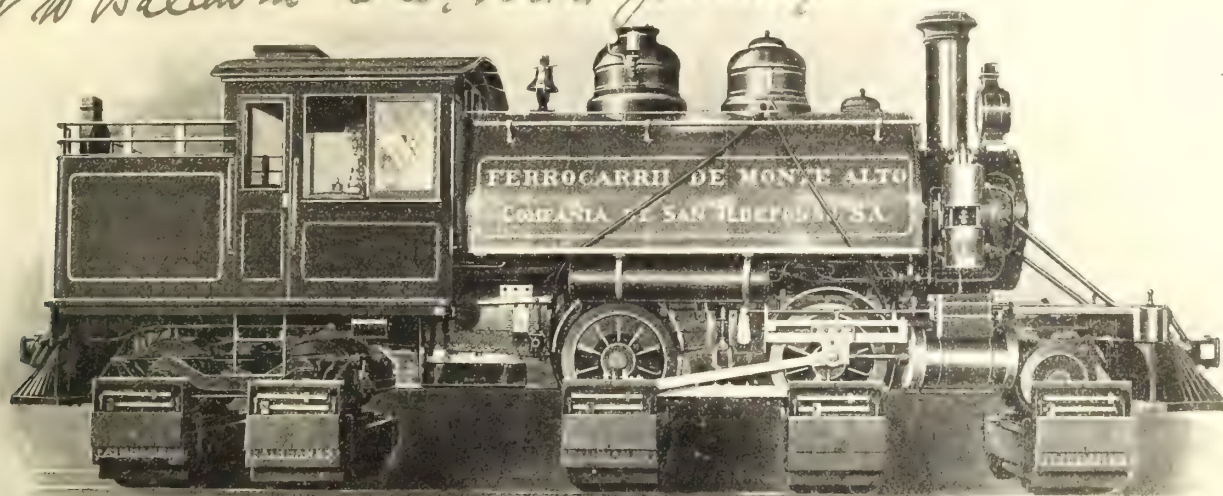
E. H. Hughes, who was recently replaced as Assistant General Passenger Agent at Chicago by G. T. Bell, & was given the position of Western Passenger Agent, has left the Co.'s service & has been appointed General Contracting Passenger Agent of the New York, Chicago, & St. Louis, with headquarters at Chicago.

The Michigan Central R.R. Co. has a very satisfactory way of recognizing service in its behalf. It places old & faithful employees on the retired list with a pension, which is continued during the remainder of the life of the pensioner. W. J. Martin, formerly Division Superintendent, after 35 years of faithful & valuable service for the road, was placed on the retired list & given a pension sufficient to enable him to enjoy the comforts of life during

Mr. Shaughnessy in the West.

The first trip made by Mr. Shaughnessy over the C.P.R. to the Pacific Coast since his election to the Presidency, which occupied from Oct. 13 to Nov. 6, was very satisfactory, particularly on account of the hearty welcome accorded him at the various points at which he stopped. He was accompanied throughout the trip by Chief Engineer Peterson & by H. S. Holt, of Montreal. Various officials of the Co. travelled with the President through the territory in their respective jurisdictions, Manager Whyte, of the Western Lines, & Land Commissioner Hamilton going with him from Fort William to the Pacific Coast. The President & his immediate party travelled in his official car the Metapedia. On the outward journey they went over the Crow's Nest Pass branch, visiting Nelson & Rossland & going along the Columbia & Western extension from West Robson as far as Greenwood, B.C., returning via Robson, & going up the Columbia to Revelstoke & on to the Coast, the trip extending to Victoria. On the return journey the main line was left at Moose

Net to Baldwin Loco. Works Jan. 2, 1900



The above illustration represents the method adopted by the Baldwin Locomotive Works of accurately ascertaining the weight on the separate axles of a locomotive. Each pair of wheels is placed on a separate Fairbanks scale, each of which is complete in itself & is capable of registering a weight of 60,000 lbs. For the purpose of easy adjustment & transfer, the foundation frame of each scale is mounted on a set of small truck wheels bearing on the track rail.

lantic Ry. bridge at Coteau Landing, & a number on the C.P.R., G.T.R., & M.C.R., as well as the dry dock at Levis, Que.

J. B. Laurie, formerly G.T.R. Storekeeper at London, Ont., & now Purchasing Agent of the Central Vermont, at St. Alban's Vt., visited London recently, & was presented with an address & travelling bag from the clerks of the stores & car departments of the G.T.R. there.

Jas. R. Cameron, who died at Spokane, Wash., Oct. 7, was born in Nova Scotia in 1860, & has been engaged in railway contracting in the west since the early days of the C.P.R. & the Northern Pacific. His latest work was on the C.P.R. Crow's Nest Pass branch.

Granville Cunningham, formerly Manager of the Montreal Street Ry., & latterly Manager of the Birmingham, Eng., Tramway Co., has been appointed Manager of the General Electric Underground Ry. in London, Eng., & has removed from Birmingham to London.

the remainder of his days.—St. Thomas Times.

D. D. Mann, of Mackenzie, Mann & Co., arrived at Vancouver, B.C., Oct. 18, from China. On returning to Montreal he intimated in an interview that his visit had been a successful one, but declined to give any particulars. Speaking of Chinese railways in general, he said, the Imperial Chinese Ry., owning about 330 miles, one line being from Tien-Tsin to Peking, 75 miles in length, comprises the whole system, except a little road of 12 miles connecting the bar or port with Shanghai. The Chinese travel in great numbers on the line between Tien-Tsin & Peking. This is a well-built road, it is double-tracked & almost as solidly built as English lines. The engineering department is in charge of Mr. Kinder, an Englishman, but fully 80% of the employees are Chinese. A portion of the line between the coast & Peking runs through a barren country, but the last 50 miles is a fairly well populated agricultural district. The railway comes to only within 5 miles of Peking, as the prejudices of the people will not permit the locomotive coming any nearer the city.

Jaw, the party travelling by the Minneapolis, St. Paul & Sault Ste. Marie, taking the main line again at Sudbury. The party were entertained at public dinners at Grand Forks, B.C., & at Vancouver, & were tendered a great deal of private hospitality.

In Vancouver Mr. Shaughnessy was present at a largely attended meeting of the Board of Trade, at which an address was presented, congratulating him on his election to the Presidency & submitting a number of important matters for his consideration, including the desire for closer & more direct communication between Vancouver & the Kootenay & Boundary Creek districts, the establishment of railway communication between Vancouver & Steveston, & the improvement of the steamship service to Dawson. Gratification was expressed at the Co.'s action in erecting substantial & commodious terminal buildings in Vancouver. After some remarks by members of the Board on subjects alluded to in the address & on other matters, Mr. Shaughnessy spoke at considerable length. Following are extracts dealing with the principal points:

I recognize the desirability of having more direct communications with the Boundary Creek & West Kootenay districts, but I consider the problem is a most serious one. In speaking of the distance from Vancouver to Greenwood & Grand Forks, as the route lies, we are far away from our estimate of the distance by rail. We have most serious obstacles to overcome, & we are not prepared to say, as yet, that there is any practical road between Vancouver & the Boundary Creek country. No doubt a line can be built from Penticton to Midway, shortening to some extent the distance because it would substitute a rail haul for a wagon haul, but it would not be wise for the Co. to proceed with a line to Penticton, or any other point in that vicinity, without first knowing how to get along to territory further west. We have spent vast sums in that country recently by building the most expensive piece of line ever undertaken by the Co. It opened up a country which I hope will be very productive, but we can expect very little return for years to come, & we must now carefully investigate the territory west of us before we can decide what our next movement will be."

"Without making a positive statement on the subject, or specifying a time limit, I think I may assure you that in the near future a road will be provided for a portion of the distance between Vancouver & Steveston at any rate. My own impression is that the direct line will have at least two spurs, & we are now looking into that matter. In the meantime, either directly, or through some other channel, I hope we shall shortly be able to commence the construction of the line."

"The question of improved steamship service between Vancouver & Skagway, or some other Alaskan port, is, I appreciate, of very great importance indeed. It is unfortunate that at present so large a portion of the trade of the Yukon country is being done through channels other than Canadian, & that so large a portion of the traffic is carried in ships other than Canadian. I discussed the subject to some extent yesterday with the C. P. Navigation Co.'s officials at Victoria, & in endeavoring to determine what should be done with some of their ships this subject was mentioned. A difficulty that they raised & no doubt it is a serious one—is the fact that while our steamers are not permitted to do a coasting trade between U.S. ports & Canadian ports, U.S. steamers can come to Canadian ports & do a coasting trade. It seems to me that strong representation should be made to induce the Government to enforce against foreign ships just the same regulations that they enforce against ours. This probably would have the effect of encouraging some of the Canadian lines to provide a suitable service. In anticipation of a very large Yukon trade, two years ago we purchased two ships in Europe, & built a good many river boats here. The rail-

way route we had in mind at that time was, unfortunately, not approved; at least the Government were unable to furnish the necessary assistance to secure the construction of the railway lines between the water stretches. We found that our boats were rather too large for the purpose, & they were put into other trade. We dislike to engage in the steamship business unless it be absolutely necessary. We prefer to have that part of the route covered by some private shipping company, but if that be not done within a reasonable time, we must see if we cannot give some assistance in that direction also."

"While in Victoria yesterday I had a talk with the C. P. Navigation people about the service between Vancouver & Victoria. It has been unsatisfactory for a good while past, & I intimated pretty clearly that improvement must at once be made. My own idea is that we should have a day boat, that the boat leaving the wharf here on the arrival of our train should be a direct continuance practically of that train to Victoria. It should leave immediately on the arrival of the train, carrying passengers, mails & baggage only, & should go to Victoria just as quickly as possible. On the other hand, the boat leaving Victoria should make a direct connection with our east-bound train. A difficulty that was raised by them was the fact that under those circumstances Victoria people coming to Vancouver for the transaction of business involving only a very short time would be compelled to remain over night, & that passengers going from Vancouver to Victoria would require to be away two nights. I think that can be overcome very readily & economically, if they do the right thing. Two first-class freight boats, with 10 or 12 suitable cabins, travelling at a rate of 13 or 14 knots, could leave either port at, say, 10 o'clock at night, & reach either port at 10 o'clock in the morning, making it very convenient for those who wish to do their business in one day in either city. The difficulty is to get these boats, as they cost a considerable amount of money, & can only be used on this route. I recognize this difficulty. We are not anxious, of course, to do anything unfair to the people with whom we have had pleasant relations for so long a time, but I hope they will be able to provide other channels of trade for which the boats can be used. Meantime, so soon as it can be arranged the Islander will be put on the route permanently, making the run during the day, but the night steamer would not require to make the speed of the day boat, as it could reach either city early the following morning. I do hope that the day of the Yosemite & Rithet on that route is past."

J. C. McLagan brought up the question of the Chilliwack railway. He said that it was well known that this district was the most important agricultural section of the Province, & he would like to see this scheme furthered

as well as that of the railway to Steveston. There were fairly good roads now in the direction of Steveston. The C.P.R. had a line & bridge across the Fraser at Mission, & it only was a matter of 28 miles of a line from Abbotsford to Chilliwack. Many of the C.P.R. officials had gone over the proposed route & had found that the undertaking would not be a very serious or difficult one. Nothing else that could be done for the people of Vancouver or the Fraser Valley would conduce more to their interest than the building of this line. He had been assured that it was a matter of physical impossibility for a railway to come out at Hope, & he thought the line he mentioned would become eventually part of a trunk line up the Fraser Valley. He had had, too, a long correspondence with the Dominion Minister of Railways, & he could state positively that any feasible scheme for a railway south of the Fraser would receive the careful consideration of the Government. The people of this section were practically shut out from travel in the winter time, & there were many difficulties in navigation all the way along to Hope & Yale, where the steamers formerly ran. He was assured that instead of giving grants of money year after year for the improvement of the river, the Federal Government would much rather give a lump sum in aid of a line of railway paralleling the river."

On the evening of the same day the Vancouver Board of Trade entertained Mr. Shaughnessy & his party at dinner at the Hotel Vancouver, there being a large & very representative attendance. In the course of his reply to the toast of his health Mr. Shaughnessy said he did not need to say anything to them of the great mind of Sir Wm. Van Horne, his wonderful originality, his marvellous constructive genius, but he could tell them what probably his most intimate friends alone knew, that no bigger heart was ever created. But he had not gone out of the firm, & he still came occasionally down to the shop, & he knew that if at times he found it difficult to reach the estimate of the people he would only have to call into counsel the former president of the railway."

The C.P.R. was an unique corporation. When he used this expression, he did not refer particularly to the vast mileage covered & the equipment of the line, as to the variety of its interests. For instance, they were common carriers, like other railways, but there was a land department, which had the care of a vast estate almost as large as a principality. Then there were the steamship interests, now operated on the lakes & one ocean, & he hoped soon to be operated on the other, the systems of cables & telegraphs, the express department, hotels, etc., & he did not think they had forgotten to pay some attention to the laundries & barber shops & even prize packages were sold under the direct supervision of the management. No system could be complete

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Cleveland Elevator Company's Elevator, Cleveland, O.	500,000 "
Erie R. R. Transfer & Clipping House, Chicago, Ill.	100 cars in 10 hrs.
Manchester Ship Canal Co.'s Elevator, Manchester, Eng.	1,500,000 "
Burlington Elevator Co., Peoria, Ill.	500,000 "
Canada Atlantic Railway Elevator, Coteau Landing, Que.	500,000 "
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PLANS AND SPECIFICATIONS.

without comprehending the smallest details, & in this there were employed a staff of 28,000 men. Amongst these there were lawyers & other professional men, & out in B.C., where he supposed they needed some moral advice, they even retained missionaries.

He had mentioned to them the variety of interests & he would like to say something about the officers of the corporation. In order to make that organization perfect, to properly care for the affairs of the Co., the greatest possible care was required on the part of the Co.'s managers, general superintendents, traffic officers & others of the staff. He had been with the Co. almost since its inception, & previous to that had had 14 or 15 years' experience in railway life. He knew pretty thoroughly the organization of the railway from one end of the continent to the other, & appreciated it in every detail & he knew he could say without fear of contradiction that no railway in the world ever had, or has had, the same competent, loyal or energetic staff as that of the C.P.R. Without such a staff, no amount of ability or energy on the part of the higher officers of the Co. would be effective, & with it they were able to distance their competitors.

Charles Rudolph Hosmer.

The newly-elected director of the C.P.R., whose portrait is given on pg. 313, is the son of the late Hiram P. Hosmer, & was born at Coteau Landing, Que., Nov. 12, 1851, & educated there. He commenced telegraphy at the age of 14. When he was 21 he was appointed Superintendent of the Dominion Telegraph Co., then the active competitor of the Montreal Telegraph Co., & in 1881 became President of the Canada Mutual Telegraph Co., an ally of the Mutual Union Telegraph Co. of the U. S. A. In 1886, when the C.P.R. decided to establish a commercial telegraph system, Sir Wm. Van Horne selected him for the position of Manager, which position he has occupied ever since, the system having grown under his management to its present vast proportions. He has announced that he will shortly retire from the position & it is said that in addition to attending to his important private interests he will represent in Montreal an important foreign banking house.

Soon after Mr. Hosmer's appointment to the management of the C.P.R. Co.'s telegraphs, an alliance was formed with the Mackay-Bennett cable & allied telegraph interests, which threw him into close personal contact with John W. Mackay, of Bonanza fame, & a warm friendship sprang up between them. Mr. Hosmer has for some time been Vice-President of the Commercial Cable Co., & in addition to being a director of the C.P.R. is also a director of the Merchants Bank of Canada, Montreal Gas Co., London & Lancashire Insurance Co., Canada Paper Co., Edwardsburg Starch Co. & other important enterprises.

RAILWAY PROJECTS.

Brandon & Southwestern. Notice is given of application to the Dominion Parliament for an act to extend the Brandon & Southwestern Ry. (projected) from Brandon, Man., to Gladstone, thence to or near Carman, thence to Winnipeg, also from or near Carman to the International Boundary line in range 5 or 6, also from township 8 or 9, range 7 or 8, to the boundary in township 1, range 16 or 17, & from township 5 or 6, range 12 or 13 to the boundary in township 1, range 11 or 12, & to increase the capital stock of the Co., & for other purposes.

Cascade to Carson.—E. Miller, solicitor for L. A. Manly & other applicants, gives notice of application to the Dominion Parliament to incorporate a company to construct & maintain a railway from the International Boundary line near Cascade, B.C., westerly, following the valley of the Kettle River to the boundary line at or near Carson, with a branch from or near Grand Forks, to 50 miles up the North Fork of the Kettle River, following the valley of that river, also with a branch from or near Grand Forks, by way of Greenwood to the International Boundary line at or near Midway, & for other powers.

Columbia River to Vancouver, &c.—S. Curtis, Rossland, gives notice of application to the B.C. Legislature to incorporate a company to construct and operate a railway from the Columbia River, south of Lower Arrow Lake, westerly to Vancouver, via Rossland & Sheep Lake, & via or near the various

construct & operate branch lines to the coast on either side of the Island, & with other powers. This is understood to be in the interest of the Esquimalt & Nanaimo Ry.

Cross Creek to Stanley.—The projectors of this proposed line of 6 miles from Cross Creek Station on the Canada Eastern, for which a Dominion subsidy was re-voted last session, have been assured by the New Brunswick Government that a Provincial subsidy will also be granted upon the Co. entering into a contract with the Dominion Government & giving satisfactory assurance of its ability to build & operate the road.

Dalton Trail to Lynn Canal.—J. T. Bethune, P. F. Scharschmidt, F. P. Armstrong & J. S. Harvey give notice of application to the B. C. Legislature to incorporate a company to construct & operate a railway from the northern boundary of B.C. at or near the point of intersection of the Dalton Trail, via Chilkat Pass to or near Kluckwan, or as near to the shores of Lynn Canal as the Province has the power to grant.

Dawson City to Dominion Creek.—Belcourt & Ritchie, solicitors, Ottawa, give notice of application to the Dominion Parliament to incorporate a company under the name of the Deutsche Klondike Gesellschaft, to construct & operate a railway from Dawson City, Yukon, along Bonanza Creek & across the dome to a point upon or near claim no. — on Dominion Creek, a distance of about 55 miles altogether, & for other powers.

Dyea River to Lake Bennett.—D. G. Macdonell, solicitor, Vancouver, gives notice of application to the B. C. Legislature, to incorporate a company to construct & operate a railway from or near Dyea River, on the International Boundary between B. C. & Alaska, to or near Lake Bennett, & for other powers.

French River to Portage du Fort.—Perkins & Fraser, solicitors, give notice of application to the Dominion Parliament to incorporate a company to construct & operate a railway from the District of Parry Sound, Ont., at or near the mouth of the French River, through the Districts of Parry Sound & Nipissing & the County of Renfrew to Pembroke, thence through the County of Renfrew to or near Portage du Fort, Que., with power to erect bridges across

the Ottawa River & other rivers necessary for the purposes of the undertaking, & for other powers.

The Hurontario Ry. Co. was incorporated by the Ontario Legislature in 1874, the Act being amended in 1892 to 1897. The Co. has power up to 1902 to begin, & within 5 years thereafter to construct a railway from Toronto to Georgian Bay, also other powers, particularly authority to utilize the water of Lake Simcoe & the Nottawasaga & Humber rivers, for power, etc. & to supply Toronto & other cities with water. D. Blain, Toronto, President of the Co., says the proposal is to build an air line of 66 miles between Toronto & the mouth of the Nottawasaga River, a few miles east of Collingwood. A preliminary survey shows that the maximum grade going



FIRST PASSENGER TRAIN LEAVING LAKE BENNETT, B.C., ON THE WHITE PASS & YUKON RY.

This train left Lake Bennett July 6, 1899, & carried as freight about \$200,000 in gold dust.

points where the Kettle River intersects the International Boundary Line, & crossing Okanagan River south of Okanagan Lake, & via or near Princeton, on the Similkameen River, & via New Westminster, & with power to operate & construct branch lines up & down the Similkameen River from or near Princeton to the International Boundary Line, & extending northward to Nicola Lake, & thence to Kamloops, & also to Spence's Bridge; & for other powers.

Comox to Cape Scott.—H. M. Hills gives notice of application to the B.C. Legislature to incorporate a company to construct & operate a railway from Comox District, Vancouver Island, northerly, to or near Cape Scott, or some other suitable point at or near the north end of the Island, with power to

south would be 20 ft. per mile, and going north 20 ft. per mile, with practically no curves except on the watershed, & that the construction would be easy. In a pamphlet recently issued he says the line would, however, be more costly than an ordinary railway, "as the heaviest rolling stock now in use will be employed. If this is so why should the line cost more than lines on which such rolling stock is now used? He continues: "The rails will be 100 lbs. to the yard * * * with locomotives weighing from 220,000 to 250,000 lbs., & steel hopper cars carrying 60 or 100 tons." He estimates the cost of a single-track line at \$3,000,000, double-track \$5,000,000. The Co. has applied to the Dominion Government for aid.

Labelle to St. Ignace du Nominique.—The Northern Colonization Ry. Co., incorporated at the last Dominion Session, has organized by electing the following:—President, Hon. J. D. Rolland; Vice-President, H. Chauvin; other directors, J. d'Halveywn, E. J. Ramboth, H. Lefebvre, C. B. Major, M. P. P.; Secretary, E. Rodier. The distance between the points above mentioned is 24 miles, & we are informed it is hoped to build the line next year. It would connect with the C.P.R., which reaches Labelle from St. Therese Jct., 19.8 miles from Montreal, by a branch of 80.5 miles. Of this branch about 70 miles from St. Jerome to a point beyond Labelle was built as the Montreal & Western Ry., & was worked for a number of years by the C.P.R. for a percentage of earnings. In 1896 the C.P.R. bought the M. & W. Ry., to be paid for in 30 annual instalments of \$30,000 each, representing principal & interest, which is about equivalent to the purchase of the line at \$6,000 a mile.

Lewes River to Takhina River.—Lewis & Smellie, Solicitors, Ottawa, give notice of application to the Dominion Parliament to incorporate a company to construct a railway or tramway from Fifty-Mile or Lewes River at or about 25 miles below the northerly end of Lake Marsh, Yukon, following approximately the course of the river on either side thereof, to or near the mouth of the Takhina River, with power to construct & maintain branch lines not exceeding 10 miles in length to mining properties in the vicinity of a creek situate about 6 miles southerly from the mouth of the Takhina River, & for other powers.

Lindsay, Bobcaygeon, & Pontypool.—The Dominion Parliament having at its last session re-voted the subsidy for 40 miles of line between Pontypool & Bobcaygeon, Ont., the directors of the Co. are taking steps for the early submission of bonus by-laws in the municipalities interested. Lindsay will probably be asked for a bonus of \$25,000. In the municipality of Ops, where a by-law was defeated some years ago, opinion is said to have changed in favor of the scheme. Lindsay papers support it on the ground that it will give the town C.P.R. connection.

The Morris, Portage & Midland Ry. Co. was incorporated at the last session of the

Manitoba Legislature to build a railway from Morris, on the Red River, 42 miles south of Winnipeg, to Portage la Prairie, with a branch from the main line, in township 6, range 10 west, to Carberry, Neepawa & the western boundary of the Province, also a branch from the starting point at Morris to the eastern boundary of the Province in township 10. It is said that steps are being taken to organize the Co., & that a preliminary survey is contemplated.

Ottawa to Brockville.—G. E. Kidd, solicitor, Ottawa, gives notice of application to the Dominion Parliament to incorporate a company to construct & operate a railway either by steam or electricity from Ottawa, Ont., to or near Brockville, & expropriate & acquire lands & water-power & construct & develop water-power for the purpose of generating electricity along the line of the railway, or elsewhere, with power also to construct & operate a ferry on the River St. Lawrence, between Brockville & Morristown, N.Y., & there connect with the U. S. system of railways, & to acquire & maintain docks, wharfs, piers & elevators on the River St. Lawrence, at or near Brockville, & for other purposes.

Ottawa-Hull Bridge.—Perkins & Fraser, Solicitors, Ottawa, give notice of application to the Dominion Parliament to incorporate a company to construct & operate a railway & general traffic bridge across the Ottawa River from the City of Ottawa, between the easterly side of Bank St. & the westerly side of Kent St. produced to the river, to some point in Hull, Que., with the necessary approaches from any station which the Co. may erect in Ottawa or Hull for railway, street railway, tramway, carriage, foot & passenger traffic purposes; & for other powers.

Taku Arm to Atlin Lake.—Robertson & Robertson, Victoria, give notice of application to the B.C. Legislature to incorporate a company, with power to construct & operate a tramway or railway from Taku Arm, Cassiar, near where the Atlin River joins Taku Arm, along the northern side of the Atlin River to Atlin Lake, near where the Atlin River flows from Atlin Lake, & for other powers.

Vancouver Island & the Mainland.—Besides the Port Angeles ferry project described in our June issue, the City of Victoria has under consideration three other plans for mainland connection, each involving a large expenditure. The C. P. Navigation Co. has offered a much improved service in return for a bonus of \$250,000. McKenzie Bros., of Vancouver, have made a proposition looking to the securing of 20 minute train service between Victoria & Sidney, & the establishing of an 18 knot ferry between Sidney & Vancouver. A committee of citizens appointed in May to consider what was known as the De-Cosmos scheme, has reported in favor of transcontinental connection via Boundary Bay. The engineer's report, based on an exploration survey, recommends that the Victoria & Sidney Ry. be extended to the most convenient

harbor north of Sidney, & that from this point a passenger steamer & a car ferry steamer be operated to a point on Boundary Bay. From this terminus a line to be built following the course of the Nicomeck River for 12 miles, & making junctions as follows:—With the Great Northern Ry. about 6 miles from White Rock; with the C.P.R. & the Seattle & International at a point on the main line, about 30 miles east of White Rock. This route would pass within about 2 miles of the N.P. terminal at Sumas City, running thence to Chilliwack, through a fine agricultural country. The estimated cost of the enterprise is: Victoria-Sidney extension, \$150,000; ferries, \$200,000; White Rock to Chilliwack road, \$1,500,000. This plan, notwithstanding the large outlay involved, is the favorite in Victoria.

A by-law embodying the Port Angeles proposition has been before the city council for some time, & may or may not come before the people, as certain amendments made in committee are unsatisfactory to the promoters, the amount of subsidy having been cut down by half. As at present amended, the by-law provides for an annual subsidy of \$8,750 for 20 years, being about half the estimated cost of the ferry & terminal facilities at both ends. An important development in this connection is the improvement now being arranged for in the C.P.N.'s Victoria-Vancouver service as a result of C.P.R. President Shaughnessy's recent visit to the coast. The fast str. *Islander* is now being overhauled to go on this route, and will make the daily return trip entirely by daylight. The freight service is also to be improved, though definite plans are not yet announced. It is hardly necessary to say that the C.P.N. Co. is not a part of the C.P.R. system. (Aug., pg. 239.)

Vancouver to New Westminster.—Davis, Marshall & Macneill, Solicitors, Vancouver, give notice of application to the B.C. Legislature to incorporate a company to construct & operate a railway from the line of the C.P.R. in or near Vancouver, to the Westminster branch of the C.P.R. in or near New Westminster.

The Vancouver Northern & Yukon Ry. Co. will apply to the B. C. Legislature for an act extending the time within which it may complete its undertaking, to empower it to extend its proposed railway from or near Vancouver, or some other point on Burrard Inlet, to the north or south shore of the Fraser River near New Westminster, & to change its name to the Vancouver, Westminster Northern & Yukon Ry. Co.

Railway Passes for Bridge Directors.

An important case was tried at Toronto before Chief Justice Meredith, on Oct. 31 & Nov. 1. It was an action by the Niagara Falls Suspension Bridge Co. & the Niagara Falls International Bridge Co., the Canadian & U.S. companies respectively which control the single arch bridge at Niagara Falls, against the G.T.R. Co., to compel that Co. to

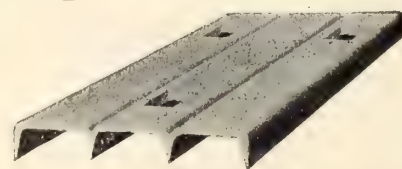
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furnish to the directors & officers of the bridge companies passes over all the U.S. roads which make use of the bridge. The suit was founded upon an agreement made in 1853, between the bridge companies & the Great Western Ry., whereby the railway was given the right to extend the privilege of using the bridge to other companies, & it agreed with the bridge companies to procure from all railway companies with which arrangements should be made for the use of the bridge, free tickets for the directors & officers of the bridge companies to pass over their railways.

In the course of the trial, it appeared that three other actions had been brought against the G.T.R. Co. under the same agreement, one in Canada & two in New York State, all of which had been decided in favor of the bridge companies. The principal defence relied upon by the G.T.R. Co. was that when the rent of the bridge was increased in 1875, the bridge companies relieved the G.T.R. Co. from the obligation to furnish passes, & that it was thereafter under no obligation to do so. At the conclusion of the case judgment was given in favor of the plaintiffs, with costs. The plaintiffs claimed that they were entitled to be refunded all fares which had been paid by their directors & officers over the U.S. roads during the time that the passes were withheld, & the action was referred to a referee to settle the amount of the judgment. The G.T.R. proposes to proceed with an appeal.

Ontario Corporation Taxation.

Under the act passed at the last session of the Ontario Legislature, the following amounts have been received:

Banks	\$37,900
Railways	19,000
Street railways	6,093
Telephone companies	4,445
Gas & electric light companies	4,900
Insurance companies	69,780
Loan companies	25,300
Natural gas, sleeping cars, &c.	12,650
Trust companies	5,330
	\$184,898

C.P.R. Co.'s Telegraphs.

Since pgs. 329 & 341 of this issue were made up, the resignation of C. R. Hosmer as Manager has been officially announced, Jas. Kent, heretofore Superintendent of the Eastern Division, being appointed to succeed him.

W. J. Camp, heretofore Electrician of the system, has been appointed Superintendent of the Eastern Division, with headquarters at Montreal, succeeding Mr. Kent. The position of Electrician is abolished.

A. W. Barber, heretofore City Manager at Toronto, has been appointed Superintendent of the Ontario Division, with headquarters at Toronto, succeeding H. Pingle.

B. S. Jenkins, heretofore Superintendent of the Western Division at Winnipeg, has been appointed General Superintendent of Telegraph Lines west of Fort William, with headquarters at Winnipeg.

Jas. Wilson continues as Superintendent of the Pacific Division, with headquarters at Vancouver.

The Carillon & Grenville Railway.

"An odd institution that has lately come under my notice," said a friend of mine the other day, "is the railway 12 miles in length, between Grenville & Carillon on the Ottawa River. This railway is employed for the transport of passengers & baggage going by steamer from Montreal to Ottawa & vice versa. The train, which consists of a locomotive & one car, makes only one trip per day, leaving Carillon on the arrival of the boat from Montreal, & on the return, leaving Gren-

ville on arrival of the steamer from Ottawa. The line runs through fields some distance from the river. The roadbed & rails cannot be seen except at close range, being overgrown with grass. At a glance the engine is seen to be an old timer, & probably will not stand a pressure of more than 30 to 40 lbs. It looks very like the first locomotive put into service on the old Northern Ry., & which I understand was built at Good's foundry, on Queen Street, Toronto. An old gentleman, grey haired & grey bearded, attired in a long black coat, white tie & high collar, & presenting the appearance of a superannuated preacher, occupies the dual position of conductor & brakeman. Notwithstanding his antiquated appearance, however, he seemed to be rather more than up-to-date in his movements, for on the whistle sounding 'down brakes,' he responded so quickly that the locomotive & car were brought to a stop some distance before the platform which does duty as a station, was reached, & the train had consequently to be started up again to reach its destination." In concluding his description, my friend remarked that the old conductor must have a great task on his hands in making up his daily returns for the railway company.—"By the Way," in Canadian Electrical News.

Finnigin to Flannigan.

Sup'rintindint wuz Flannigan;
Boss av the siction wuz Finnigin;
Whiniver the kyars got offen the thrack
An' muddled up things t' th' divil an back,
Finnigin writ it to Flannigan.
Aft'her the wrick wuz all on again;
That is, this Finnigin
Repoorted it to Flannigan.

Whin Finnigin furst writ to Flannigan,
He writed tin pages—did Finnigin.
An' he tould jist how the smash occurred;
Full minny a tajus, blunderin' wurrd
Did Finnigin write to Flannigan
Aft'her the kyars had gone on agin.
That wuz how Finnigin
Repoorted to Flannigan.

Now Flannigan knowed more than Finnigin—
He'd more idjucation—had Flannigan;
An' it wore'm clane an' complately out
To tell what Finnigin writ about
In his writin' to Muster Flannigan.
So he writed back to Finnigin:
"Don't do sich a sin agin;
Make 'em brief, Finnigin!"

When Finnigin got this from Flannigan,
He blushed rosy red—did Finnigin;
An' he said: "I'll gamble a whole month's
pa-ay
That it will be minny an' minny a da-ay
Before Sup'rintindint (that's Flannigan)
Gits a whack at this very same sin agin.
From Finnigin to Flannigan.
Repoorts won't be long agin."

Wan da-ay on the siction av Finnigin,
On the road sup'rintindint by Flannigan,
A rail gave way on a bit av a curve
An' some kyars wint off as they made the
swerve,
"There's nobody hurted," sez Finnigin,
"But repoorts must be made to Flannigan."
An' he winked at McGorrigan,
As married a Finnigin.

He wuz a-shanty in thin, wuz Finnigin.
As minny a railroader's been agin,
An' the shmoky ol' lamp wuz burnin' bright
In Finnigin's shanty all that night—
Bilin' down his repoort, wuz Finnigin!
An' he writed this here: "Muster Flannigan,
Off agin, on agin,
Gone agin,—Finnigin.

A Mixed Up Advertisement.

A prominent transportation official has sent the Editor a copy of the Quebec Morning Chronicle of Sept. 12, 1890, from the advertising columns of which the following is copied exactly as it was published:

THE GREATEST WONDER OF MODERN TIMES

HOLLOWAY'S Pills & Ointment.

THE PILLS

Purify the Blood, correct all disease
of the

Liver, Stomach, Kidney and Bowels.

They invigorate and restore to health

Debilitated Constitutions,

and are invaluable in all Complaints incidental to Females of all ages. For Children and the aged they are priceless.

THE OINTMENT

SPEED, SAFETY, CIVILITY.

TORONTO TO CHICAGO IN 14 HOURS.

Best and Quickest Route to MANITOBA
BRITISH COLUMBIA, and the
PACIFIC COAST.

FOR FARES, Time Tables, Tickets and general information apply at the Union Depot City Ticket Office, corner King and Yonge, and at York Street, Toronto, or to any of the Company's Agents.

JOSEPH HICKSON,

General Manager
Lm

January 21 1888



GRAND TRUNK RAILWAY.

The Old and Popular Route

—TO—

Montreal, Detroit, Chicago,

—AND—

All the Principal Points in Canada and the United States.

IT IS POSITIVELY THE

ONLY LINE FROM TORONTO

Running the Celebrated Pullman Palace
Sleeping and Parlor Cars,

is an infallible remedy for Bad Legs, Bad Breasts, Old Wounds, Sores and Ulcers. It is famous for Gout and Rheumatism. For disorders of the Chest it has no equal.

FOR SORE THROATS, BRONCHITIS,
COUGHS, COLDS, GLANDULAR
SWELLINGS,

and all Skin Diseases it has no rival.

Manufactured only at Professor

Holloway's Establishment

233, OXFORD STREET, LONDON.

and sold at 1s. 1d., 2s. 9d., 4s. 6d., 11s., 22s., and 33s., each Box and Pot, and in Canada at 36 cents, 90 cents, and \$1.50 Post and the larger sizes in proportion.

Caution. I have no Agent in the United States, nor are my Medicines sold there. Purchasers should therefore look to the Label on the Pots and Boxes. If the address is not 533 Oxford Street, London they are spurious.

The Trade Marks of my said Medicines are registered in Ottawa and also in Washington.

Signed, THOMAS HOLLOWAY

3, Oxford Street, London.

Sept. 1, 1880.

December 1880

Steel Rail Prices.—Railway managers who have been ordering steel rails for next summer's delivery have recently discovered that railmakers have a decided unwillingness to do so at the basis of present prices. Railmakers have been unfortunate in the recent upward movement. They have supplied rails continuously below market prices. Hence their present unwillingness to sell rails largely at \$11, which may be worth \$18 when delivered. Authorities agree pretty well that an unusual amount of railroad building will be undertaken next spring. In other lines a strong upward tendency continues to manifest itself. Bars, merchant steel plates, shapes, pipes, tubes, all are fractionally higher than even a week ago. The urgent demand for raw material is indicative of higher prices & finished products later on. Plate mills see no sign of relaxing demand, despite some idle rumors to the contrary. The question of ore prices will be fixed a month sooner this year. The question of transportation will remain in abeyance. Several serious features are to be dealt with, & opinions at present have very little value.—*Railway & Engineering Review*, Chicago, Oct. 21.

Central Vermont.—Gen.-Manager Hays, of the G.T.R., accompanied by Vice-President & Gen.-Manager Fitzhugh, Col. Walker, President of the Atcheson, Topeka, & Santa Fe Ry., Gen. McCullough, Vice-President of the Erie R.R., & Mr. Baker, of Boston, all members of the directorate of the C.V., made a trip over the line in the middle of November. This was referred to in some daily papers as likely to lead to further reorganization of the C.V., but this is not likely. The trip was simply an annual inspection one. The line has already been thoroughly reorganized, & it is not thought any further change is to be made.

White Pass & Yukon Ry. At the recent annual meeting of the B.C. Yukon Ry. Co., at Victoria, the following were elected:—President, S. H. Graves; Vice-President, W.

Wilson; other directors, J. Dunsmuir, A. C. Flumerfelt, E. C. Hawkins, H. M. Hills, R. Cassidy. Secretary, A. Davey.

Here is a unique verdict by a coroner's jury on a man who was killed by a switch engine:—"We, the jury, find that the deceased came to his death at the hands of a switch engine, after being sat on by the coroner for two hours & half."

ELECTRIC RAILWAYS.

Ontario Electric Railways.

Bracebridge to Muskoka Lake.—An electric railway between these points is talked of.

Fort Erie to Chippewa.—A deputation waited on the Ontario Government on Oct. 8, in connection with the proposal to build an electric railway between these points, & suggested the terms desired. (Sept., pg. 277.)

The Hamilton Consolidations.—On Nov. 30 the Main st. office & the terminus near the G.T.R. station at Ferguson avenue of the Hamilton & Dundas Ry. will be discontinued, & on Dec. 1 the cars will run to the Radial station on Gore st., as the city terminus of the road. A switch will be put in at the intersection of Queen & Herkimer streets & the cars run over the street railway tracks. The track on Main st. is the property of the H. & D. Co., but it is probable the Hamilton, Grimsby & Beamsville will acquire running powers over it.

Hon. J. M. Gibson recently laid before the Hamilton City Finance Committee the proposition of the promoters of the proposed electric railway to Guelph & Galt. He stated that it was proposed to build a first-class line, so as to have the cars run almost at the same speed as a steam railway. The plan was to build a double track from Hamilton to a point near Rock Chapel, where lines will branch out to Guelph & Galt. The promoters considered that the most feasible route was along

Vine st. to Oxford st., across Dundurn park below the edge of the bluff, & through Harvey park. He did not think Dundurn would be injured, but Harvey park would be damaged to some extent. An alternative route was along York st., which would have to be widened by 20 ft. near Queen st. It was esti-



IF time has a commercial value;
promptness secures business
immediate information is required;
an answer is wanted, and wanted quick;
you are not in business for exercise:

**STAY AT HOME
AND TELEPHONE.**

The Bell Telephone Company of Canada

will be pleased to furnish details.

NOTICE.—The Canadian Pacific Railway Company will apply to the Parliament of Canada, at its next Session, for an Act authorizing the Company to construct or acquire and to operate the following railways, that is to say: a railway from a point on the Company's Line at or near Deloraine in Manitoba, thence southerly to a point in township one or two, thence westerly one hundred miles; also a railway from a point on the Manitoba South Western Colonization Railway between Manitou and Pilot Mound in a southerly direction to a point at or near the International Boundary; also a railway from a point on the last mentioned railway in township one or two, thence easterly fifty miles; also a railway from a point in township one or two of the said line between the Manitoba South Western Colonization Railway and a point at or near the International Boundary, thence westerly fifty miles; also a railway from McGregor on the Company's main line in Manitoba, thence westerly and northwesterly to Varcoe, about fifty-six miles; also a railway from West Selkirk in a northerly and northwesterly direction to some point on the west shore of Lake Winnipeg, about sixty miles; also a railway from a point on the Company's main line at or near Molson Station, Manitoba, thence northerly and northeasterly to a point on Lac du Bonnet or Winnipeg River, about twenty-six miles; and also a railway from a point on the Company's line at New Westminster, thence to Vancouver by such route as may be found most direct and feasible, with power to issue in aid of the construction and equipment of said railways collectively, or on any part or parts thereof separately, bonds which will be a first lien and charge thereon with the same effect as if the said railways or such part or parts thereof were being built by the Company as a branch of its railway within the meaning of Section One, Chapter Fifty-one of the Statutes of 1888, or in lieu of such bonds consolidated debenture stock conferring on its holders equal rights in all respects and a rank pari passu with holders of such consolidated debenture stock as the Company has been heretofore authorized to issue, and for other purposes.

By order of the Board,

CHARLES DRINKWATER, Secretary.

Montreal, 16th November, 1899.

NOTICE is hereby given that The Dominion Atlantic Railway Company will apply to the Parliament of Canada, at the next session thereof, for an Act confirming the company's issues of capital stocks, the conveyance to the company by the Windsor and Annapolis Railway Company, dated the thirty-first December, 1898, the Mortgage Trust Deeds made by the company, and the first and second debenture stocks, issued and to be issued, thereunder, to the amount of \$1,000,000 pounds (sterling), and also to enable the company to increase the capital stock, borrow and secure money upon shares and other outside property of the company, to create reserves, and for other amendments to the Act incorporating the company.

CHRYSLER & BETHUNE,

Solicitors for the Company.

Dated the 7th November, 1899.



**It's
Fast....**

The rapidity of the Underwood's action is so great that it will respond perfectly to the manipulation of the operator, permitting the use of the highest rate of speed.

THE UNDERWOOD TYPEWRITER

is a time saver—and TIME IS MONEY.

ILLUSTRATED CATALOGUE MAILED FREE.

CREELMAN BROS. TYPEWRITER CO.,

Sole Agents for Canada

15 Adelaide Street East, Toronto



THE ACTON BURROWS CO.,

Sole Agents for Canada.

The Imperial Enamel Co. Ltd.
Birmingham, Eng.
MANUFACTURERS OF
ENAMELED IRON SIGNS
and Advertising Specialties.
Canadian Office: 29 MELINDA STREET, TORONTO.

mated that the right of way for this route would cost \$100,000. Mr. Gibson said the Co. would be at considerable expense, the cost of construction being heavy on account of the bridges required, & it was thought the city should render some assistance. On behalf of the Co. he made the following alternative propositions: 1. To accept a bonus. 2. For the city to buy right of way and give it to the Co. 3. For the city to make some abatement in the percentage, etc., paid by the Street Ry. Co. equivalent to the amount of the bonus required.

J. Moodie, jun., & J. G. Gauld are suing the Cataract Power Co., Hon. J. M. Gibson, J. Dickenson, M.P.P., J. Patterson, J. Moodie, sen., & J. Kamerer, to have the court set aside a by-law passed by the defendants, or the Cataract Power Co., last Aug., for increasing the stock of the Co. from \$250,000 to \$3,500,000. The Co. was originally capitalized at \$99,900, the stock being principally taken up by the five Johns of the syndicate. Then the stock was increased to \$250,000, & it is alleged that the first stockholders signed an agreement by which the additional stock to be subscribed should be preference stock to the extent of a 7% dividend over the stock of the original holders. Of this preference stock the younger Moodie held the largest share. He claims that he was opposed to the by-law providing for the increase of stock to \$3,500,000, for the transfer to the defendants of a large portion of the stock, & for the issuance of 5% cumulative preference stock, & the plaintiffs allege that when the Government issued letters patent to confirm the by-law in question it did so under a misapprehension of plaintiff Moodie's position in the matter. Plaintiff Gauld is suing for recognition as a stockholder of the Cataract Power Co.

Hamilton, Grimsby & Beamsville Electric Ry.—For some time it has been rumored that the Cataract Power Co. is anxious to secure this line & complete its amalgamation of the radial railways, but the promoters always denied that they were negotiating. It is now reported that the President of the St. Catharines & Niagara Central has an option on the H., G. & B., & that he is acting for the Cataract Power Co.

London St. Ry.—At a meeting of shareholders, Sep. 29, it was decided to increase the capital from \$350,000 to \$400,000, the new stock to be offered to the present shareholders at par, pro rata, according to their respective holdings.

Estimates of the loss by the Co.'s employees' strike figure up to \$197,000, of which the Co. is said to have lost \$60,000, the men \$13,000, the balance being lost by merchants & in damage to property.

Metropolitan Electric Ry.—Particulars respecting the connection of this Co.'s track with the C.P.R. at North Toronto, will be found under the head of "Railway Committee of Privy Council," on an earlier page of this issue.

The Co. has added an electric locomotive to its equipment.

Ottawa Electric Ry.—Good progress is being made with the $4\frac{1}{2}$ miles line from Hintonburg to Britannia, & it is expected to complete it early in Dec. Some portions of the work are heavy. It includes several cuts, one through solid rock, a number of fills, & some large culverts. Rails weighing 72 lbs. are being used. Four cars are being built, one a combination baggage & passenger, 35 ft. long, to seat 40 passengers; the other 3 passenger cars, 50 ft. long, to seat 40 passengers. (Sep., pg. 277.)

The City Council is negotiating with the Co. to run a spur line to the Varsity oval. It is proposed to have a belt line out Nicholas st. from Theodore, along Somerset st. to King, thence down King to Theodore again. President Ahern shows no disposition to refuse to

build the projected line, and it will consequently be constructed early next spring if the idea meets with the approval of the Council & of the people.

Owen Sound.—Owing to the extraordinary & unexplained opposition of half the members of the town council, the proposal to build an electric railway in the town & through the country to McLaughlan Park has been abandoned, for the present at least. The proceedings of the council during the discussion of the question were of the most undignified nature, & from the calibre of some of the members, as shown by their conduct in council, we should think anyone would be taking considerable risk to invest capital in any enterprise that would be in any way subject to them. (Oct., pg. 307.)

The Port Stanley Electric St. Ry. Co., recently incorporated, was projected by the London & Port Stanley Gravel Road Co. It is proposed to build a line along the gravel road between Port Stanley, St. Thomas & London, with possibly a branch to Aylmer. (Oct., pg. 307.)

St. Catharines, Niagara Falls & Toronto Ry.—Under date of Oct. 7 we were advised as follows:—"All the wooden trestles & bridges are either to be removed by change of grade, filled in, or replaced by steel. New ties have been placed the full length of the road. All fish plates are to be removed & continuous rail joints substituted. The extension to Port Dalhousie will be commenced as soon as legal difficulties regarding the rights of way can be overcome. The material for the Port Dalhousie extension is now at St. Catharines on the ground. Preliminary surveys have been made to Hamilton. It is the intention of the Co. to convert the road into a high speed electric line, somewhat similar to the Buffalo & Lockport. The cars, however, will be somewhat larger & more powerful. The freight will be handled by electric locomotives. The work of rebuilding the old road is now going on as fast as possible, although we are somewhat hampered on account of our inability to get steel." (Oct., pg. 307.)

St. Catharines to Wellandport.—An electric railway between these points, via Fonthill & Pelham, is talked of.

St. Thomas Electric Ry.—The receipts for the quarter ended Sep. 30 were \$6,009.47.

The St. Thomas Times says the Co. has issued a circular stating it is insolvent & asking its creditors to accept preferred stock for their claims. Power has been granted the Co. to issue \$15,000 preferred stock divided into 150 shares of \$100 each. This stock is to run for 20 years and to bear interest at 6%, payable half-yearly. The by-law provides that after 10 years the directors can call in all the stock on giving 6 months' notice. The preferred stockholders are to have 2 directors on the board, & to have a share in the dividends after 4% is paid to the ordinary shareholders. After paying the Co.'s liabilities the proceeds of the stock are to be used for the completion of the park, the purchase of more cars, the putting in of signals at the crossings of the L. E. & D. R. Ry., & for sidings & improvements to equipment.

The Co.'s employees struck recently, but the difficulties were soon arranged and they returned to work.

Sarnia Street Ry.—We are officially informed that this Co., which now operates a horse-car system, proposes to build 7 miles of electric railway, if satisfactory arrangements for franchise can be made with the municipal corporation. Work is likely to be begun next spring so that the road may be completed in time for the summer traffic. The shareholders are to be asked to accept stock in a new company at the rate of 75c. on the dollar of their present holdings. (Oct., pg. 307.)

Toronto Railway.—The gross earnings are:

	1899.	1898.	Increase.	Decrease.
Jan.	\$95,960.12	\$86,500.36	\$9,187.76	
Feb.	91,800.30	82,402.19	9,458.11	
Mar.	103,234.88	92,318.42	10,916.46	
April.	95,212.37	86,898.83	8,313.54	
May.	104,806.62	92,070.35	12,736.27	
June.	109,093.18	94,119.32	14,973.86	
July.	116,824.94	104,302.92	12,522.02	
Aug.	123,282.70	110,300.54	12,982.16	
Sept.	137,621.10	138,021.74		\$400.64
Oct....	111,495.37	99,650.16	11,845.21	
	\$1,089,091.58	\$87,186.83	\$1,002,273.46	\$400.64

Increase, Jan. 1 to Oct. 30, \$101,874.75.

The city's percentage upon the revenue for Oct. was \$8,918.86.

The City Solicitor has notified the Co. that it must immediately comply with the by-law & construct vestibules on both ends of its cars.

An agreement has been entered into between the Co. & the town of Toronto Junction, which provides that the Co. extend its system as far as Keele St., on which it is to give the same service as is given on the Queen & Dundas St. line. The Toronto Suburban St. Ry. is given concessions in the way of exemption from water rates & mileage rates, in return for which it is to extend its lines farther into the country. Superintendent Gunn informed the Council on Nov. 12 that the rails for the double-tracking of Dundas St. east had arrived, & that work would be commenced at once. He said the Co. had new time-tables printed, & assured the Council that cars would be running by the end of Nov. if the weather would permit the work to go on. It is reported that the Co. has secured an option on a block of land at Toronto Junction, south of Dundas St., which it is proposed to convert into a park.

Toronto Suburban St. Ry.—Information respecting arrangements with Toronto Junction will be found under head of Toronto Ry. above. (Oct., pg. 307.)

The Council of the Township of York has passed a by-law authorizing the execution of an agreement with the Co., allowing it a renewal of its present charter with an extended area of operation. The agreement provides for the operation of a railway extending from the present limits of the township along Dundas St., Weston Road, & the allowance between the 5th & 6th concessions. The Co., by the agreement, does not receive a perpetual right, but at the end of 30 years the township may purchase the road if it so desires. The agreement provides for a limit of speed of 20 miles an hour, a franchise for 20 years, & if concurred in by legislation, renewable for periods of 30 years, to be arranged by special arbitration. The Co. is exempted from township taxes for 10 years, & provision is made for allowing till Dec. 1, 1902, for starting the extension, & 2 years from that date for the completion of the work.

Quebec Electric Railways.

The Hull Electric Co. gives notice of application to the Dominion Parliament for an act to confirm an agreement by which the C.P.R. Co. covenanted to sell to the H. E. Co. the branch line between Hull & Aylmer for \$100,000.

Montreal Park & Island Ry.—Judge Archibald gave judgment, Nov. 6, in the case between the town of St. Louis & this Co. Last June the townspeople tore up the Co.'s tracks because it failed, they claimed, to live up to its contract with the town. The Co. took out an injunction claiming that it was working under a Federal charter & could not be touched by the town. The judge ruled that before securing its Federal charter the Co. entered into its contract with the town & the injunction was dissolved. The case will be appealed.

Montreal St. Ry. At the annual meeting Nov. 2, the following report was presented for the year ended Sept. 30. The statement of the past year's business shows a net profit

of \$1,770,01, as compared with \$601,704.18 for the previous year. Out of this there have been declared 4 quarterly dividends of \$1,000 each, amounting in all to \$478,333.33, leaving a surplus of \$152,537.28, of which (following the policy established last year) \$5,000 has been added to the contingent account, & there has been charged against that fund an amount of \$8,575.00 expended during the year for tenders of a new type & for other special renewals. The road-bed, rolling stock & other property have been maintained in a high state of efficiency, & the cost thereof, as in previous years, has been charged to operating expenses. While it will be noticed from the statement that the business continues to increase satisfactorily, the percentage of operating expenses shows an increase of 3.08% as compared with last year. This increase is due to the fact that a larger amount has been expended in the maintenance of road-bed & rolling stock, to increased wages, increased car-mileage, & a general advance in the cost of all materials & supplies. The buildings & rolling-stock destroyed by fire at Hochelaga on Sept. 16, 1898, have been replaced by others of the latest & most modern type. Car-shops, machine-shops, blacksmith-shops & motor-shops have been erected at Hochelaga, those at Coté Street having proved too small to cope with the increased business. Large additions to the rolling-stock necessitated corresponding additions to the car storage capacity. To meet this, running-sheds & car-storage sheds have been erected, & are in course of erection, at Hochelaga & on St. Denis St., north of the C.P.R. The rolling-stock has been increased during the past year by the addition of 64 closed motor cars, 100 open motor cars, 1 pay car & 12 electric sweepers, & there are under construction 36 closed motor cars of increased seating capacity, all of which will be available for service this winter. It was decided, after careful consideration & consultation with the city authorities, to change the type of fender in use for another, which it is believed will afford greater protection against accidents. The result of the cast-welded rail joints introduced last year has been satisfactory, & our experience justifies the expense of gradually applying the

system to the whole line. During the past year the Co. has paid to the City of Montreal the following amounts, viz.: taxes on earnings, \$70,811.42; on account of snow clearing, \$60,456.00; real estate and business taxes, \$8,832.13; a total of \$140,099.55. This information has been asked for by certain shareholders, & should be noted by all, as the city departments are advancing the claim that the Co. must contribute a greater proportion of the expense of snow removal, as well as largely increased taxation, both of which claims your directors are contesting, believing such demands to be unjust & uncalled for by the Co.'s contract with the City.

STATISTICAL STATEMENT, 1892 TO 1899.		1892	1893	1894	1895	1896	1897	1898	1899
Gross receipts		\$564,406.57	\$750,751.78	\$896,090.89	\$1,102,777.57	\$1,471,930.65	\$1,342,367.78	\$1,471,930.65	\$1,660,775.91
Increase 1899 over 1892						\$1,265,898.39			188,846.28
Operating expenses		466,476.98	593,041.71	637,668.14	632,811.74	710,864.70	736,428.60	764,884.35	912,949.66
Increase 1899 over 1892									148,065.31
Operating expenses per cent. of car earnings		82.68	79.00	71.16	59.20	56.48	55.05	52.15	55.23
Net earnings		97,929.59	157,710.07	258,422.75	469,965.83	555,033.69	605,939.18	707,055.30	747,826.27
Increase 1899 over 1892									40,770.97
Net income per cent. of capital		8.17	8.17	9.69	10.21	11.55	12.41	13.00	13.19
Passengers carried		11,631,386	17,177,932	20,569,013	25,877,738	29,806,471	32,047,317	35,353,036	40,186,493
Increase 1899 over 1892									4,833,457
Transfers		5,904,113	6,828,653	7,038,670	8,541,530	8,765,903	12,060,857		

FINANCIAL STATEMENT YEAR ENDED SEPT. 30,

1899.		ASSETS.
Cost of road and equipment:		
Construction, etc.	\$3,048,730.89	
Equipment, etc.	2,309,478.39	
		\$5,358,209.28
Real estate & buildings		1,395,267.39
Stores		54,161.15
Accounts receivable		15,885.83
Cash in bank & in hand	90,740.23	
Cash on deposit with City of Montreal	25,000.00	
		115,740.23
		\$6,939,263.88
LIABILITIES.		
Capital stock, paid up		\$5,000,000.00
Bonds, 5% payable Mar. 1908	\$292,000.00	
4 1/2% " Aug. 1922	681,333.33	
		973,333.33
Mortgages		6,034.51
Accounts & wages payable		83,825.68
Accrued fixed charges—		
Interest on bonds	5,170.00	
Taxes on earnings	76,899.89	
		82,069.89

A Popular Route to New York

Canadian Pacific, and Toronto, Hamilton and Buffalo Railways in connection with the New York Central & Hudson River Railroad. *****

Leaving Toronto in the evening at 5.20 p.m. in one of the through sleeping cars of the Wagner Co., you are landed at Grand Central station, in the very heart of the City of New York, 4th Avenue and 42nd Street, at 8.15 next morning, adjacent to all hotels and business houses and avoiding the annoyance of transfer.

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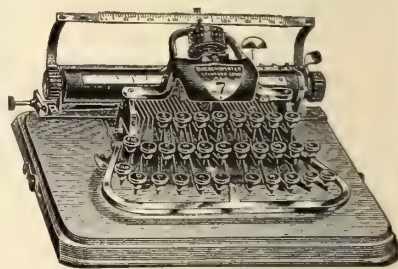
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CANADA AND MICHIGAN BRIDGE AND TUNNEL COMPANY.

NOTICE is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act to extend the times limited for the commencement and completion of the undertaking of the Canada and Michigan Bridge and Tunnel Company.

KINGSMILL, SAUNDERS & TORRANCE,
 Solicitors for the Applicants.

Dated at Toronto, this 27th day of October, 1899.

CANADA SOUTHERN BRIDGE COMPANY.

NOTICE is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act to extend the time limited for the completion of the undertaking of the Canada Southern Bridge Company.

KINGSMILL, SAUNDERS & TORRANCE,
 Solicitors for the Applicants.

Dated at Toronto, this 27th day of October, 1899.

NIAGARA GRAND ISLAND BRIDGE COMPANY.

NOTICE is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act to extend the times limited for the commencement and completion of the undertaking of the Niagara Grand Island Bridge Company.

KINGSMILL, SAUNDERS & TORRANCE,
 Solicitors for the Applicants.

Dated at Toronto, this 27th day of October, 1899.

NOTICE is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act to extend the times limited for the commencement and completion of the undertaking of the River St. Clair Railway Bridge and Tunnel Company, and to add new provisional directors in the place of those

KINGSMILL, SAUNDERS & TORRANCE,
 Solicitors for the Applicants.

Dated at Toronto, this 27th day of October, 1899.

Employees' securities.....	6,093.60
Unclaimed dividends.....	1,956.57
Unredeemed tickets.....	21,203.42
Suspense accounts.....	23,583.15
Dividend, payable on Nov. 2, 1899.....	124,166.67
Contingent account.....	141,425.00
Surplus.....	475,572.06

\$6,939,203.88

INCOME ACCOUNT.

	1899	1898
Dividends.....	\$478,333.33	\$462,916.66
Transferred to contingent account.....	50,000.00	
Transferred to surplus acct	104,537.28	138,787.52
Income over & above expenses & fixed charges, exclusive of dividends	\$630,870.61	\$601,704.18

The President, Senator Forget, said he had nothing to add to the report, but would be glad to answer any questions.

Mr. Boas said he had compared the statement with that of the year preceding, & found that \$300,000 had been put to capital account, which had been credited to rolling stock & running expenses. Had this been added on the one side & deducted on the other, or had it been taken to build new cars & the new building in the east end, or had the sum for those purposes been taken out of the profits?

The President replied that Mr. Boas was making a mistake. The amount not paid up was \$154,000 only. What could be very well charged to capital account was so charged. For instance, there had been an increase of \$188,836 last year, gross. That had been earned by increasing the men's wages & increasing the car mileage. The total increased expense against the \$188,836 had been \$139,000. Everything that could, by renewals & so on, be charged to capital account had been charged. If the rails on half a mile of road were replaced by better rails, costing \$4,000 or \$5,000 more, the additional expense was charged to capital, & the other was charged to revenue.

E. P. Hannaford criticised the report because it did not state the mileage of tracks & quantity of material used. He asked information as to the welding of joints, & complained of the noise made by cars. The President said any shareholder could have the information as to mileage, material, etc., but the board had not judged it in the interest of the Co. to make such information public.

Manager Wanklyn said, with regard to the policy in adopting the cast welding of joints, that it was manifest to all people connected with street railways that the low joint question was the greatest problem which had to be met. Mr. Hannaford had based his remarks on his experience on large railways, but it had to be borne in mind that on a line like the G.T.R. repairs to the rail joints could be comparatively easily effected. Mr. Hannaford, when on the G.T.R., had had men continually parading the track, ready to attend at once to any defect. But repairing a joint on a street-car track involved opening the street & obstructing traffic. It was impossible to be always rooting up paved streets, so a permanent joint had to be inserted. The length of the rails had been increased from 30 to 60 ft., which had reduced the number of joints by half. That was one remedy. In Buffalo electric welding had been resorted to, & one solid rail the entire length of the line had been made. It had been found there that, owing to the expansion & contraction of metals, the rails broke at intervals of 1,800 ft. This gave eighteen hundred feet rails. The Montreal Co. had not adopted the electric process, as being too costly, but he had gone to Minneapolis & there had examined the welding process which had given satisfaction after some years of trial. He had had a small plant erected in Montreal on his return & 1,000 joints had been welded last year as a trial. The result had been such that it had been decided to weld 7,000 more & the Co. in-

tended to go on until the whole line had been covered. The improvement on St. Denis St. from the adoption of the new process was already marked in the diminution of noise & oscillation & in the wear & tear of rolling stock & rails. This process has been adopted in Baltimore, Washington, Philadelphia & Chicago, as well as Minneapolis, & it gave universal satisfaction. As to noisy cars in Montreal, that some cars were noisy, he admitted, & they would continue to have noisy cars until they "scrapped" the original equipment. They had old equipment in which it was impossible to instal the gear case. There were 10 or 15 such cars. It was only rarely that these cars ran. The noise had diminished during the last few months. The old equipment had been gradually going out of service, & soon they would be able to avoid all complaints. Lately Mr. Bell, of the Jamaica government, who had been visiting different American cities for the purpose of studying the street car systems, had pronounced Montreal's cars much less noisy than those of New York & other cities.

Mr. MacDonald said he had audited the company's books for 32 years. What should be charged to capital & what to revenue account was clearly understood at the present day.

The President said no arrangement had been made with the G.T.R. about crossing the Victoria Jubilee Bridge, & the matter had practically fallen through.

The usual resolution granting \$6,000 for directors' services was adopted, & the directors were re-elected as follows:—Hon. L. J. Forget, J. Ross, R. B. Angus, K. W. Blackwell & F. C. Henshaw.

The gross earnings are:

	1899.	1898.	Increase.
Oct.....	\$145,877.20	\$133,619.63	\$12,257.57

In the suit of Gareau vs. the Co., the plaintiff claimed that his property had been injured by the vibration, smoke & noise proceeding from the Co.'s power house, which is situated between William & Barre streets. The Co. pleaded that in erecting & operating its power house it acted under rights secured to it by legislative enactment, but Judge Gill held on Oct. 4, that the exercise of statutory powers was no defence to an action for nuisance resulting from the use of the powerful machinery in question.

Quebec Ry., Light & Power Co.—At a special general meeting of the shareholders, Oct. 9, the directors were authorized to issue the remaining unissued stock of the Co., amounting to 5,000 shares, or any part thereof that they may deem necessary.

St. Hyacinthe Electric Ry. Co.—Application is to be made for the incorporation of a company under this title, to build an electric railway in the counties of St. Hyacinthe & Bagot.

Electric Lines in Western Canada.

British Columbia Electric Ry.—Earnings & expenses for September:

GROSS EARNINGS.	1898.	1899.	Increase or Decrease.
Railway—Vancouver division	\$6,456	\$9,338	\$2,882+
Victoria ..	7,344	7,327	17
Westminster ..	10,352	7,959	2,393—
Lighting—Vancouver ..	7,572	8,076	1,104
Victoria ..	4,228	4,612	384+
Gross earnings	\$35,952	\$37,912	\$1,960+
Working expenses	\$19,255	\$21,417	\$2,162+
Net earnings	\$16,697	\$16,495	\$202—
Gross earnings April 1 to Sep. 30	\$190,364	\$205,768	\$15,404+
Net earnings April 1 to Sep. 30	\$77,600	\$88,469	\$10,869+
Increase			
Decrease			

The falling off in the Westminster traffic receipts from those of Sep., 1898, is due to the fact that in 1898 the receipts were largely increased by people who went to see the city after the great fire. The work of rebuilding brought also an abnormal amount of freight to the line in Sep., 1898.

The Co. continues to improve its system. It has put in a line to English Bay, & will lay a branch along Davie St. as soon as the rails arrive. Two new coaches have been put on the Westminster branch. The capital expenditure in Vancouver for the year ended June 30 last is stated as follows:

New track.....	\$39,000
Incandescent lighting plant.....	28,800
Arc lighting.....	5,950
Motor.....	2,685
Boiler	3,175
Power house & car barn (not completed).....	35,340
Cars & equipments.....	8,400
Land & buildings.....	16,000

\$112,875

General Manager Buntzen says it will take over \$100,000 to complete the Co.'s work now in hand in & about Vancouver.

A new ticket system, with limited tickets, has been put in force in Vancouver, & the sale of monthly tickets has been abolished. Conductors' fare boxes have also been introduced. In Victoria the ticket system has also been changed, unlimited tickets are sold at 6 for 25c.; limited, good from 6 to 8 a.m., & 5 to 7 p.m., 8 for 25c.; & school children's, good from 8 a.m. to 5 p.m., except Saturdays & Sundays, 8 for 20c. Transfers are now granted from any city line to Esquimalt for an additional 5c. fare. The conductors' fare box is also to be introduced in Victoria.

A five minute service is promised in Vancouver for next spring.

The Nelson Electric Tramway Co., Ltd., a subsidiary company to the British Electric Traction Co., Ltd., Donington House, Strand, London, Eng., is constructing an electric tramway in Nelson, B.C. A few years ago Nelson consisted of a few shacks, now it is a thriving town of 6,000 people, & is making daily strides towards becoming the most important inland town in the Province, and certainly the first to construct a tramway. The B.E.T. Co.'s board includes some notable men in England, among them Sir C. Rivers Wilson, President of the G.T.R. The Nelson local directorate comprises F. W. Peters, President, Capt. T. J. Duncan, W. A. MacDonald, Q.C., J. Laing Stocks, & T. C. Duncan, Secretary. The construction of the line is in charge of C. Halifax Hall, C.E.

The route the line will take is as follows:—Starting from the end of the Government Wharf west up Front St., past the Provincial Jail & the Hume Hotel, reaching Baker St. by Josephine St., west on Baker St. to Railway St., this being the important business portion of the town, passing the four banks & the leading business houses & stores. The temporary terminus on Railway St. is within 200 yards of the C.P.R. station, the reason for not connecting with the station being that an important railway siding would have to be crossed with a steep approach for the cars. It would also be necessary to obtain powers from the Privy Council for leave to put in a diamond crossing & maintain a watchman, this, with the near prospect of the railway moving its present station to higher ground on the west end of Baker St., has influenced the directors to stop construction at Railway St. A branch from the above route leaves Baker St. at Stanley, climbing 350 ft. in four-fifths of a mile to Houston St. At this terminus is the skating rink owned by the Tramway Company, which, with the two curling rinks, is now being put in thorough repair. The electric light will be used & the whole building brought up to date for winter amusements. Another branch leaves the Government Wharf for the eastern limits of the city, & then for one mile into the suburb called

view, passing the Spokane & Northern Ry. Station. The distance in all will be 3 miles of construction to be completed this fall, of which 2 miles of track is now laid.

In a mountain town such as Nelson, lying on a steep-side hill sloping down to Kootenay Lake, the question of grades is a formidable one. The maximum grade used is 13%, & the climbing is generally continuous. This obstacle, however, is somewhat balanced by the monopoly this gives a tramway of all the transfer business of the town. Livery carriages here are practically unknown, & the geographical features of this portion of B.C. are not encouraging for the ownership of private carriages or bicycles. The minimum curve is 60 ft. radius, & a T rail weighing 60 lbs. to the yard is used. This rail is adopted owing to the city not yet having paved streets.

The electrical construction & equipment is in charge of L. A. Campbell, Manager of the West Kootenay Power & Light Co., & the power will be supplied from that Co.'s station at Bonnington Falls. The power will be transmitted to a lower working voltage by oil-cooled transformers, & then will drive a synchronous motor of 450 h.p., which will be directly connected to a railway generator of the same size. This unit, to be correct, is named a motor generator. The alternating current will then be converted into a direct current. The cars are of the most modern design, & are built with removable vestibules & double trucks; each car will be equipped with four 40 h.p. motors, that is, each car will have a capacity of 160 h.p. This great power is necessary, owing to the steep grades. The cars are painted a claret color, & in appearance, combined with all the latest improvements in construction, are second to none in the country. The overhead trolley system has been adopted, & the material & construction are of the best. The poles are 25 ft. above ground, smoothly trimmed down & pointed off at the top; they are to be painted a third of the way up a dark green & the remainder a light green, making a strong contrast to the unsightly poles that are in use in many towns in Canada & the U.S.

When this line is completed & running, Nelson will be able to boast of a tramway equal to any on the continent. There has been no stint of money in the construction & equipment, & the best to be got has been acquired. The company owns close upon \$100,000 of real estate & property in the city, including two business blocks, which in itself speaks for the faith placed by the parent company in the future of Nelson. (Oct., pg. 308.)

Winnipeg Electric Ry.—The belt line from Broadway over the Osborne st. bridge to Fort Rouge has been completed. (Oct., pg. 308.)

Maritime Provinces & Newfoundland.

Digby, N.S., to Bear River.—It is proposed to try & secure the construction of an electric railway between these points.

Moncton, N.B.—Rumors are again afloat as to possible extension of the electric railway, but there is nothing definite.

St. John's, Nfld.—The power house for the electric railway has been located at Petty Harbor. The sub-station will be near the dockyard. A number of cars for the line have already reached St. John's from Montreal.

Electric Railway Notes.

The London, Eng., County Council has adopted the conduit system of electric street cars on the projected large extensions. This is the first time an English corporation has adopted this method, overhead wires being in use throughout the United Kingdom. The innovation was only accomplished after considerable opposition.

A New York newspaper reporter was recently detailed to test the possibilities of New York's remarkable street railway transfer system. Taking advantage of the ordinary transfer privileges, he succeeded in travelling unchallenged 107½ miles, making 87 transfers for a single 5c. fare, his ride occupying 24 hours. He stated that he could have gone on indefinitely, especially as he had ridden over only a portion of Manhattan Island.

A company has been formed in Montreal to build an electric railway in Georgetown, Demerara, for which a concession was obtained some time ago. The directors are: Sir Wm Van Horne, President; B. F. Pearson, Senator McKeen, A. Kingman, W. B. Chapman, & J. Hutchinson. A number of Canadian capitalists are also said to have acquired control of the Trinidad horse railway, & to intend to convert it into an electric road.

The Havana Traction Co., which was incorporated some time since under the laws of New Jersey, recently completed its organization as follows:—President, Sir W. C. Van Horne; Vice-Presidents, P. A. B. Widner, Philadelphia; R. A. C. Smith, New York; Secretary, J. M. Ceballos, New York; Treasurer, F. Nichols, Toronto; other directors, Hon. G. A. Cox, W. Mackenzie, Z. A. Lash, W. R. Brock, A. E. Ames, B. E. Walker, Toronto; W. L. Elkins, T. Dolan, Philadelphia; T. F. Ryan, New York; W. Barbour, Pateron, N.J.; H. F. Booth.

Two important long-distance trolley lines are projected in the U.S. One is to be built in Northern Ohio, between Toledo & Norwalk, about 60 miles. It will be designed for a speed of 40 miles an hour, & will be worked from one central power station to be established at Fremont. A three phase alternating current will be used, which will be transmitted each way at a high voltage. Six sub-stations will be established about equal distance from each other along the line, with a seventh in the power house at Fremont. The current will be transmitted at about 15,000 volts, & stepped down & transformed at

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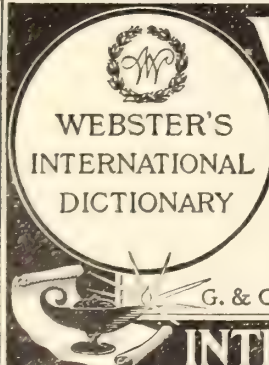
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the sub-stations. At each sub-station will be 3 transformers & 2 rotary convertors, with the necessary switchboard & controlling apparatus. The other line is to be between Buffalo, N.Y., & Erie, Pa., about 70 miles.

General Telegraph Matters.

The C.P.R. Co.'s Telegraph is building a line from Harriston to Listowel, Ont.

The C.P.R. Co.'s Telegraph has strung a third quadruplex wire between Montreal & Toronto.

The C.P.R. Co.'s Telegraph has closed the offices at Comaplix, B.C.; Mazokama, Ont.; Rondeau, Ont.; & Russeltown, Que.

The Dominion Government telegraph line between Kamloops & Nicola, B.C., is about completed. An agitation is on foot to have it operated as a telephone line.

An unconfirmed report says the Ontario & Rainy River Ry. Co. proposes to establish telegraph connection between Port Arthur & Duluth by way of Ely, Minn.

The B.C. & Alaska Cable Telegraph Co. proposes to lay a cable between Juneau & Skagway. R. Moore, of the Western Union, wants the Juneau people to give a \$10,000 bonus.

In the suit of Morrow vs. G.N.W.T. Co. an order was recently made for examination for discovery of the Vice-President & Secretary of the Western Union Telegraph Co. at New York.

It was intended to locate the C.P.R.'s commercial telegraph staff on the 5th floor of the new station at Vancouver, but it has been decided to erect a separate building for the purpose, east of the station.

A contract has been awarded for 165 tons of wire for the telegraph line to be built by the Dominion Government between Quesnelle & Atlin, B.C., to connect the present B.C. system with the Yukon line.

C. R. Hosmer, who was recently elected a director of the C.P.R., announces that at the end of the year he will retire from the position of Manager of the Co.'s telegraph, which he has held since 1886.

The Dominion Minister of Public Works says he hopes to get the 300 miles extension of the Government telegraph line along the north shore of the St. Lawrence to the Straits of Belle Isle completed by next spring.

Mr. Chapman, of Montreal, has been interviewing the Dominion Public Works Department, to secure the adoption of wireless telegraphy between the Labrador coast & Belle Isle, where the Scotsman was wrecked, also to Sable Island.

The C.P.R. Co.'s Telegraph has opened the following offices: Cascade City, B.C.; Grand Forks, B.C.; Fort Steele Brewery, B.C.; St. Eugene Mission, B.C.; Camp McKinney, B.C.; Finmark, Ont.; Clarenceville, Que.; Ethelbert, Man.

A large amount of reconstruction of the pole line on the Western & Pacific divisions of the C.P.R. Co.'s Telegraph is now going on & it is expected that by the end of next year there will be an entirely new line of poles between Fort William & Vancouver.

The Government telegraph line from Lake Bennett, B.C., was completed to Dawson, Yukon, Sep. 28, & the branch to Atlin has also been completed. It is 593 miles from Bennett to Dawson, & the Atlin line is 75 miles long. The total cost is said to have been about \$117,500, the Dawson line having averaged \$225 a mile & the Atlin one about \$200. Fifteen operators have been installed.

The Spokane & Northern Telegraph Co.'s line has been extended via Republic, Wash., to the International Boundary, from which point its subsidiary, the Yale-Kootenay Tele-

graph Co. has built to Midway & Greenwood, B.C. A second wire is being strung to Curlew, whence a single wire will run to Grand Forks, B.C. The S. & N. T. Co. connects with the Western Union lines. (Aug., pg. 251, Oct., pg., 309.)

The Commercial Cable Co. has called a special meeting of shareholders for Dec. 4, for the purpose of voting upon the proposition to increase its capital stock from \$10,000,000 to \$15,000,000. Of the issue, \$3,333,333 is to be offered to the present shareholders at par, this being at the rate of 1 share in 3 of the present holdings. The new stock is to be paid up 25% on Jan. 20, 25% Feb. 20, & 50% Mar. 20. The new stock is to carry dividend from Jan. 1, & will thus be entitled to quarterly dividend payable April 1. The additional money is required for another cable, owing to the largely increased business of the Co.

The C.P.R. Co.'s Telegraph is being extended along the Columbia & Western Ry. from West Robson towards Midway, B.C., as fast as track is laid, offices being opened at the principal stations. The line is being most substantially built with a 4 pin arm on top of the poles, carrying 2 wires at present. It is very likely that in time some of the through wires will follow this route. Another wire, in addition to the two now in use, will be strung from Nelson to Rossland, & one from Nelson to Robson, to connect with one of the wires into the Boundary Creek district.

The following tariff of charges has been put in force on the Dominion Government Yukon line: From Bennett to Cariboo Crossing, 50c. per 10 words, & 5c. for each additional word; to Tagish, 60 & 5; Miles' Canyon, 75 & 5; White Horse, 75 & 5; Lower Laberge, \$1 & 10; Hootalinqua, \$1.25 & 10; Five Fingers, \$2 & 15; Fort Selkirk, \$2.50 & 15; Dawson City, \$3 & 15. Between Skagway & Bennett the White Pass & Yukon Ry.'s telegraph charges \$1 for 10 words, & 5c. each additional word, making the through rate from Skagway to Dawson, \$4 for 10 words, & 20c. for each additional word. From Ontario & Quebec points to Vancouver, between which place & Skagway messages are conveyed by steamer, the charge is \$1 for 10 words, & 7c. for each additional word, so that the through rate from Ontario & Quebec points to Dawson is \$5 for 10 words & 27c. for each additional word.

The following reply to a correspondent is given in the Monetary Times, whose editor is a director of the G.N.W.T. Co.: "In 1881 the Great Northwestern Telegraph Co. of Canada leased the wires & other property of the Montreal Telegraph Co. extending over all the Eastern provinces of Canada, & over part of Manitoba, & several of the northern States. It also leased the wires of the Dominion Telegraph Co. in Canada. Then these two sets of lines were merged into one for purposes of economy. The terms of lease were that 8% upon the \$2,000,000 capital of the Montreal Co. & 6% upon that of the Dominion Co. should be paid annually. For this bargain the Western Union Telegraph Co. of the U.S. became guarantor. For several years the G.N.W. Co. was able to pay this enormous rental, even with the low rate of tolls (25c for 10 words). But when the C.P.R. Co.'s Telegraph came into existence, & the Bell Telephone Co. built lines connecting towns the business was so divided that the G.N.W.T. Co.'s revenue fell off. It has not paid dividends to its shareholders for years. But the payments to the lessors have gone on regularly every year, & the shareholders of the M. T. Co., & of the D. T. Co. get their dividends regularly of 8 & 6% respectively. The extent of wires handled by the G.N.W. Co. is 40,000 miles, & of the C.P.R. about 25,000 miles."

W. F. Snyder, manager of the W. U. cable office at North Sydney, N.S., died Oct. 9. He

was a member of the old school of telegraphers, & a finer operator never touched a key. His Morse was perfect & his speed marvellous. He began his telegraph career in his native city, Philadelphia, Pa., in 1855, when 12 years old. His first office was at Magnolia, Md.; he was soon after transferred to Princeton, N.J., then to Washington, D.C., then to Petersburg, Va., in 1859; then in the following year to Baltimore, & a year later to Philadelphia. There for a while he was in the main office of the American Telegraph Co., & afterwards manager of the branch office in the Stock Exchange, between which & New York was started the first special stock circuit in the U.S. In 1863 he returned to Baltimore, first as manager of the People's Line office, then of the American, & later of the W. U. T. Co. In 1867 he entered the latter Co.'s cable service, first at Plaister Cove, N.S., next in 1870 in the Cable Room, New York, & in the latter part of that year as manager at Duxbury, Mass. In 1865, upon the incorporation of the staff of the Anglo Cable Co., with & under the management of the W. U. T. Co., at Plaister Cove, Mr. Snyder returned to that station, & in Oct. of the same year transferred the joint staff & business to North Sydney, where he continued as manager until his death.—Telegraph Age.

British Columbia Telephones, Limited.

At the 1st annual meeting at the head office at Huddersfield, Eng., Oct. 10, the following report was presented:—During the year the progress of the business has been very satisfactory. The number of subscribers to all the subsidiary companies on June 30, 1899, was 1424 as compared with 1127 on June 30, 1898; a net gain of 297. Notwithstanding the loss occasioned by the fire in New Westminster in Sep., 1898, the dividends expected from the subsidiary companies will yield a total profit of £6,018 11s. 1d., being the sterling equivalent of \$30,000. Before distributing these profits the New Westminster & Burrard Inlet Co. has set aside £1,581 10s. 6d. towards the cost of constructing a new switch-board, which has been found necessary in consequence of the large increase of subscribers. The directors are obtaining full information as to the several systems in use, & as soon as they are in a position to select the best the work will be proceeded with. At the end of the financial year, the directors arranged at the joint expense of this Co. and The Yorkshire Guarantee & Securities Corporation, to send an accountant to B.C. to audit the accounts of the businesses controlled by both companies. The figures above given have been verified by him. The profits available for distribution are as follows:—

Dividends to be declared by subsidiary companies	£6008 11 1
LESS:—	
English offices—Secretary's salary, auditors' fees & incidentals...	£182 19 2
Fee of trustees for debenture stock holders, income tax and bank interest and charges.....	65 16 5
	£248 15 7
	£5769 15 6
The following deductions have to be made:—	
Interest on purchase money to date of payment	£1002 10 11
Interest on debenture stock to June 30, 1899	505 7 3
	£1008 18 4
Leaving a balance of.....	£4761 17 4

The directors recommend that this be disposed of as follows:—

Dividend on preference shares to June 30, 1899, already paid	£700 10 0
Interim dividend of 8% per annum (free from tax) to December 31, 1898, on ordinary shares, already paid.....	272 18 1
Dividend on ordinary shares at 8% per annum (free from tax) to June 30, 1899.....	900 0 0
To carry to reserve fund	1888 0 0
To write off cost of registration in B. C. & parliamentary expenses	30 15 0

ASSESSMENT SYSTEM.



THE BEST FRATERNAL BENEFIT SOCIETY IN THE WORLD.

THE SPLENDID RECORD OF THE I. O. F.

Cost to Join the I.O.F.

For \$1,000 Mortuary Benefit.)	For more than \$1,000 Mort. Benefit.)
Initiation fee (minimum).....\$1 00	Cost to take \$2,000 Mort. Benefit..\$6 00
Registration fee.....1 00	" " \$3,000 " " 7 00
Medical Examination fee.....1 50	" " \$4,000 " " 9 00
	" " \$5,000 " " 10 00
Total minimum cost.....\$4 50	Sick benefits, when required, cost extra.

Benefits given by the I.O.F.

- Social and Fraternal Privileges of the Court Room.
- Free Medical Attendance by Court Physician where not dispensed with by Court by-law; also trained nurses in certain cases.
- 3.—A Sick Benefit of \$3 to \$5 per week, subject to provisions of the Constitution and Laws of the Order; optional, and when taken costs extra.
- 4.—A Total and Permanent Disability Benefit of one-half of face value of policy, with exemption from further payment of premiums or Court Dues.
- 5.—An Old Age Benefit consisting of exemption from payment of premiums and Court dues after age 70.
- 6.—An Old Age Disability Benefit of one-tenth of face value of policy payable yearly for ten years, on being declared totally and permanently disabled by infirmities of age after the seventieth birthday.
- 7.—An Old Age Pension payable during disability, which may be taken as a substitute for the Old Age Disability Benefit.
- 8.—Burial benefit of \$100 at death of a Pensioner.
- 9.—A Funeral Benefit of \$50 at death of a member enrolled in Sick and Funeral Benefit Department.
- 10.—The Mortuary Benefit of \$500, \$1,000, \$2,000, \$3,000 \$4,000 or \$5,000.

The Members, the Benefits, and Their Assurance

At 31st December Each Year.

Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300 00	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	12,058 86	2,967 93	2 61	11.00
1883	2,210	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,376 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	59,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	21,604	181,846 79	283,967 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.40
1892	43,024	344,748 82	580,597 85	13 49	6.25
1893	54,484	392,185 93	858,857 89	15 76	5.47
1894	70,055	511,162 30	1,187,251 11	16 94	5.47
1895	86,521	685,000 18	1,560,733 46	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.50
1897	124,685	992,225 60	2,558,832 78	20 52	5.56
1898	144,000	1,176,125 14	3,186,370 36	22 12	5.67

For Further Information Respecting this Great Fraternal Benefit Society, Apply to

Oronhyatekha, M.D., S.C.R., Toronto, Ont.

James Marshall, 24 Charing Cross, London, Eng.

John A. McGillivray, Q.C., S.S., Toronto, Ont.

A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.

Or Any Officer or Member of the Order.

To provide for directors' remuneration & to carry forward to next year's account.....	825	4	3
	£4111	17	4

CAPITAL AND LIABILITIES.

	£	s.	d.	£	s.	d.
Nominal capital: £100,000, divided into 3,000 6% preference shares of £10 each, and 7,000 ordinary shares of £10 each.						
Issued: 2,000 6% preference shares, fully paid.....	20,000	0	0			
3,000 ordinary shares, £7 10s. per share paid.....	22,500	0	0			
	42,500	0	0			
Debtenture stock, bearing interest at 4½%.....	20,000	0	0			
Sundry creditors.....	323	19	5			
Cash due bank.....	469	7	5			
Profit and loss account:—						
Profit for the year.....	5,769	15	6			
Less interest on purchase money to date of payment £1,092 10 11						
Interest on debtenture stock.....	565	7	3			
Dividends paid:—On preference shares to June 30, 1899.....	761	19	6			
Interim dividend on ordinary shares.....	272	18	1	2,692	15	9
	3,076	19	9			
	£56,370	6	7			

ASSETS.

	£	s.	d.
Shares in New Westminster & Burrard Inlet Telephone Co., which include shares in subsidiary companies.....	60,000	0	0
Cost of registration in B.C., & Parliamentary expenses.....	351	15	6
Dividends from subsidiary companies.....	6,018	11	1
	£66,370	6	7

The report & accounts were adopted & the dividend recommended was declared & has been paid. £400 were voted as directors' remuneration. The retiring director, W. Farrell of Vancouver, B.C., was re-elected. The other directors, who are resident in England, are E. Gray, Chairman; F. Priestman & J. Wheatley. The secretary is W. H. Hughes. The chief officers in B.C. are R. K. Houlgate, Comptroller; H. W. Kent, Construction Superintendent & Manager, both located at Vancouver.

On Nov. 2, the Secretary issued a circular to shareholders from which the following is extracted: The purchase of the whole of the shares in the Victoria & Esquimalt Telephone Co., which was referred to by the Chairman at the annual meeting, has been completed. By this purchase the Co. acquires the telephone systems in Victoria & Esquimalt, and so completes its control of practically all the telephone systems in B.C., both on the Mainland & on Vancouver Island. It is believed this acquisition will greatly strengthen the Co.'s position, & very materially improve the value of its general undertaking. The Mainland & Vancouver Island are connected by telegraph only, but it is now probable that a submarine telephone cable will be laid. In the event of this being done, subscribers to the Co.'s principal systems, whether on the Mainland or on the Island, will be able to communicate one with another. The revenue derived from the Victoria & Esquimalt system has hitherto been very satisfactory, but it is anticipated that the improvements & extensions under this Co.'s management, which have had so beneficial an effect on the other systems owned by the Co. will also considerably increase the revenue from the V. & E. system. In order to provide funds for the purchase of the shares of the V. & E. Co. which has been fixed at £27,250, it has been decided to make the following issue of debtenture stock and shares, viz.: £10,000 of 4½% 1st mortgage debtenture stock at 102½; 1000 6% cumulative preference shares of £10 each at £10 10s. a share; 1000 ordinary shares of £10 each (£7 10s. a share paid), at £8 10s. a share. The reserve fund & the sum carried forward from last year's account, after deducting directors' remuneration, amount to £1,425 4s. 3d., & in addition to this,

£1,581 10s. 6d. has been set aside by the subsidiary companies for the purpose of constructing a new switchboard. These two amounts are equivalent to £1 a share premium on the ordinary shares originally issued. The whole of the premiums realized on the debtenture stock & shares now to be issued will belong to the Co., & will be utilized for the purpose of further extensions which are rendered necessary by the continued development of the business. The circular is accompanied by application form for debtenture stock & shares. Existing holders will have preference in allotment in proportion to the amounts already held by them respectively. A cablegram has been received from Vancouver intimating that all the present shareholders of this Co. resident in B.C., wish to subscribe their pro rata amounts of the new issue. The debtenture stock is secured by a 1st mortgage trust deed charging the whole of the property & undertaking of the Co., & is issued in multiples of £10. It is redeemable at the Co.'s option at any time before July 1, 1908, at £110% on giving 6 months' notice; or on, or at any time after July 1, 1908, at £105% on giving 6 months' notice.

On the formation of the Co. the following contracts were entered into: An agreement dated Oct. 11, 1898, between the Western Canada Telephone Co., (whose shareholders are the Yorkshire Guarantee & Securities Corporation, The Northern Counties Investment Trust, J. Wheatley, W. D. Shaw, F. Priestman, J. Crowther, R. I. Critchley, J. H. Wade, G. Sheard, F. W. Bentley, & G. P. Norton) as vendor of the one part & B.C. Telephones, Ltd., of the other part. An agreement containing an option of purchase of shares in The New Westminster & Burrard Inlet Telephone Co., dated May 10, 1898, addressed to W. Farrell, & signed by or on behalf of the following shareholders in such company, viz.: E. M. Tatlow, A. Leaycroft, J. C. Keith, W. Godfrey, J. M. Lefevre, O. Plunkett, H. W. Kent, C. Sweeney, The Mercantile Development Co., H. Abbott, G. E. Corbould, & J. C. Armstrong, & in addition there were contracts or transfers of shares from other shareholders in the N.W. & B.I. T. Co., and many other contracts, agreements & arrangements with various persons connected with the business & concerning the formation of the Co. & the subscription of the capital offered to the public.

General Telephone Matters.

The Bell Co. has declared a 2% dividend for the quarter ended Sep. 30.

The Yarmouth Telephone Co. is building an 8 mile line between Belleville & Springhaven, N.S.

An agitation is on foot to have the Nicola, B.C., telegraph line changed to a telephone line.

The North American Telegraph Co. is putting a new telephone exchange in at Tweed, Ont.

The Carman, Man., Telephone Exchange Co. has been incorporated, with a capital stock of \$2,000.

The Citizens Telephone & Electrical Co., Rat Portage, Ont., has had its capital stock increased from \$40,000 to \$90,000.

The Bell Co. has decided to construct a copper metallic long distance line between Winnipeg, Portage la Prairie & Neepawa, Man.

The Bell Co. has laid a steel armoured submarine telephone cable with six conductors across the St. Lawrence River between Prescott, Ont., & Ogdensburg, N.Y.

The Vernon & Nelson Co. has reduced its rates in Rossland, B.C., within a radius of a mile from the central office, to business tele-

phones, \$2.50 a month, 2 for \$4; residences, \$2.

Telephonic communication has been completed between the lighthouse on Belle Isle, at the entrance to the Straits, situated 600 feet above the sea, & the powerhouse, near the sea level, two miles distant on the south-west extremity of the island.

The Bell Co. is making extensions & improvements to its lines on the south side of the St. Lawrence. Underground conduits have been laid as far as the Victoria Bridge, Montreal, & it is expected to have the line to St. Lambert finished in a short time.

The Merchants Telephone Co. wants to extend its service to the town of Westmount, a suburb of Montreal. The Bell Co. offers, if exempted from taxation for five years, to enter into a contract for that time to supply domestic telephone service at \$30, & business service at \$50.

The Bell Co. has decided to make some improvements in the service between Montreal & Quebec, & has entered into arrangements with the Canadian Electric Light Co., of Chaudiere & Levis, by which it is expected that Montreal & Quebec will shortly be connected by a telephone line independent of the one now in use via Three Rivers.

The Kootenay Lake Telegraph Co. is improving its service in Nelson, B.C. A continuous day & night service was inaugurated last month, the under-ground return system is to be changed to a metallic system, & the Blake transmitters will be replaced by long distance transmitters. The switchboard now in use at Vancouver is to be transferred to Nelson.

Notice is given that application will be made to the B.C. Legislature for the incorporation of a company to construct & operate telephone lines in the district of East Kootenay. The capital is placed at \$50,000. It is proposed to build first between Golden & the Windermere district, to connect with the mining camps of Canterbury, Atholmer, Windermere, Peterboro & Boulder, & then to make connection with Cranbrook or Fort Steele, as a point from which to operate lines in various directions, embracing among other places Moyie, Wardner, Elko, Kimberley & Wasa.

At the recent annual meeting of the Merchants Telephone Co. in Montreal, the President reported that the business was increasing, that it is the intention to connect with as many outside lines as possible, & that negotiations were on foot to this end. The following directors whose term had expired, were re-elected: A. S. Hamelin, L. H. Henault, R. Moisan, S. Larcheveque, & J. B. Thibault. The following officers were elected: A. S. Hamelin, President; J. E. Beaudoin, Vice-President; J. M. Marcotte, Secretary, & L. E. Beauchamp, Treasurer.

Superintendent Kent, of the B.C. Telephones, Ltd., recently returned to Vancouver from an eastern trip, during which he ordered for the Vancouver office a branch terminal multiple board from the Bell Co. Mr. Kent states that for an 800-wire office Vancouver's exchange answers more calls than cities of the same size in the east. An average of 13½ calls a day is registered in Vancouver to each subscriber, which makes a total of 12,000 messages a day. In addition to improving the Vancouver system a metallic circuit will be put in the Victoria system which is now controlled by the same company.

The Boundary Creek, B.C., Telephone Co.'s business is to be worked in connection with the telegraph line which has been built from Spokane, Wash., via Republic into the Boundary Creek district. The Co. has already opened telephone exchanges at Greenwood, Phoenix & Midway. A metallic circuit is being put in between Greenwood & Midway, & an extension to Grand Forks is contemplated.

With the Columbia Co.'s system already in use, the Boundary Creek Co.'s now being put in, & the Vernon & Nelson Co.'s to follow shortly, the district will have three telephone systems competing for its business.

E. Edison, jun., claims to have solved the problem of transatlantic telephoning. By his invention he says it will not take a very powerful current to send a message across the ocean. He has taken more than 3,000 miles of wire & subjected it to the same pressure & the same conditions, as nearly as possible, as those of the ocean, & he has been quite successful. He submerged the spindle on which the wire was, subjected it to a heavy pressure, & at the same time made the spindle revolve at the rate of 10 or 12 revolutions a minute. It was found that the sounds were carried very distinctly. It has been decided that one relay station in the ocean will be sufficient; but it will not be necessary to keep a bevy of hello girls there, as messages will be resent by mechanical devices. —Globe.

A new telephone company is appearing on the scene, & is anxious that its voice shall be heard. Application has been made to the Board of Works, Toronto, from a patent company, on behalf of the inventor of the Dodge system, Post Mills, Vt., asking the Council to grant a building permit to a joint stock company, organized to take over the above system, lay wires, etc. A similar application has been made in Montreal. The amount of rivalry which might be supposed to exist in Chicago, where some of the streets are 27 miles in length, & telephones of greater proportionate necessity than in any city on the continent, does not prevent the upholding of high prices. To a business street 9 miles south of the post office, the telephone charge is \$241 a year, payable quarterly in advance. Even this charge does not include free connection with suburban points, some of which are within the city's expanded limits, extra charges of 10 to 15c. a call are made. —Journal of Commerce.

The Bell Company is proceeding to contest in the courts the assessment of \$500,000

placed upon its plant by Montreal assessors. The city's assessors estimated the value of the plant at \$500,000, which embraces conduits, poles, wires & other paraphernalia. The Co.'s solicitors have filed a petition protesting against this assessment as excessive & illegal, contending the assessors in arriving at their conclusions have proceeded upon erroneous principles, not having fixed the conduits, wires, poles & cables at their actual value as required by the charter of the city. They allege that in making the valuation the assessors have valued the whole of the conduits, poles, wires & cables as a going concern, & have improperly & illegally considered the same in connection with the exercise of the Co.'s franchise, & in connection with the value of the whole line operated by the Co. throughout the different wards of the city, & even outside of it, & considered the value of telephonic line regarded as a complete system, & the business value of these articles to the Co. as part of the means whereby it exercises its franchise, or their income producing value, whereas by law & by the terms of its charter, the franchise of the Co. cannot be taxed by the city of Montreal as real estate, nor can any portion of the Co.'s property be taxed, carrying with it any corporate rights of the Co. They proceed to state that the assessors in appraising the actual value of the conduits, poles, wires & cables under the terms of the Quebec statute could only tax the property itself, separate & distinct from any other property of the Co., & disassociated from the rest of the system of which it formed part. Finally, they state that the actual value of the conduits, poles, wires & cables does not exceed \$75,000, consequently they ask that the assessment be reduced from \$500,000 to \$75,000.

Among the Express Companies.

The Dominion Ex. Co.'s money orders are payable at all offices of the Maritime Ex. Co.

LeB. Coleman has been appointed Route Agent of the Canadian Ex. Co., in charge of

New Brunswick lines, with headquarters at St. John, N.B.

The Dominion Ex. Co. has offered a reward of \$2,500 for information which will lead to the conviction of the person or persons who broke into the office at Joliette, Que., Aug. 14, & stole a quantity of valuables.

The merchandise rate between North Sydney, N.S., & all points reached by the Newfoundland Ry. Ex. is \$2 per 100 lbs. In addition to rate to North Sydney, from there to destination, graduate and charge as per general classification on 50 lbs. or less; over 50 lbs., 2c. a pound. C.O.D.'s may be accepted at classification card charge. The Newfoundland Ry. Ex. will not handle money.

The B.C. Ex. Co. recently broke all previous records in quick transit, over the Cariboo road. An express left Barkerville at midnight on Monday, & reached Ashcroft at 2 a.m. Thursday, having covered the 285 miles in 50 hours. The actual time was considerably less than 50 hours, as the driver had to lay off at Soda Creek for 6 hours, & at other points along the road time was lost in changing horses, etc.

The Alaska Pacific Ex. Co. gives notice of the following winter service to Dawson City. Tariff between Puget Sound ports and Dawson:

Merchandise, \$2.50 a pound; minimum charge \$2.50.

Money, currency or gold, 2%; minimum charge \$2.50.

Letters, \$1 each.

Money Orders, 2%; minimum charge \$1.

The Co. will make special trips during the winter to Dawson & return, the frequency of them depending largely upon the volume of business offered for shipment. Shipments must be accompanied by certified invoices in quadruplicate. Duty will be assessed at frontier port, & will average about 35% ad valorem. The duty, & all charges on merchandise shipments, forwarded during the winter, must be prepaid by the shipper. All shipments accepted subject to delay & at owner's risk or freezing.

THE HUNTER, ROSE CO.,

All kinds of... Limited.
PRINTING, BOOKBINDING,
OFFICE STATIONERY
AND ACCOUNT BOOKS
Temple Building, * * Toronto.

STEEL

LaBELLE STEEL CO.

Pittsburgh, Pa.

MANUFACTURERS OF

FINE TOOL STEEL

For Railway Purposes

Track Tools,

Punches, Dies,

Drills, Magnets, etc.

And all purposes where requirements are exacting.

Steel Forgings. Case Hardening Steel.

W. G. BLYTH,

Agent for Canada,

29 Melinda St., - Toronto

ADVERTISING

ON THE

CANADIAN PACIFIC RAILWAY.

The exclusive privilege of advertising in the Stations, Ticket Agencies and Hotels of the CANADIAN PACIFIC RAILWAY, and on that Company's buildings, premises, telegraph poles and fences, is controlled by THE ACTON BURROWS COMPANY.

The franchise embraces the whole of the C. P. R. System, including all branches and leased lines, comprising 7,178 miles of railway, 690 stations, and a number of ticket agencies and hotels.

Advertising on the C. P. R. is like every department of that Company's service, modern, up-to-date and reliable.

FOR RATES AND FURTHER PARTICULARS APPLY TO

The Acton Burrows Company,

29 Melinda St., Toronto, Canada

BRANCH OFFICE:

197 Lombard Street, Winnipeg—S. A. Erskine, Resident Agent.

The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Steamship, Express, Telegraph & Telephone supplies, &c.

Accident Insurance Travelers' Insurance Co. Montreal.	Gas & Gasoline Engines The Fairbanks Co. Montreal. Northey Manufacturing Co. Toronto.	Semaphore Arms Acton Burrows Co. Toronto.
Aerated Waters E. L. Drewry Winnipeg.	Gates Page Wire Fence Co. Walkerville, Ont.	Shafting Rice Lewis & Son Toronto.
Air Brakes & Fittings Westinghouse Mfg. Co. Hamilton, Ont.	General Supplies The Hudson's Bay Company	Shipbuilders' Supplies Rice Lewis & Son Toronto.
Ales E. L. Drewry Winnipeg.	Grain Elevators John S. Metcalfe & Co. Chicago, Ill.	Ship Carpenters' Tools Rice Lewis & Son Toronto.
Anchors Rice Lewis & Son Toronto.	Groceries The Hudson's Bay Company	Ships Polson Iron Works Toronto.
Axles James Hutton & Co. Montreal. Rhodes, Curry & Co. Amherst, N.S.	Half Tones Acton Burrows Co. Toronto.	Shovels The Fairbanks Co. Montreal. The Hudson's Bay Company
Babbit Rice Lewis & Son Toronto.	Hand & Push Cars F. E. Came Montreal. The Fairbanks Co. Montreal.	Signal House Numbers Acton Burrows Co. Toronto.
Badges John Martin, Sons & Co. Montreal.	Hardware Rice Lewis & Son Toronto. The Hudson's Bay Company	Signals Noah L. Piper & Sons Toronto.
Beams Rice Lewis & Son Toronto.	Headlights Noah L. Piper & Sons Toronto.	Signs Acton Burrows Co. Toronto.
Bells Rice Lewis & Son Toronto.	Hose Rice Lewis & Son Toronto.	Snow Ploughs Rhodes, Curry & Co. Amherst, N.S.
Belting Rice Lewis & Son Toronto.	Illustrations Acton Burrows Co. Toronto.	Speed Indicators Rice Lewis & Son Toronto.
Blankets & Bedding The Hudson's Bay Company	Iron Rice Lewis & Son Toronto.	Spikes Rice Lewis & Son Toronto.
Block & Tackle Rice Lewis & Son Toronto.	Iron Signs Acton Burrows Co. Toronto.	Station Name Signs Acton Burrows Co. Toronto.
Boat Fittings & Hardware Rice Lewis & Son Toronto.	Japans McCaskill, Dougall & Co. Montreal.	Steamboats Polson Iron Works Toronto.
Boiler Covering Mica Boiler Covering Co. Toronto.	Lager Beer, &c. E. L. Drewry Winnipeg.	Steamboat Signs Acton Burrows Co. Toronto.
Boilers Polson Iron Works Toronto.	Lamps Rice Lewis & Son Toronto. Noah L. Piper & Sons Toronto. The Hudson's Bay Company	Steam Whistles Rice Lewis & Son Toronto.
Boiler Tubes Rice Lewis & Son Toronto.	Lanterns Rice Lewis & Son Toronto.	Steel W. G. Blyth Toronto. James Hutton & Co. Montreal. Rice Lewis & Son Toronto.
Bolts Rice Lewis & Son Toronto.	Launches Polson Iron Works Toronto.	Steel Castings F. E. Came Montreal.
Brake Shoes F. E. Came Montreal.	Life Insurance Independent Order of Foresters Toronto. Travelers' Insurance Co. Montreal.	Switch Targets Acton Burrows Co. Toronto.
Bridge Numbers Acton Burrows Co. Toronto.	Linoleum and Floor Coverings The Hudson's Bay Company	Switches F. E. Came Montreal.
Buckets Rice Lewis & Son Toronto.	Locomotives Richmond Locomotive & Machine Works Richmond, Va.	Telegraph Office Signs Acton Burrows Co. Toronto.
Bunting Rice Lewis & Son Toronto. The Hudson's Bay Company	Lubricators Rice Lewis & Son Toronto.	Telegraph Spoons Rice Lewis & Son Toronto.
Carpets The Hudson's Bay Company	Matches E. B. Eddy Co. Hull, Que. The Hudson's Bay Company	Telephone Office Signs Acton Burrows Co. Toronto.
Cars Rhodes, Curry & Co. Amherst, N.S.	Milepost Numbers Acton Burrows Co. Toronto.	Tires James Hutton & Co. Montreal.
Car Wheels Rhodes, Curry & Co. Amherst, N.S.	Mohair The Hudson's Bay Company	Tobacco and Cigars The Hudson's Bay Company
Castings Rhodes, Curry & Co. Amherst, N.S.	Numbers Acton Burrows Co. Toronto.	Toilet Paper The Hudson's Bay Company
Chains Rice Lewis & Son Toronto.	Oakum Rice Lewis & Son Toronto. The Hudson's Bay Company	Tools Rice Lewis & Son Toronto.
Cross Arms, Top Pins & Side Blocks The Firstbrook Box Co. Toronto.	Oils Galena Oil Co. Franklin, Pa.	Track Jacks Duff Manufacturing Co. Allegheny, Pa. A. O. Norton Coaticook, Que.
Curtains The Hudson's Bay Company	Office Signs Acton Burrows Co. Toronto.	Track Tools F. E. Came Montreal. Rice Lewis & Son Toronto.
Cuts Acton Burrows Co. Toronto.	Packing The Fairbanks Co. Montreal.	Trucks The Fairbanks Co. Montreal. Rice Lewis & Son Toronto.
Door Signs Acton Burrows Co. Toronto.	Pipe Rice Lewis & Son Toronto.	Typewriters Creelman Bros. Typewriter Co. Georgetown. Creelman Bros. Typewriter Co. Toronto.
Drills The Fairbanks Co. Montreal.	Pipe Covering Mica Boiler Covering Co. Toronto.	Uniforms John Martin, Sons & Co. Montreal.
Dry Goods The Hudson's Bay Company	Plushes The Hudson's Bay Company	Uniform Caps John Martin, Sons & Co. Montreal.
Electric Car Route Signs Acton Burrows Co. Toronto.	Pneumatic Tools F. E. Came Montreal.	Valves Rice Lewis & Son Toronto.
Emery Wheels The Fairbanks Co. Montreal.	Porter E. L. Drewry Winnipeg.	Varnishes McCaskill, Dougall & Co. Montreal.
Enameled Iron Signs Acton Burrows Co. Toronto. Rice Lewis & Son Toronto.	Portland Cement Rice Lewis & Son Toronto.	Vessels Polson Iron Works Toronto.
Engines, Stationary & Marine Polson Iron Works Toronto.	Printing The Hunter, Rose Co. Toronto.	Waste Rice Lewis & Son Toronto. Noah L. Piper & Sons Toronto.
Engraving Acton Burrows Co. Toronto. Toronto Engraving Co. Toronto.	Pumps Rice Lewis & Son Toronto.	Water Meters Westinghouse Mfg. Co. Hamilton, Ont.
Express Office Signs Acton Burrows Co. Toronto.	Rails Rice Lewis & Son Toronto.	Water Tanks The Fairbanks Co. Montreal.
Fencing Page Wire Fence Co. Walkerville, Ont.	Rail Saws F. E. Came Montreal.	Wheelbarrows The Fairbanks Co. Montreal. Rice Lewis & Son Toronto.
Ferry Signs Acton Burrows Co. Toronto.	Rivets Rice Lewis & Son Toronto.	Window Blinds The Hudson's Bay Company
Flags Rice Lewis & Son Toronto. The Hudson's Bay Company	Rope Rice Lewis & Son Toronto. The Hudson's Bay Company	Wines and Liquors The Hudson's Bay Company
Foghorns Rice Lewis & Son Toronto.	Scales The Fairbanks Co. Montreal.	Wire & Wire Rope Rice Lewis & Son Toronto.
		Yachts Polson Iron Works Toronto.

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RAILWAY FINANCE, MEETINGS, &c.

Atlantic & Lake Superior.—It is said the Dominion Government is considering the advisability of leasing this line & of granting assistance for the improvement of the Paspebiac terminus.

British Columbia Southern Ry. It is said that at the next session of the B.C. Legislature some of the members opposed to the Government will attack the validity of the land grant to this Co. It is contended that the Co., having received a Dominion as well as a Provincial charter, the land grant, which the Provincial charter carried with it, should in consequence of the Co. having received a dual charter, revert to the province. The B. C. S. R. Co. made such arrangements with the C.P.R. Co., as enabled the latter to proceed with the construction & completion of the Crow's Nest Pass Ry. The land grant, or a considerable portion thereof, which the original charter carried with it, went to the C.P.R. During the negotiations which were carried on between the Dominion Government & the C.P.R., amongst other concessions asked by the Government from the Co., & which were agreed to, was the alienation to the Government of 50,000 acres of coal lands. Those controlling the B.C. Southern charter & the land grant retained a considerable portion of the grant, containing what are believed to be some of the best coal lands in Kootenay. The contract with the B.C.S.R. Co. was made during the time of the Turner administration in B.C., & it is said that the succeeding administration, of which Mr. Semlin is Premier, has issued a Crown title for at least a large percentage of the land in question to the companies interested, so that it is difficult to see what can now be done in the matter, & there is no reason to fear that the companies' titles are in the slightest respect insecure, though judging by what ex-Attorney-General Martin, of B.C., has done in the past, he would not hesitate to attempt repudiation if he thought he could make any political capital by so doing. Fortunately for the sake of the companies & for the reputation of the province, the matter is one that, if pushed, will have to be decided by the Courts, & not by the Legislature.

Calgary & Edmonton.—Net earnings for Oct., \$11,108.00 against net earnings of \$8,476.18 for Oct., 1898.

The Canada Atlantic Co. recently sued the village of Rockland, Ont., for a declaration that the Co. was entitled to the bonus benefit granted them by the village by by-law, & was entitled to the issue of \$6,000 worth of debentures thereunder, & for a mandamus. It was held by Judge Rose on the evidence, that the railway was not built & completed to the village within the two years required by the by-law, & the action was dismissed with costs, with a stay for 30 days.

Canadian Pacific. In preparation for the ½-year's interest, due Jan. 1, on the 4% debenture stock of this Co., & on the 4% debenture Stock of the New Brunswick Ry. Co.,

the transfer books were closed Dec. 1, & will reopen Jan. 2.

C.P.R. stock has been bought steadily by investors of late. It is stated that there is now more stock in the names of Canadians than at any time in the history of the Co.

Coast Ry. of Nova Scotia.—T. Robertson, M.P.P., President of this Co., says there is no truth whatever in the report that the line has been sold to the Dominion Atlantic Ry.

Dominion Atlantic net earnings 10 months to Oct. 31, \$643,425 against \$538,564 for corresponding period.



JAMES GUTHRIE SCOTT,

Secretary & Manager of the Quebec & Lake St. John Railway & of the Great Northern Railway of Canada.

Duluth, South Shore & Atlantic. President Shaughnessy, of the C.P.R., confirms the report that arrangements have been made between this subsidiary Co. & the Chicago, Milwaukee & St. Paul Ry., providing for a connecting train service between points in the mineral range section of the D., S.S. & A. line & the south. Arrangements have also been effected whereby the C., M. & St. P. trains will use certain sections of the D., S.S. & A. line, leading into Marquette, Mich., thus avoiding the necessity of a double service. D., S.S. & A. stock has advanced as a result.

The Fort Erie Ferry Ry. Co.'s annual meeting will be held at Fort Erie, Ont., Dec. 20.

Intercolonial & C.P.R. A press despatch of Nov. 11 said.—“Sir Wilfred Laurier had a long conference to-day with the Minister of Railways & General Manager Pottinger, of the I.C.R., when it is understood that the relations of the I.C.R. to the C.P.R. & the winter port question were discussed.”

The Kaslo & Lardo-Duncan Ry. Co. gives notice of application to the Dominion Parliament for an act to extend the times limited for the construction & completion of its works, & to authorize the Co. to convey or dispose of its railway & works. This Co. is a subsidiary of the Kootenay Ry. & Navigation Co. & will probably be merged in the latter.

Manitoba Southwestern Colonization Ry.—Blake, Boissevain & Co. recently announced that the coupon due Dec. 1, on this Co.'s 1st mortgage bonds, would be paid by them on & after that date in London, Eng., at the rate of 4s. 1½d. per dollar, or in New York, at the agency of the Bank of Montreal, at the option of the holders. This line is operated as a branch of the C.P.R., which Co. owns all its capital stock.

Northern Pacific Right of Way.—At Spokane, Wash., recently, Judge Prather rendered an oral decision in the matter of the N.P. R.'s claim to 200 ft. on each side of the track as its permanent right of way. The case involves the title to real estate, the value of which is said to aggregate millions. The claim of the Co. rests on the contention that, once granted 200 ft. on each side of its track through the public domain as right of way, no part of this property could ever be taken up or disposed of. The decision of the court is in effect that except for a strip of land actually needed for the railway's right of way, the public can acquire full title to the remainder by adverse possession, if the railway fails to make use of it. Just how much would reasonably be held to be necessary for the safe operation of trains, the court did not decide, but it held that the entire 400 ft. could not be presumed to be necessary. The Co. will appeal to the Supreme Court.

Northern Pacific Bonds.—Notice is given that 898 of the general 1st mortgage \$5,000 registered bonds, or a total par value of \$4,490,000, have been drawn for the sinking fund in accordance with the requirements of the Trust Mortgage. All the outstanding bonds (both coupon & registered) issued under the mortgage have been called for redemption. The bonds so designated will be paid at 110 & accrued interest on presentation at the office of the Central Trust Co., of New York, interest to cease Jan. 1, 1900. This payment is important to stockholders & bondholders alike, to the stockholders because, the redemption being from the proceeds of land sales, there will be a large saving in fixed charges; to the bondholders because, with the retirement of these old 1st mortgage issues, the new bonds created at the time of the reorganization become substantially the only ones of the whole system, excepting only the 182 miles of the old St. Paul & Northern Pacific. In other

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NEXT ANNUAL MEETING at Montreal, Oct. 17 & 18, 1900.

Canadian Ticket Agents' Association.

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Young, London, Ont.

NEXT ANNUAL MEETING at Hamilton, Ont., Oct. 10,

Canadian Marine Engineers' Association.

HONORARY PRESIDENT, O. P. St. John, Toronto;
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ward, Toronto; 2nd VICE-PRES., D. F. Campbell, To-
ronto.

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ronto; P. J. Carr, Port Dalhousie; J. E. Kane, King-
ston.

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A. Mills, Toronto; GUARD, H. Bowler, Toronto; AUDI-
TORS, D. L. Foley, Toronto; E. J. O'Dell, Owen Sound.

Track Supply Association.

PRESIDENT.—F. E. Came, Montreal.
FIRST VICE-PRESIDENT.—R. J. Davidson, Hillburn,
N.Y.
SECOND VICE-PRESIDENT.—W. H. Frisby, Three Riv-
ers, Mich.
HON. SECRETARY-TREASURER.—Acton Burrows, 33
Melinda Street, Toronto.
NEXT ANNUAL MEETING at Montreal, Oct. 16, 1900.

words, the \$90,000,000 of prior lien 4% will now
be straight 1st mortgage on all but 182 miles
of road, & the general lien 3% a 2nd mort-
gage. As the bonds to be retired are 6%, the
reduction in fixed charges through the reduc-
tion will be about \$270,000 a year. The N.P.
has been enjoying great prosperity of late.
Inducements were offered the old 1st mort-
gage bondholders to exchange their obliga-
tions for the new issue, & the bonds not re-
tired in this way have during the last two
years been redeemed from land sales, until
now, a final call disposes of the whole amount.

Qu'Appelle, Long Lake & Saskatchewan.
—Net loss in operating for Oct., \$79.49,
against net loss of \$1,976.85 for Oct., 1898.

Quebec & Lake St. John earnings for
Sep., \$7,255 more than for Sep., 1898.

Quebec Central gross earnings for Oct.
\$44,924.60, against \$40,404.67 in Oct., '98;
working expenses \$28,726.50, against \$24,-
637.58; net earnings \$16,198.30, against
\$15,767.09.

Gross earnings 10 months to Oct. 31 \$430,-
325.48, against \$385,854.72; working ex-
penses \$275,677.30, against \$253,828.21; net
earnings \$154,648.18, against \$132,026.51.

The London, Eng., Stock Exchange com-
mittee has ordered the Co.'s £200,000 4%
debenture stock to be quoted in the official
list.

The Salisbury & Harvey Ry., which runs
from Salisbury, N.B., on the I.C.R., to Albert,
45 miles, which has been in financial difficul-
ties for some time, has, according to press re-
ports, been sold, the names of A. McElwee,
Major Catlin & J. R. McDonald, of New
York, & M. Lodge, of Moncton, N.B., being
mentioned as among the buyers. Mr. Mc-
Elwee is said to be interested with others in
mining in Albert county & in the development
of the shale property at Baltimore, N.B., & it
is said to be likely that the line will be extended
to Moncton & that a branch will be run to the
Baltimore shale property. (Sep., pg. 257.
See also "Baltimore Coal & Ry. Co., Oct.,
pg. 320.)

The Temiscouata Ry. Co.'s annual meet-
ing was held Dec. 5, when the following were
elected:—President, C. Riordan; Vice-Pres-
ident, F. Grundy; General Manager, T.
Crockett; other directors, W. Cook, J. N.
Greenshields, A. H. Cook, J. H. Walsh;
Secretary, D. B. Lindsay.

The United Counties Ry. has, it is said,
been secured in the interest of the Rutland
Ry. The U.C. extends from Sorel, Que., on
the St. Lawrence River, via St. Hyacinthe, to
Iberville, 66 miles, & has running powers over
the Montreal & Atlantic Ry. (C.P.R.) from
Yamaska to Sorel, 10 miles. Of the mileage
owned, but 61 miles, from St. Robert Jct. to
Iberville, is operated. Last year an extension
of about 22 miles was built under the name of
the East Richelieu Valley Ry., from Iberville
to Noyan Jct., where connection is made
with the Canada Atlantic. The U.C.R. was
built for political purposes, & its financial
position became so involved that it passed into
the hands of the Bank of St. Hyacinthe. The
Manager has recently been in England endeavor-
ing to make some arrangement in regard
to its bonds, & since then a new company has
been formed which is to take over the rail-
way, with headquarters in Montreal. The
Rutland R.R. is understood to have a major-
ity of representatives on this board. The
Rutland Ry. has for some months had under
construction a line from Burlington, Vt., to

Rouse's Point, N.Y., & an extension is to be
built at once from Alburg, Vt., under the
name of the Rutland & Noyan, to connect
with the U.C.R. at Noyan Jct., & to give a
through service between Sorel & New Eng-
land points. This is expected to augment the
Canadian export trade by way of Boston, &
it is said an agreement has been reached with
the Dominion Government by which Boston
freight originating on the Intercolonial is to
be sent by the new route.

Wabash.—On account of increased earn-
ings the directors have decided to pay 3% in-
terest on the \$3,500,000, series A bonds. The
last interest payment on them was in July,
1896. It is expected the earnings will also
provide for some distribution on the B bonds,
of which \$26,000,000 are outstanding.

White Pass & Yukon receipts—3rd week in
Oct., \$64,822; last 10 days Oct., \$8,188; 1st
week Nov., \$11,178.

C.P.R. Earnings & Expenses.

Gross earnings, working expenses, net
profits and increases over 1898, from Jan. 1,
1899.

Earnings.	Expenses.	Net Profits.	Increase.
Jan., \$1,864,570.36	\$1,247,036.50	\$617,533.86	\$101,906.27
Feb., 1,753,382.82	1,153,681.34	599,701.48	176,034.12
Mar., 2,109,667.58	1,280,772.01	828,895.57	75,662.06
Apr., 2,196,312.40	1,276,008.91	920,303.49	203,212.80
May, 2,402,151.29	1,369,392.68	1,032,758.61	106,096.30
June, 2,362,278.67	1,339,218.47	1,023,060.20	205,664.83
July, 2,385,625.47	1,412,663.84	972,961.63	242,272.84
Aug., 2,474,036.85	1,455,205.13	1,018,831.72	135,804.84
Sept., 2,649,785.37	1,502,899.82	1,146,885.55	54,371.89
Oct., 3,084,604.55	1,673,588.61	1,411,015.94	155,170.45

\$23,282,415.36 \$13,710,467.31 \$9,571,948.05 \$1,456,196.40

Approximate earnings for Nov., \$2,941,000,
against \$2,457,000 in Nov., 1898; increase,
\$484,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—
Approximate earnings for Nov., \$217,889;
increase over Nov., 1898, \$84,893.

Net earnings for 9 months to Sep. 30:
\$653,458, as against \$459,761 for correspond-
ing period.

MINERAL RANGE, HANCOCK & CALUMET.—
Approximate earnings for Nov., \$53,490;
increase over Nov., 1898, \$17,890.

MINNEAPOLIS, ST. PAUL & SAULT STE.
MARIE.—Approximate earnings for Nov.,
\$517,102; increase over Nov. 1898, \$34,536.

Net earnings for 2 months to Aug. 30,
\$382,863, against \$236,080 for corresponding
period.

Canadian Pacific Railway Land Sales.

Acres.		Amount.	
1899	1898	1899	1898
Jan., 14,718	22,044	\$ 46,411.35	\$ 72,924.83
Feb., 13,747	20,650	43,371.00	66,399.00
Mar., 24,045	33,421	74,430.00	109,010.00
April, 36,626	43,145	116,835.00	140,276.00
May, 39,573	43,148	125,862.00	137,835.00
June, 54,225	49,203	169,234.00	160,200.00
July, 47,402	39,512	149,546.00	123,010.00
Aug., 35,214	19,448	110,705.00	63,911.00
Sept., 25,517	18,007	83,719.70	56,936.43
Oct., 30,473	17,026	99,429.09	55,570.67

\$321,540 \$305,604 \$1,019,543.14 \$86,072.93

Land Commissioner Hamilton announces
that the Co. will offer to Manitoba farmers,
who wish to go east this winter on the Christ-
mas excursion rates & succeed in selling any
of the C.P.R. lands, \$10 for every 160 acres
disposed of. In previous years farmers have
been instrumental in selling the Co.'s lands &
this year any work they do in this respect
will receive recognition. Maps of each mun-
cipality are being prepared for their use.

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings sup-
plied from the Montreal office, includes the
G.T. of Canada, the Chicago & G.T., & the
Detroit, Grand Haven & Milwaukee Rys.:

	1899	1898	Increase	Decrease
Jan....	\$ 1,956,281	\$ 1,916,332	\$ 39,949	.....
Feb....	1,824,434	1,674,453	149,981	.....
Mar....	2,186,359	2,048,970	137,389	.....
April....	1,942,543	1,918,477	24,066	.....
May....	2,039,239	1,940,980	98,259	.....
June....	2,062,137	1,880,402	181,735	.....
July....	2,105,403	1,860,884	244,519	.....
Aug....	2,391,559	2,002,802	388,757	.....
Sept....	2,488,829	2,261,148	227,681	.....
Oct....	2,500,581	2,260,573	240,008	.....
Nov....	2,426,992	2,190,079	236,913	.....
	\$23,924,357	\$21,955,100	\$1,969,257	.....

The following figures are issued from the London, Eng., office:

GRAND TRUNK RAILWAY.

Revenue statement for Sep., 1899:

	1899	1898	Increase	Decrease
Gross receipts....	\$427,600	\$383,580	\$44,020	.....
Working expenses....	253,200	228,390	24,804	.....
Net profit.....	\$174,400	\$155,184	\$19,216	.....

Aggregate for 3 months, July 1 to Sep. 30, 1899:

	1899	1898	Increase	Decrease
Gross receipts....	\$1,180,247	\$1,025,603	\$154,644	.....
Working expenses....	750,015	654,557	95,458	.....
Net profit.....	\$430,232	\$371,046	\$59,186	.....

CHICAGO AND GRAND TRUNK RAILWAY.

Revenue statement for Sep., 1899:

	1899	1898	Increase	Decrease
Gross receipts....	\$63,800	\$62,091	\$1,709	.....
Working expenses....	55,600	49,985	5,615	.....
Net profit.....	\$8,200	\$12,106	.....	\$3,906

Aggregate for 3 months, July 1 to Sep. 30, 1899:

	1899	1898	Increase	Decrease
Gross receipts....	\$187,655	\$175,203	\$12,452	.....
Working expenses....	159,472	142,635	16,837	.....
Net profit.....	\$28,183	\$32,568	.....	\$4,385

DETROIT, GRAND HAVEN AND MILWAUKEE RY.

Revenue statement for Sep., 1899:

	1899	1898	Increase	Decrease
Gross receipts....	\$20,000	\$18,946	\$1,054	.....
Working expenses....	12,400	12,445	.....	45
Net profit....	\$7,600	\$6,501	\$1,099	.....

Aggregate for 3 months, July 1 to Sep. 30, 1899:

	1899	1898	Increase	Decrease
Gross receipts....	\$61,304	\$55,661	\$5,643	.....
Working expenses....	39,011	38,410	601	.....
Net profit.....	\$22,293	\$17,251	\$5,042	.....

DETAILS OF G.T.R. RECEIPTS JULY 1 TO OCT. 31.

	1899.	1898.
Passengers, number.....	2,763,468	2,757,432
" amount.....	\$498,727	\$421,485
Immigrants, number.....	3,882	5,122
" amount.....	\$3,464	\$2,930
Mails, express, &c.....	\$74,219	\$71,506
Freight, tons.....	3,521,877	3,031,750
" amount.....	\$983,878	\$869,617
Miscellaneous receipts.....	\$44,383	\$42,327
Total receipts.....	\$1,604,671	\$1,407,865
Increase.....	\$196,806	.....

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, July 1 to Sept. 30.

	1899.	1898.	Increase.	Decrease.
Grand Trunk.....	\$1,604,671	\$1,407,865	\$196,806	.....
Chicago & G.T.....	258,033	238,882	19,151	.....
D., G. H. & M.....	80,437	74,228	6,209	.....
Total.....	\$1,943,141	\$1,720,975	\$222,166	.....

Alberta Railway & Coal Company.

The annual meeting was held in London, Oct. 25, when the report of the directors for the year ended June 30 was presented, as follows:

The coal sales during the year were 184,764 tons, against 143,797 during the previous year. The cash earnings, apart from coal traffic, of the Montana Ry. were \$76,745.71, against \$64,383.77. The balance of profit, after providing for the interest on 4% prior lien debenture stock, is £7,275 10s. 10d., which, with the balance of £16 9s. 8d. from last year's accounts, the auditors have certified as payable to the "A" debenture stockholders in virtue of their resolution passed April 1, 1896. The directors regret to say that owing mainly to the capital requirements of the Co. during the

year, rendered necessary through increased business, having exhausted the above balance, there is at present no money available with which to pay the "A" holders, & that to provide the necessary funds & additional working capital, it is proposed to utilize the £25,000 of 4% prior lien debenture stock remaining unsold. Since June 30 last the volume of the Co.'s business, both in coal sales & in railway traffic earnings, has been larger than during the same period of last year. The Co. has commenced to transport Crow's Nest coke to Montana for use in the smelters there. The demand for this article, which is carried by the Co. over its entire railway between Lethbridge & Great Falls, is, in the opinion of the President, very likely to increase, and if so the Co.'s traffic receipts should correspondingly improve. The irrigation works on the lands sold by the Co. & by the Lethbridge Land Co., are proceeding satisfactorily. The Canadian North West Irrigation Co. expects that the entire main canal system up to Lethbridge will be finished early in 1900. The directors are of opinion that the efforts of the Irrigation Co. towards improving & settling the lands will have a satisfactory effect on the business of the Alberta Co.

REVENUE ACCOUNT YEAR ENDED JUNE 30, 1899.

RECEIPTS.	
Balance on following accounts:	
Railway & colliery.....	\$18,439 2 0
House rents & water privileges.....	719 6 5
	\$19,158 8 5

EXPENDITURE.	
General expenses in Canada.....	\$4,688 11 5
Expenditure in London.....	836 4 10
Taxes.....	1,108 0 1
Trustees' remuneration.....	200 0 0
Directors' fees.....	900 0 0
Land grant expenses.....	523 15 4
Exchange on cheques & bank charges.....	225 16 8
Interest on prior lien debenture stock.....	4,000 0 0
Balance carried to balance sheet.....	7,275 10 10
	\$19,158 8 5

ASSETS.	
Lethbridge-Great Falls Ry., colliery, coal lands, plant & buildings, 230,301.54 acres of farm lands, & old rails & rolling stock removed from Dunmore-Lethbridge Ry.....	\$1,110,754 6 2
Bonds of Lethbridge Land Co., £130,410 12s. 6d. at 80%.....	104,328 10 0
Stocks, Colliery (including coal on hand) " Railway & general stores.....	7,708 5 11
" Railway motive power.....	7,518 1 8
" Office furniture.....	1,932 8 0
Debts owing the Company:	624 7 0
Lethbridge Land Co. Interest—Suspense account.....	55,384 10 0
Sundry debtors.....	22,398 13 3
Bills receivable.....	380 15 0
"B" Debenture Stock Redemption Fund, Cash in hands of Trustees.....	5,946 10 3
Cash in hand & in bank.....	4,176 7 2
	\$1,265,891 9 7

LIABILITIES.	
Shares & debenture stock.....	\$1,010,101 0 0
Sundry creditors.....	22,471 0 8
Revenue account.....	7,292 0 6
	\$1,265,891 9 7

The report and accounts were adopted, & the directors were re-elected as follows:—President, E. T. Galt, Lethbridge, Alta.; Vice-President, Col. K. R. B. Wodehouse, London, Eng.; other directors, W. Burdett-Coutts, M. P., E. Crabb, Hon. T. C. Farrer, E. Waterhouse, London, Eng.; Sir R. W. Cameron, New York; W. M. Ramsay, H. Joseph, Montreal.

Pullman Co.—At a stock-holders' meeting at Chicago, Dec. 5, the action of the directors in buying the property of the Wagner Palace Car Co. was ratified. The capital was increased from \$54,000,000 to \$74,000,000, & the name of the Co. changed from Pullman's Palace Car Co. to the Pullman Co. The number of directors was increased from 7 to 11. The new directors are: W. K. Vanderbilt, J. P. Morgan, F. W. Vanderbilt & W. S. Webb. The old directors are: M. Field, R. T. Lincoln, N. B. Ream, J. W. Doane, O. S. A. Sprague, H. C. Hulbert, H. B. Reed.

Grand Trunk Betterments, Etc.

The new station at St. Hyacinthe, Que., has been opened.

The Victoria Jubilee bridge, having been finally completed, was further opened on Dec. 1 for foot passenger & vehicle traffic. A scale of tolls has been established under which foot passengers pay a cash toll of 5c. or 6 tickets for 25 cents. Bicyclists pay 10c. cash, the other fares ranging up to 75c. for 3 or more horses & vehicle loaded. The completion of the bridge is a great public convenience as heretofore the only crossing has been by ferry, which has been liable to interruption in the spring & fall. Notwithstanding this some people are complaining of the tolls charged & the matter has been brought under the notice of the Minister of Railways, who stated that in granting a subsidy towards the building of the bridge no provision was made for government control of tolls. There was no mention made of anything more than provision for other railways to secure entrance to Montreal. There was no clause in the general railway act which would cover the case in question. Personally he was not aware of what rates were being charged for pedestrians or vehicles; but it did seem to him that they would be arranged on a scale to invite rather than to drive away probable traffic. Further than this there was nothing that he could say. He had not in his possession the schedule of charges for crossing by the ferryboat, but considering that the bridge is almost two miles in length, he did not incline to believe, so far as a glance at the situation showed him, that 5c. or 6 tickets for 25c. was excessive.

The yard at Trenton, Ont., is being raised and otherwise improved. At Gananoque the station is being moved so as to provide a better location for yard accommodation.

The yards at York, near Toronto, which are being remodelled, are expected to be completed by the end of Dec. The accommodation is being increased from a capacity of 500 cars to 1,500. (Oct., pg. 291.)

A third track, to facilitate the passing of freight trains, is being built between Mimico & New Toronto, on the Toronto-Hamilton line.

Correspondence has recently taken place between Brantford city authorities & General Manager Hays, respecting the running of the Co.'s through Detroit & Niagara Falls trains via Brantford so as to place that city on the Main Line. Mr. Hays said in a letter to the City Clerk: "This question has been before the management in previous years, & while the advantage to our mutual interests in the change referred to has been conceded, the Co. has been deterred from taking action relative thereto owing to the hard times & consequent financial stringency existing. The season is now too far advanced for us to undertake anything in the direction desired this year, but we will be glad to again take the matter up for consideration & we may later on be able to lay before you a plan for consummating the change desired & asking your co-operation to that end. Should such a plan receive a favorable reception I have no doubt that I would be able to obtain the necessary authority to complete the work next year."

In regard to locating the freight station at Brantford on the south side of the tracks, instead of on the north as at present, & utilizing the old car shops for freight sheds, Mr. Hays said that the old car shops were unsuitable, & that better facilities could be acquired at but little greater cost by erecting a building specially adapted for freight purposes.

Owen Sound citizens recently petitioned the Co. to extend its line down the bank of the river to Division-Frost St. bridge, & received a reply from Superintendent Jones expressing the Co.'s willingness to comply with the request if the right of way could be secured

from the town. The matter is now before the lower courts. It is probable that the line will only be extended to Dunn's boat house, & not as far as first proposed.

The extension from Port Huron, Mich., to the Jenks shipbuilding yard, which has been referred to as a branch, is only a side track to build a few cars, & is likely to be built by the Jenks Co.

During 1899, 13 miles of second track have been laid between Montreal & Toronto, which leaves only about 46 of single track from Port Hope to Port Union. A surveying party is on this section, & if business is good it will be double tracked in the near future. The second track from Hamilton to Niagara Falls is laid out, & the work will be proceeded with next season. As we have already announced, it has been decided to double track the line from Port Huron to Chicago in the near future, & 10 miles of grading from Port Huron west are about completed. On the main lines 315 miles have been laid with 80 lbs. steel rails, while 285 miles of these rails, replaced by the 80 lbs., have been laid down on the branch lines, the latter being from 72 to 70 lbs., & replacing in turn rails of from 56 to 60 lbs. So it will be seen that 60 miles of the lines have been greatly strengthened & improved. From Portland to Chicago there are now laid 720 miles of standard 80 lbs. rails, while the steel in the balance of the main line between those points average from 72 to 79 lbs. During 1899, 1,826,857 ties have been put in, 1,344,374 being cedar, purchased in Canada. The Co. has put down this year 321 miles of gravel & 50 miles of cinder ballast, 123 miles of fencing, & 63 miles of yards & sidings.

Some additional information as to improvements on the system, received too late for insertion here, will be found further on in this issue.

C.P.R. Betterments, Construction, Etc.

Windsor St. Station, Montreal.—It is expected to continue work throughout the winter with some 150 men cutting stone & preparing the iron & steel work. (Aug., pg. 233.)

Ontario Car Shops. London is pressing a claim for the location of these proposed shops, relying on a clause in an agreement with the West Ontario Pacific Ry. Co., which built the line between London & Woodstock, & leased it to the Ontario & Quebec Ry., the lease being assigned to the C.P.R. The clause reads:—"That the companies will, in the event of their building at any time, car & machine shops, or either of them, for the manufacture of cars or locomotives, on any part of the division of their line of railway between Toronto Jct. & the River Detroit, or the River Detroit & the Niagara frontier, locate & build & maintain the same in the city of London." In reply to a communication from Sir Jno. Carling & others, President Shaughnessy said:—"Whenever circumstances make it necessary to provide additional car or locomotive building shops in Ontario, the claims of London will not be overlooked." No definite announcement has been made that the shops in question are to be built, but the impression prevails that if they are it will be in Toronto. (Nov., pg. 323.)

Owen Sound Branch.—A recent trip of some of the Co.'s officials over this branch gave rise to a press report that the proposed reduction of the grades would be gone on with at an early date. We are informed that nothing has been decided on in regard to the matter. (Aug., pg. 233.)

Hochelaga Foundry.—A contract has been let for building an addition.

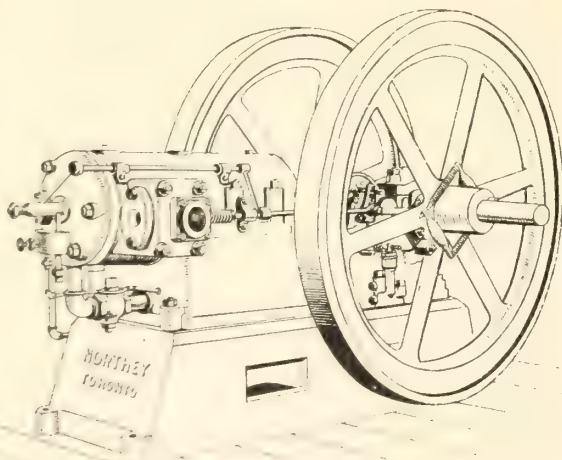
Montreal to Fort William.—Upwards of 100 miles of heavy rails have been laid this

year, & a good deal of ballasting has been done.

Ottawa Connecting Line.—The Co. is evidently in earnest in regard to the proposal to secure a direct connection between its main transcontinental line at Ottawa & the Montreal-Ottawa short line. It is proposed to improve the grades between Carleton Jct. & Ottawa, the object being to handle the large increase in traffic from the Northwest passing through Ottawa to Montreal by the M. & O. line. By forming a connection the already over-burdened line between Smith's Falls & Vaudreuil will be relieved. Practically the whole right of way from the Co.'s Sussex St. station to the Ottawa central station has been secured. C.P.R. officials were induced to acquire this independent right of way through the failure of negotiations with the Canada Atlantic for the use of that Co.'s line between the Central station & the C.P.R. track, near Mechanicsville. At all events options were secured upon property lying between the Montreal & Ottawa right of way near the Rideau & the canal, opposite the mouth of Patterson's Creek, along the north side of the creek to Bank St., thence westward to Concession, Bell & Preston streets, near the point of the C.A. crossing of the C.P.R.'s Prescott line. Then, these options maturing, the C.P.R. people decided to purchase rather than forfeit the amounts of the options. The C.P.R. is now in a position to construct the link without expropriation. The right of way secured would carry the C.P.R. track across the city about 100 yards south of the C.A. line, necessitating a second level crossing on Bank St. This the City Council wants to avoid, & the members are trying to get the two companies to agree to a joint use of the C.A. tracks as above mentioned, or else to get the C.P.R. to build immediately alongside the C.A. Manager

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Tait says the C.P.R. offered to pay the C.A. one-half the interest on the original cost of the line, & a wheelage percentage on the cost of maintenance. (Nov., pg. 324.)

Fort William.—When at this division point recently General Superintendent Osborne said the Co. contemplated further improvements in the yards. (Oct., pg. 292.)

Fort William to Winnipeg.—Surveys for the double tracking of the line between these points have been completed as far as Dexter, 372 miles from Winnipeg. (Nov., pg. 324.)

The Bonnet Lake Branch, from the main line at Molson, 45 miles east of Winnipeg, has been graded for about $3\frac{1}{2}$ miles. On Dec. 4 we were informed that grading was then going on, owing to favorable climatic conditions, & that work would be continued as long as necessary this winter. It is not expected any rails will be laid before spring. (Nov., pg. 324.)

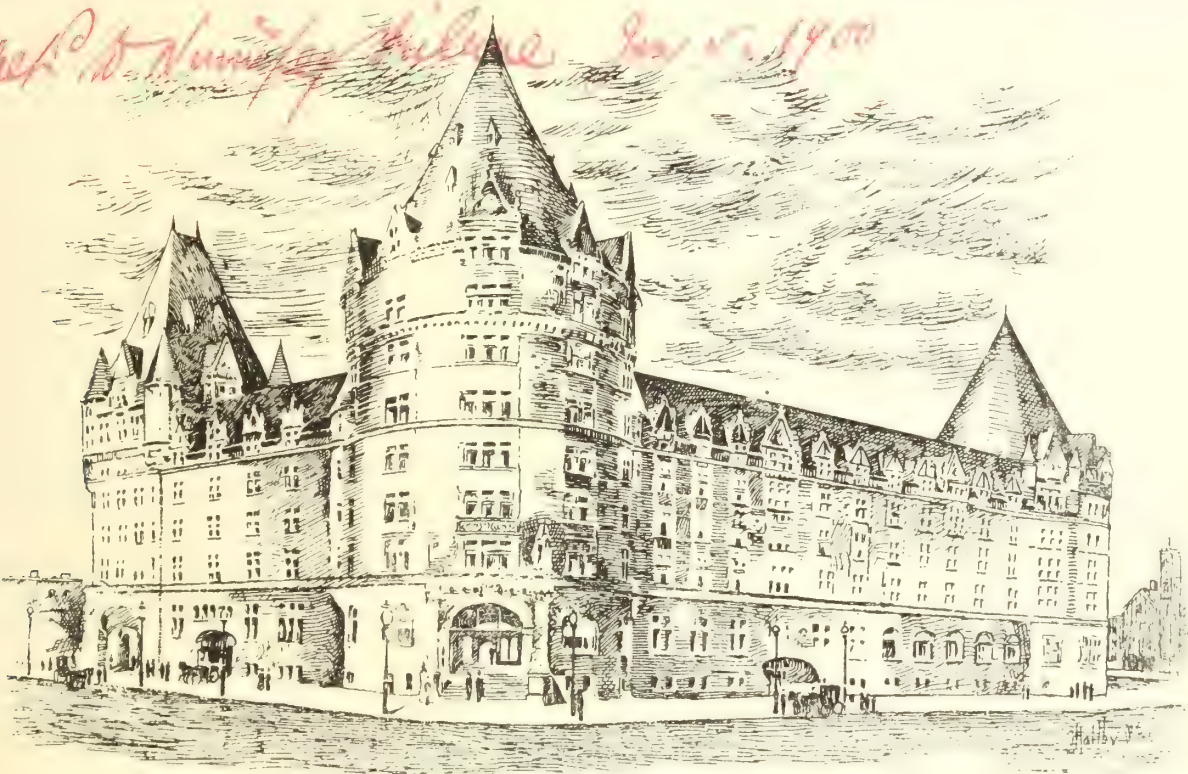
Winnipeg Terminals.—The illustration on this page is from a rough preliminary perspective sketch of the proposed hotel & station

the importance of Main st. These steep grades are made necessary by the intersection of Fonseca & Sutherland streets, which would be blocked if the bridge approaches were made longer. The approaches might be made longer & allowed to cross these streets if the side streets were also raised to meet the approach. That would not, however, be quite satisfactory, unless Main st. & the two cross streets were permanently raised to their full width. With reference to the subway, the grades are much easier than on the bridge, & he considers that the subway would be the least obstruction to traffic, both in the subway & on the portions of Main st. alongside of it. The approximate cost of the subway, exclusive of the railway tracks, ties, etc., he estimates at \$73,000. The portion of the subway covered by the tracks, a distance of 148 ft., would have to be furnished with lights during the day. There might also be occasions when the water in the river would rise sufficiently to flood the deeper part of the subway. If a subway is adopted provision should be made to cross the tracks on the surface temporarily, to

Souris, Man., Locomotive House.—A 3 or 4 stall building is to be built at this point on the Southwestern Branch.

Pipestone Branch.—On Nov. 30 track was reported as being laid to the North Antler Creek, over which a large bridge was being built. (Nov., pg. 324.)

Crow's Nest Pass Ry.—H. S. Holt, of Montreal, who went over this line recently, said on his return: "It is a well-built road, & can be made as good as the older portions of the C.P.R. with a little effort, & this will be done as circumstances justify. Part of the work has been very heavy, yet, no doubt, a great deal of freight will be carried over this road, & the heavy outlay will be amply justified. The heavy sections no doubt cost \$50,000 a mile, & I believe the entire line from Lethbridge to Kootenay Lake will, when finished, have cost \$30,000 a mile." The development of the coal & coke industry was alluded to, Mr. Holt saying that the Crow's Nest Coal Co. had 108 ovens at work, & were erecting 80 more. They cannot, in fact, begin to supply the demand for coke, which is sent to the



PROPOSED CANADIAN PACIFIC RAILWAY HOTEL AND STATION FOR WINNIPEG.

building, shown by President Shaughnessy in Winnipeg recently. On Dec. 2 we were officially informed that the plans were still in the architects' hands and that they had not been finally decided on, so that the design as shown in the illustration may be varied. It is said that the architects have recommended the use of white stone & white brick, but some of the officials favor red sand stone & Bonnet Lake brick. The Co. has not yet secured all the land it requires for hotel & yard purposes. It is said one owner is asking a very large price for his property & that he disputes its being expropriated for an hotel site. The question of expropriation has been submitted to the Minister of Railways.

Winnipeg's City Engineer has reported to the Council on his examination of the plans of the overhead bridge on Main st. & the subway proposed for this crossing. He does not think that the overhead bridge as proposed would be found satisfactory on account of the grade on the south side approach, which is 9.1 per 100 ft. The north approach at 6.8 per 100 ft. he considers too steep for a street of

avoid the possibility of obstruction to traffic by high water. (Nov., pg. 324.)

The Snowflake Branch, which runs from the first siding on the Pembina Mountain branch, 118 miles southwest of Winnipeg, to Snowflake, 17½ miles, has been completed & opened for traffic. A grain elevator & warehouse have been erected at Snowflake, also an elevator at Purvis, about 7 miles from Snowflake. The country through which the line runs is well settled with prosperous farmers. (Nov., pg. 324.)

The Deloraine-Waskada Branch, 18 miles, has been completed & opened for traffic. Grain elevators are being built at the midway station, Goodlands, & at Waskada. (Nov., pg. 324.)

The McGregor Varcoe Branch, from McGregor, on the main line, 22 miles west of Portage la Prairie, to Varcoe, on the G.N.W.-C.R., had, on Dec. 4, been graded about 22 miles. No track had then been laid & we were informed that it was unlikely, taking into account the advanced stage of the season, that any track would be laid this year.

smelters at Trail, Northport, & at Great Falls, Mont., & the fact of the Canadian article being able to compete with the U.S. at the last named point, speaks for its quality. As a matter of fact, the smelters claim it is the best coke made, while the cost of smelting ore has been reduced from \$11 to \$6 a ton. (Nov., pg. 325.)

An unconfirmed press report credits the Co. with the intention of building a branch from Bruce's Point, on the C.N.P. line, to Golden.

There appears to be no doubt that the construction of the section of this line between Nelson & Balfour on Kootenay Lake will be gone on with at an early date. Between Nelson & Five Mile Point, 4.3 miles, the ground is pretty well covered by the Spokane & Northern Ry., whose track is close to the lake shore almost the entire distance, leaving scarcely room for another line. It is thought the C.P.R. will endeavor to secure running powers over this section. Tenders have been received for building between Five Mile Point & Balfour, & an announcement is daily expected in regard to them. (Nov., pg. 324.)

The B.C. Southern Ry. Co., under whose charter the Crow's Nest Pass Ry. is being built, gives notice that it will apply to the Dominion Parliament next session for an act authorizing it to complete at any time before the end of 1904 its western section, which is to run from Kootenay Lake to a favorable place for crossing the Fraser River, to New Westminster, thence to Burrard Inlet, & shall include a branch line to Nelson via Salmon River; also to extend the time for the construction of a branch line from or near the forks of Michel Creek by way of Michel Creek to Morton Creek. (Nov., pg. 324.)

When at Nelson recently President Shaughnessy stated that the Co. had decided to make it a division point & that the rearrangement of the yard would be at once proceeded with. This would embrace extensive improvement along the water front, including the building of shops, an improved station & another wharf. He had looked over the ground & appreciated the inconvenience which had been occasioned during the high water of 1897, & in the rearrangement contemplated such provision would be made as would prevent a re-occurrence of the difficulty. General Superintendent Marpole has since been in negotiation with the Council, & it is understood the following arrangement will be made. Instead of the city taking a deed to the present recreation grounds, a five-years' lease of the grounds to be taken, in return for which the Co. will give the city a deed to 40 acres to be selected from the land of the Co. adjoining Addition A. The Co.'s shops & other improvements to be exempted from municipal taxation for 10 years, the blind ends of Vernon, Baker, Victoria & Slocan streets to be condemned & turned over to the Co. It is inferred that the Co. does not intend to close Baker st. at the intersection of Railway st., but to grade the street from this point & use it as the approach to the new station & freight shed.

Kaslo Wharf.—A press despatch reports that a strip of waterfront 80 to 100 ft. wide & 250 ft. long, at the C.P. landing at the foot of Front st., sank out of sight Dec. 11. The water is now 120 ft. deep where teams backed up to receive freight from the floating wharves. All the piling which the C.P.R. has been driving for the past season, on which to build its wharves, & which would have been completed in a few weeks, dropped out of sight without a moment's notice. Two wharves were being built side by side, that of the C.P.R. having about 100 ft. of work done upon it, while the Kaslo & Slocan Ry. Co.'s was about all completed. The last pile was being driven when

the collapse occurred. This is the second time Kaslo has suffered damage of this nature.

Arrowhead & Kootenay Lake Branch.—Grading has been completed for 15 miles from Lardo, the southern terminus, & work has been opened up for 20 miles further. Owing to the impossibility of getting rails this fall, work has been closed down until spring. (Nov., pg. 325.)

The A. & K. Ry. Co. gives notice of application to the Dominion Parliament for an Act declaring its works to be for the general advantage of Canada, & to extend until the end of 1905 the period within which it may complete its works.

Columbia & Western Ry.—One survey has been completed for the proposed branch to Sophie Mountain. The line as run will be 15 miles long & will have a 1% grade as far as the summit of Sophie Mountain, & a 3% grade down the west side of the mountain to the Velvet mine. There will have to be a switch on the west side of Sophie Mountain, & a new survey will probably be made to get rid of this. The surveyed line goes from the end of the spur to the War Eagle mine, & from there along the side of Red Mountain. From Red Mountain it skirts along the side of O.K. Mountain, thence to Record Mountain, & along its side & the side of Sophie Mountain to its summit. Then it goes down the west slope of Sophie Mountain to the Velvet mine, which is likely to be the terminus for the present. Doubtless, if built, it will be extended to other properties in that section when they have reached the shipping stage. (Nov., pg. 325.)

On the extension from West Robson to Midway, work is being pushed on the Bull Dog tunnel which is 3,000 feet long, & it is expected to be in operation by March. The mountain is now crossed by switchbacks.

A daily train service has been established between Rossland & Greenwood, via West Robson, the road having practically been taken over from the contractors &, with the exception of the tunnel already referred to, only ballasting remains to be done. Both freight & passenger traffic are satisfactory. The passenger travel is increasingly heavy & the quantity of freight already exceeds expectations. Chief Engineer Tye says he thinks it probable the traffic to Midway will soon attain to much greater proportions than present appearances suggest, since the development of many mineral claims in the mining camps of the West Fork & other tributaries of the Kettle River, those of Camp McKinney &, too, those of Myers Creek & other mineral sections across the line, will largely swell the

volume of transportation the new railway will be required to provide for.

On Dec. 2 we were informed that track-laying would be continued from Greenwood to Midway, as soon as tracklaying had been completed on the 22 miles of spur lines, over half of which had then been done. (May, pg. 139. Nov., pg. 324.)

H. S. Holt, of Montreal, who recently went over this line says: "We travelled over this road from Robson to Greenwood, &, although it is the most costly piece of road I have ever passed over, either in Canada or the U.S., it is certainly the best built. The heaviest portion is laid with 73 lbs. rails, & the outlay of the first 100 miles will certainly not be less than \$40,000 or \$45,000 a mile. All this has been done without the aid of one cent a mile from the Government. The C.P.R. has spent \$14,000,000 in B.C. alone this year, & I consider its policy both a wise & plucky one. In the U.S. mining regions the mine-owners have generally had to make their own connections with the trunk lines, but in B.C., wherever there is a probability of a camp becoming a producer, the C.P.R. lays down branches, & thus the mines are placed in immediate touch with the country's railway system, as well as with the different smelters on both sides of the boundary line."

There seems to be little doubt that the management has about made up its mind that the proposed route for the continuation of the line from Midway by way of Penticton to the main line at Hope is not desirable & that the route mentioned in our last issue will be followed instead. This would be from Midway, via Keremeos, to near Princeton, through Otter Valley, down Quilchena Creek, near Quilchena; westerly to Nicola Lake, skirting the left bank of Nicola River which it will probably cross somewhere near the Twenty-two Mile House & then follow the right bank to Spences' Bridge on the C.P.R. main line. Two engineering parties are at work on this route, one working from Nicola Valley towards Spences' Bridge, the other from Nicola Valley towards Princeton & Keremeos. It is said that the new route, in addition to avoiding the almost impossible crossing of the mountains at Hope, will tap the rich mineral belts of the Similkameen, Otter Flat & the Nicola Valley, run through the coal fields which are very extensive & valuable, & traverse extensive grazing country. Chief Engineer Tye, of the C. & W.R. has recently been over the route. (Nov., pg. 325.)

A full report of Mr. Shaughnessy's remarks on this question before the Vancouver Board of Trade will be found in our Nov. issue, pg. 332.

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The Victoria Colonist thinks the adoption of the route above outlined means the indefinite postponement of the proposed line from the Coast to the Interior south of the Fraser River & says: "With such a line in operation there will be very little inducement for any company to build through the Hope mountains for the sake of establishing connection with the Coast. We ought to realize that there is no reasonable prospect that Victoria will have any connection with the C.P. system or highway of traffic into Yale & Kootenay except by way of Vancouver. This is something which the people of Victoria ought to be very careful to understand."

Vancouver Terminals.—Work has commenced on the erection of a station in the east end of the city at Heatley Ave. crossing. (Sep., pg. 267.)

A recent press despatch from Vancouver stated that the Co. was about to connect Stimson's wharf & that of the Union Steamship Co., making a wharf of about half a mile in length, that the work would cost \$30,000 & that a shed 350 ft. long would be built. We are informed that this work is simply the continuation of the improvements covered by the conditions of the exemption by-law, particulars of which were given in our May issue, pg. 142. The work now in hand is an extension of the wharves easterly 500 ft., with a 300 ft. warehouse thereon, & from this a connection by trestle will be made with the so-called Stimson's wharf. The present work involves an expenditure of about \$50,000. (Sep., pg. 267.)

The question of building a bridge over the yard tracks from Abbott to Carrol streets is before the City Council.

Westminster-Vancouver Loop Line.—As mentioned in our last issue the Co. has given notice of application to the Dominion Parliament for power to build from its main line at New Westminster to Vancouver. In a recent interview General Superintendent Marpole said: "It is the intention to build a line connecting the two cities, but as to when it will be built & route to be followed I can at present say nothing. These matters will be settled after the charter has been obtained & much will depend upon the character of that charter. We may build the line next year, but I am not in a position to speak definitely." (May, pg. 140.)

Condition of Main Line and Western Branches.—Quotations have already been given from a recent interview with H. S. Holt, of Montreal. He also said, "I had not been over the main line for eight years, & the road, as seen the other day, is simply beyond recognition. The original rails of 56 lbs. have been replaced by 73 lbs. Solid embankments & stone & iron bridges are the rule rather than the exception. The C.P. is now practically a permanent railway from end to end, while the complete ballasting is also an important feature. When the central section, between Winnipeg & Calgary, was constructed, it was impossible to secure ballast of a permanent character, although the sections around Lake Superior & through the Rockies have long since been put in a first-rate condition. This work is now being done between Brandon & Calgary, & by the middle of next year the permanent ballasting of the C.P.R. will have been completed from end to end. This is a feat which no other transcontinental railway can boast of, although some of the Southern roads were built 25 years before the Canadian road. Eight years ago, when I was out to the Coast, the section of 214 miles, remembered as the Onderdonk work, was composed of grasshopper trestles. All this has been replaced by solid stone-retaining walls & permanently filled in, & the same will apply all along the line. The whole work is nothing short of a marvel, & no one who has not been to see can realise the wonderful transformation that has taken place from Montreal to Vancouver. We also

travelled through southern Manitoba, & where nothing but the open prairie existed 8 years ago, are now towns of 2,000 & 3,000 people, provided with electric light, waterworks, & all the accessories of thriving & modern communities. At every siding I saw 5, 6, & sometimes 7 elevators, & everywhere people appeared to be prosperous & satisfied with their lot. Winnipeg has made marked progress in the way of large & handsome buildings, as well as in greatly improved streets. The same can be said of Vancouver. On Granville St. there is a succession of banks & other buildings that would be a credit to any of our largest eastern cities."

Mineral Range Ry.—The Railroad Gazette states officially that this Co. has completed the Grasse Pointe extension from Arcadian Jct., Mich., to Arcadian Mill, 86 miles, with a 2 mile branch to Arcadian Mine. We think a mistake has been made in the statement of mileage.

Surveys, Construction, Betterment, &c.

The Alberta Railway & Coal Co., we are officially informed, is not at present considering the question of widening the gauge of its line between Lethbridge & the International Boundary, & of its subsidiary line, the Great Falls & Canada Ry., from the Boundary to Great Falls, Mont. (Aug., pg. 235.)

The Canada Atlantic has installed electric signals at the Concession, Le Breton, Division & Rochester St. crossings, Ottawa.

Cape Breton Ry. Extension Co.—On Nov. 29 we were informed by a Nova Scotia Government official as follows: "There is no contract in existence between the N.S. Government & the promoters of this line of railway, that I am aware of. On Jan. 22, 1895, an agreement was made between the Cape Breton Ry. Extension Co. & the N.S. Government for the construction of 30 miles of this railway, from Port Hawkesbury to St. Peters, in consideration of a subsidy of \$3,200 a mile, but nothing further was done. The contract is liable to forfeiture through lapse of time, as the construction was to commence in May, 1895, & the line was to be completed before Aug. 1, 1896. I understand the matter is now being revived; Col. Alton is the principal promoter in Nova Scotia. J. S. Armstrong, C.E., has a party of engineers making a location survey."

The operations are being carried on under the name of the Canso & Louisburg Ry. Co., with offices in Boston & New York City, & at Port Hawkesbury, N.S. The officers are: President, A. W. Mausur; Vice-Pres. & General Manager, H. Alton; Secretary, B. Wilkins; Treasurer, W. H. Dunlap; Chief Engineer, J. S. Armstrong. Surveys are being made. (Nov., pg. 325.)

Canadian Northern.—On Dec. 6 we were officially informed that on the extension from Cowan, last year's terminus, towards the Saskatchewan, 53 miles of track had been laid, & it was expected to lay altogether 75 miles before closing down for the season. Grading was going on & the track was being kept close up with the grading. On the branch from Dauphin into Gilbert Plains, 15 miles had been completed, & track laying was expected to begin immediately, as material was arriving. (Nov., pg. 325.)

A considerable addition is to be made to the car-shop at Dauphin.

Central Vermont. Improvements in the road-bed are likely to be undertaken at an early date, & the double tracking of a portion of the line is rumored.

Coast Ry. of Nova Scotia.—President Robertson stated in Halifax, Nov. 29, that fairly good progress was being made with the 20 miles extension from East Pubnico to Barrington, track having been laid to the station grounds at Barrington Passage, & it was ex-

pected to run trains to that point by Christmas. The telegraph line had been completed, & also the stations except those at Barrington Passage & Shag Harbor. Mr. Robertson further said, "Our contract with the N. S. Government was originally to build a line from Yarmouth to Lockeport. No action was taken by the Coast Ry. Co. to renew that contract because we were engaged in negotiations to build a line to Halifax. Now that the Nova Scotia Southern line is being constructed, our Co. has decided for the present to hold to the original contract between Yarmouth & Lockeport. My business here is to ask for a renewal of the old contract on the old terms. The engineers are making preparations for starting of work on the next 10-mile section between Barrington Passage & Clyde. The rails for 7 miles of this section, as well as a large quantity of ties, etc., are already on hand. There is nothing whatever in the rumor about the sale of the Coast line to the Dominion Atlantic Ry. A proposition for a traffic arrangement between the two lines has been submitted. At present passengers over both lines, in order to make a transfer at Yarmouth, have to drive a distance of nearly a mile, & an arrangement would be of material benefit to both lines. I hope to see it carried into effect. Our business is increasing. The receipts average 30% over the same months of last year." (Nov., pg. 325.)

The Cumberland Ry. & Coal Co., has built a locomotive shed at Parrsboro, N.S.

Dyea, Alaska, Yukonwards.—L. D. Kennedy, of Seattle, Wash., who is interested in a scheme to build a railway from Dyea, with a tunnel through Chilkoot Pass, is reported to have recently said at Skagway, "The grading of a railway approach to the tunnel entrance has been begun, & is being pushed as rapidly as possible with the facilities at hand. We have 12 teams with scrapers, & would put on a larger force could we get all the scrapers we need. The grade will be extended from tide-water at Dyea to Canyon City, 9 miles, this fall. If the necessary equipment for grading can be secured, we can finish the work in 30 days, or before the frost fills the ground. The distance from tide-water to the tunnel entrance is 17 miles, but we shall not attempt to extend the grade that far this winter. If we get enough scrapers we shall run three shifts of workers daily. The road to the tunnel from the water will be an electric system." (Nov., pg. 236.)

Referring to the scheme, the Skagway Alaskan says: "It is rumored that New York capital, with an eye to the opening in Alaska for a railway from the coast to the Klondike country, has been looking over the Dyea route & the one from Haines, & has not fully determined which it prefers, but that the Haines route has been looked upon a little more favorably than the other. Those who have the matter in hand have sought to find which of the available courses might furnish the greatest local traffic or tap the most promising intermediate territory. With this end in view, it is said, the Haines route looks the most promising, for the reason it will lead through what is considered a rich copper country, & one that may furnish a good traffic in carrying minerals to tidewater. The only course that could be followed, it is argued, after crossing the Chilkoot Pass, to get into a productive country, would be to diverge to the northwest from Lindeman, & traverse that stretch of country lying a considerable distance to the West of Yukon."

Edmonton, Alta., Bridge.—The erection of the superstructure is going on, & it is expected to have the bridge completed by Feb. (Nov., pg. 326.)

Great Northern of Canada. Some members of the management met in Montreal, Nov. 28, with Col. McNaught & other New Yorkers interested in this line, & discussed the building of an elevator at Quebec, to be

and on the ground that the C.N. will secure from the Canada Atlantic at Hawkesbury. It has not yet been decided whether the Co. will build an elevator, or if it will be undertaken by private enterprise similar to the proposition that has been made for Montreal. In any case the elevator, when erected, will have a capacity of 1,000,000 bushels, & it is said it will be started early in the spring & completed in time for the opening of the new route from Quebec to Parry Sound, in Aug. (Aug., pg. 325.)

Another matter that is to come up for decision shortly is the building of a branch line to Montreal from Joliette. The main line, however, is to be completed first.

The contractors' engineer reports that grading is all but completed on the two sections from Shawenegan, Que., west 53 miles to Montcalm, & from St. Jerome, west 35 miles to Hawkesbury. The middle section between Montcalm & St. Jerome, 28 miles has been practically rebuilt. Eight miles of rails are relaid, ties renewed, & culverts & trestles rebuilt. Track laying was begun towards the end of Aug., & including the renewed section, there are 60 miles of rails laid. The section between St. Jerome & Lachute is about completed. At the end of the season there will remain only the section between Lachute & Hawkesbury, & between the Maskinonge River & Riviere du Loup. About 16 miles of ballasting is completed east of Montcalm, & a regular train is running over the old line & to a point 14 miles beyond Montcalm. The superstructure of the Hawkesbury bridge will be begun about Dec. 15, & the contractors must have the false work removed before ice breaks up in the spring. Among the smaller bridges are those over the Maskinonge & Riviere du Loup, each 1,000 ft.; the East Yamachiche, 500 ft.; the Chicots, 350 ft., & the West Yamachiche, 250 ft. (Nov., pg. 326.)

Intercolonial.—The management finds it necessary to secure more room on the northern side of the yard at the St. John, N.B., station, & will be compelled to take possession of Lombard street. In doing this, of course, it will be necessary to make a new street, & to take properties now facing on the street. The operation will be an expensive one, as property has become valuable in that locality. Owners have been approached, but the prices asked are considered so high that expropriation proceedings may be resorted to.

Interprovincial Bridge, Ottawa & Hull. It is now said that the erection of the super-

structure will be commenced this month. A track has been laid from the C.P.R. north shore line to the Hull end of the bridge, so that the material for the superstructure may be taken over it. (Nov., pg. 326.)

James' Bay. Parry Sound townspeople fear that the 5 mile section from the Canada Atlantic to the town of Parry Sound may not be built as proposed. At a recent meeting of the Board of Trade, the Secretary said that Mackenzie, Mann & Co. asked the town to give a bonus of \$15,000, exemption from taxation for 21 years, right of way on town property & a grant of all water frontage owned by the town. The town made a counter proposal to give \$12,000 instead of \$15,000, but no reply was received. Later indications were not wanting that the Co. was seriously entertaining the idea of projecting a line from the vicinity of Maple Lake station north through the Balsam settlement, getting as near Dunchurch and Loring as possible, & on to French River, endeavoring to find a crossing over the French River nearer Lake Nipissing than Contin's Island. The Secretary was authorized to renew correspondence with Mackenzie, Mann & Co. (Nov., pg. 326.)

Kootenay Ry. & Navigation Co.—On Nov. 24 it was stated that this Co.'s subsidiary line, the Bedlington & Nelson, had been completed to within 2 miles of Kuskanook, its terminus on Kootenay Lake, & that it was expected the track would be laid on this short piece a few days thereafter. (Nov., pg. 326.)

Manitoba & Southeastern.—On Dec. 6 we were officially informed that track had been laid from La Broquerie, last year's terminus, to a point 103 miles from Winnipeg, & that the remaining 5 miles to the International Boundary was being graded. Grading from the International Boundary to War Road, Minn., at the southwest corner of the Lake of the Woods, had been completed, & it was expected to have track laid to War Road, 115 miles from Winnipeg, before Christmas. (Nov., pg. 327.)

Midland of Nova Scotia.—Track laying is proceeding between Truro & Shubenacadie River, 15 miles, & it is expected to be completed during Dec. Only the bridge over the Shubenacadie will then remain to be completed. (Nov., pg. 327.)

It is rumored that this line may be extended from Windsor to connect with the Nova Scotia Southern Ry., which is being built from New Germany to Shelburne, N.S. The M.R. Co.'s charter also provides for an extension

of the line from Truro to the Straits of Northumberland.

Northern Pacific.—The branch from Portage la Prairie, Man., northwesterly 20 miles, was opened for traffic Dec. 1, stations having been established at Horizon, Ridgeway, Youill & Beaver. On Dec. 4 the Co. gave a free trip to Winnipeg & return to the residents along the new line, about 1,000 availing themselves of the privilege. The branch from Portage la Prairie, Man., north towards Lake Manitoba, was also opened Dec. 1, stations having been established at Alpha & Town Line. (Nov., pg. 327.)

Interlocking apparatus is being put in at the points at which the N.P. crosses the C.P.R. & the M. & N.W.R., near Portage la Prairie.

It is expected the Co. will erect a large station at Portage la Prairie next year.

Nova Scotia Southern.—President R. G. Hervey favored us with the following information on Dec. 2:—"Our line, now under construction, is from Shelburne Harbor to a junction with the Central Ry. at New Germany, 76½ miles, & from Indian Gardens, a point midway between those towns to Liverpool, 19½ miles more. The contract for the construction of the line was let last January to C. B. Wilkins & Co., who commenced Feb. 1, & have prosecuted the work vigorously. They have laid about a mile of track, using 70 lbs. rails, from New Germany westward to the crossing of La Have River, where they are erecting a steel bridge of 4 spans, 2 of which are now in place, & the other 2 are expected to be finished within the next 10 days. Beyond this, they have 15 miles ready for track; & they are pushing the grading at the same time both from the Shelburne & Liverpool ends, & expect to complete the whole line next summer. Our chief engineer, A. Mitchell, is surveying the line from New Germany into Halifax."

The Chief Engineer reported to the President, Nov. 14, as follows:—"The heaviest portion now building is at the New Germany end, where, about a mile from the junction with the Central Ry., the line crosses the gorge through which flows the La Have River, & then cuts through the hills on the western side of the river. The track is carried over 4 steel spans on granite piers, 45 ft. high. Of this the sub-structure is completed & the spans are building. The track is laid from the Central Ry. to the bridge, & can be laid for 20 miles beyond as soon as the bridges, including 4 other spans between New Germany & Caledonia, are in place. The next heaviest section is the 9 miles beginning at Shelburne at



the southern end & across the valley of the Jordan River. The earth & rock work on this section is about half done, & is being completed by Wheaton & Sons, who have a sub-contract for 15 miles. The entire work yet let is under contract to C. B. Wilkins & Co., to extend from the Central Ry. at New Germany, N.S., southwest to Shelburne, an ocean harbor, with a branch of 19½ miles to Liverpool. This branch is being built by Tupper & Minard, sub-contractors, who are vigorously pushing the grading."

The Act passed at the last session of the N.S. Legislature to revive this Co.'s charter has been put in force by proclamation, but we were informed on Nov. 30 that no contract had been entered into by the Government for payment of subvention. (Nov., pg. 327.)

Reference has already been made to a rumor that the Midland Ry. of N.S., will be extended to connect with this line, & that its charter authorizes it to also extend from Truro to the Straits of Northumberland. The Nova Scotia Southern will connect with the Coast Ry. of N.S., now being built from Yarmouth east, & the extensions of the Midland above mentioned would provide a through line from Yarmouth to the Straits of Northumberland. The Maritime Merchant says: "The amalgamation of these lines & an extension of the service to include a steamship service across the Straits to Prince Edward Island, would result in the building up of an important highway & a large traffic would no doubt be developed. As there already exists a frequent service of steamers between Yarmouth & Boston, this would open up a new route between the Island & Boston which would greatly facilitate travel."

Ontario & Rainy River.—On Dec. 3 we were informed as follows: "Track has been laid west from Stanley for 8½ miles, & it is proposed to lay 40 miles, if possible, this winter, the grading for which will be finished by the middle of Dec. The grading is well under way over the first 100 miles from Stanley & that distance will be finished early next spring. The Rainy Lake bridge will not be built this winter, but material for it will be got out." (Nov., pg. 327.)

D. D. Mann said in a recent interview at Port Arthur that he did not think the line would run into Fort Frances, but would probably be about 6 miles from it.

W. Mackenzie is credited with saying that the O. & R.R. will be completed by 1901, so as to give another through route to Winnipeg, with its connection the Manitoba & South-eastern.

After negotiations between Port Arthur Town Council & Messrs. Mackenzie & Mann, on behalf of the O. & R.R. Ry., a draft agreement has been prepared under which the Co. is to receive a bonus of \$50,000 & exemption from taxation (except for school taxes) for 21 years. In return the Co. will place all its lake terminal works there. Access to the water front is provided for at Arthur & Pearl streets. In an interview while the negotiations were on, Mr. Mann said: "Whatever we do here will be on a scale superior to any work the C.P.R. has done at this point. We expect to put on a line of boats in 1901 that will make 20 miles an hour." He declined to say where the eastern lake terminal would be.

Ottawa & New York. An Ottawa despatch says: The Department of Railways & Canals has accepted plans submitted for protection to the piers of the O. & N. Y. R. bridge, under construction over the St. Lawrence River at Cornwall. The investigation following the accident to the piers revealed the fact that the bottom was solid enough to hold the weight, but owing to the depth of the water & the rapid current it was deemed advisable to reinforce the substructure. It is proposed to rip-rap the pier nearest the island with heavy stone blocks of half a ton or a ton each, piling up sufficient of them to protect

the concrete from ice action. The pier near the Cornwall canal is in deeper water, & to secure it an annular steel caisson will be built & sunk around the present crib several feet below the bottom of the river. This will be filled with concrete, & the new & old material knit together as far as may be to form one solid mass, the whole being tied with cables imbedded in concrete to insure perfect solidity. The work will involve heavy expense, but the railway management is determined to put up a bridge that will stand any possible strain & give absolute security to the travelling public. (Nov., pg. 327.)

Pontiac Pacific Jet.—Of the extension from Aylmer to Hull, Que., about 3 miles has been completed to Deschene. No more track will be laid till spring. The entrance of the railway to the Ottawa central depot from the Interprovincial bridge will entail a considerable amount of hard and expensive work, notwithstanding that the distance is less than a mile. Almost the entire way there is much rock work. Along the line by the Major's Hill park considerable stone work will be necessary, & it is hoped to have most of the foundation completed by the time frost stops this work. It is proposed to continue work all winter, & in order to facilitate operations rails have been temporarily laid from Dufferin bridge along the side of the park. The construction should easily be completed by spring, as heavy steam drills & a good-sized staff of men are now employed, & will be through the winter. (Nov., pg. 327.)

Quebec Bridge.—We are officially informed that nothing definite has yet resulted from the negotiations with one of the firms which put in a tender. (Oct., pg. 296.)

Rutland & Noyan.—See under "United Counties Ry.," pg. 346.

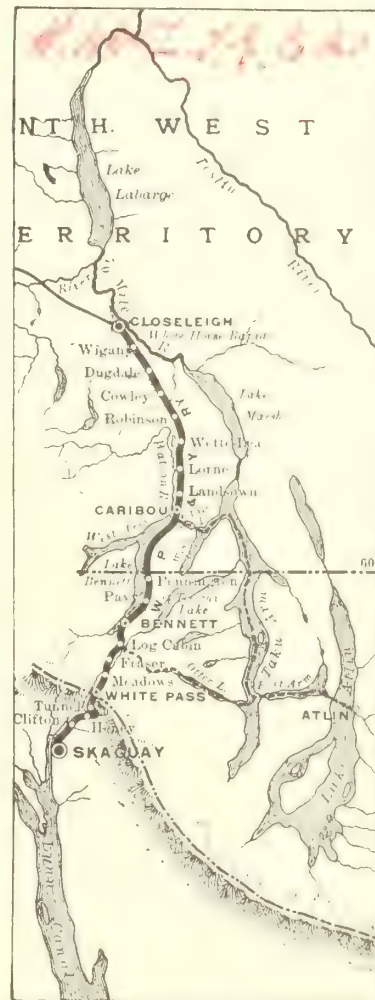
Salisbury & Harvey.—It is said to be the intention to extend this line to Moncton, N. B., crossing the Petitcodiac River near the Moncton bridge, & also to build a branch to the Baltimore shale property. (See pg. 346.)

Tilsonburg, Lake Erie & Pacific.—We are officially informed that this line will be extended from Tilsonburg, Ont., to either Ingersoll or Woodstock, & probably both places next spring, & that there is no truth in the report that the Baltimore & Ohio Ry. will operate it. (Oct., pg. 297.)

The Toronto, Hamilton & Buffalo freight sheds at Hamilton are, it is said, to be enlarged owing to the increase of business.

White Pass & Yukon.—The following official information about the section between the north end of Lake Bennett & White Horse Rapids, was furnished us under date of Nov. 14, "The route from Bennett lies along the east shore of Lake Bennett; the first 12 miles being very heavy rock work—precipitous mountain peaks running directly into the deep water of the lake. The other 15 miles of the 27 are along ordinary mountain-side, & are of more easy or average construction. At the north end of Lake Bennett, at what is known as Caribou Crossing, a bridge about 500 ft. long will be put in with a draw span so as not to interfere with the navigation of the lakes & river. From Caribou Crossing to a point on the river below White Horse Rapids, at the new townsite of Closeleigh, a further distance of 44 miles, the conditions are as follows: The first 13 miles cross a rolling sand-hill country with occasional marshes, being remains of old glacier lakes. Wherever the ground is covered with moss & timber the glacial ice is still encountered in the gravel at a depth of 2 ft. under the moss. Fifteen miles from Caribou Crossing 2 high bridges cross the canyon at the lower end of Lewis Lake. This lake was drained by an earth cut & lowered 75 ft. The road then passes along the east shore of Lewis Lake, crossing former islands & peninsulas, & is of quite remarkable location. At the upper end

of Lewis Lake we again get out into the Watson River valley by a series of deep gravel cuts. From Lewis Lake on there are several miles of nearly level grade & light work along the valley. The line then passes along the shores of Ruth Lake & Cougar Lake & approaches the banks of the Lewes River, in the vicinity of Miles' Canyon. The road is here in very heavy cuts & fills, passing through a series of knolls & deep depressions left by the former glaciers. Just behind the White Horse Rapids the road is placed on a bridge under a steep sand bluff for about ¼ mile, & then emerges on a broad level bench at Closeleigh, in the vicinity of the enormous copper mines which lie at a distance of about 2½ or 3 miles, in almost a semicircular form. The gradients on the line between Bennett & Caribou will be a maximum of 1½%, although



the line as first established will have a very few sections of 2% grade, to be taken out in the near future. Maximum curvature, 15 degrees. M. J. Heney, of Bennett, B.C. is the contractor. At this writing about 30 miles of the work have been graded between Caribou & Closeleigh. Work will be continued all winter. Construction along the lake-side will be commenced by Nov. 20. One engine & work train are now on the track at Caribou. Track-laying will be commenced about Nov. 20, & continued for a distance of 17 miles this fall. The balance of the track will be laid when navigation opens in the spring. The work between Caribou & White Horse is expected to be finished & in operation by June 1. The section along the lake-shore will be put in operation some time in July next. In the meantime goods will be transferred by steamers between the ends of track, Lake Bennett being considered a long ferry." (Nov., pg. 327.)

Canadian Pacific Equipment.

In our Sep. issue we briefly referred to the two magnificent trains which the C.P.R. Co. had then just put on the fast limited run between Montreal & Ottawa on the Short line via Val d'Audouville. The Atlantic type locomotives used on these trains were fully described & illustrated in our Oct. issue. They are giving good service, but have not yet had an opportunity of showing what they are capable of in the way of records. This is due to the fact that the schedule which was intended to be made with them is not yet inaugurated on account of improvements being made in the track. They are at present running between Ottawa & Montreal, 111.4 miles, & are scheduled to make the run in 2 hours & 25 minutes, but the down train from Ottawa is held 5 minutes at Ottawa on account of other sta-

tion work. They make 3 stops, slow down 3 times for diamond crossings, & run slow at Ottawa end about 2 miles, & at the Montreal end about 1 mile, & 6 miles in one place for curves. Extra stops are sometimes made, & they have a record of picking up 15 minutes' detention without any trouble.

Each train also comprises a baggage car, a combination 2nd class & smoker, a 1st class & a parlor car. They were built at the Co.'s Hochelaga shops at Montreal under the supervision of Master Car Builder Apps.

The parlor cars Temiskaming & Lievre are massive structures built on a model to emphasize a lofty ideal & display in detail the architectural perfection prevalent throughout the train. The style used in the ornamentation is the Empire. The large plate glass windows, crowned with beveled plate lights, & the 6 oval windows set with cathedral glass in soft

tints give the cars a very imposing exterior appearance. A considerable amount of ingenuity has been used in planning out the interior, the whole object considered being the comfort of the travelling public. The entrance to the main parlor is along a gracefully curved passage, panelled flush in rich mahogany with inserted carved mouldings. The main parlor has a very striking appearance, being in carefully selected prima vera. The large windows are divided by richly carved panels, each having an inserted oval mirror. The windows, of which there are 12 in this room, are fitted with inside sashes, the plate glass being set in a brass frame hinged to the sash. This, while it adds richness to the window, is intended to facilitate the cleaning of the glass. Each window is fitted with the latest improved fixtures for operating the roller blinds. The whole is finished by rich silk lambrequins &

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$3 to \$4 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$5 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$4 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$4.00 per acre, 1st instalment \$71.00, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

Write for maps and full particulars.

L. A. HAMILTON, Land Commissioner,
F. T. CRIFFIN, - Asst. Land Commissioner,
WINNIPEG.

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Any of these Signs can be shipped on the day an order is received.

SMOKING ROOM

Size 23 x 3½ inches. Oblong, figured ends, white ground, blue letters, lined & tipped:

Waiting Room.	Ladies' Toilet.
General Waiting Room.	Men's Toilet.
Ladies' Waiting Room.	Agent's Office.
Men's Waiting Room.	Freight Office.
Baggage Room.	Private Office.
Dining Room.	Telegraph Office.
Lunch Room.	Ticket Office.
Smoking Room.	No Admittance.

NO ADMITTANCE

Size 10 x 2¼ inches. Oblong, oval ends, white ground, blue letters, lined & tipped, hollowed.

Exit.	No Admittance.
Fire Escape.	No Road.
Fresh To-day.	Office.
Gentlemen.	Please Shut the Gate.
Ladies.	Private.
Lavatory.	Refreshments.
Men.	Women.

STICK NO BILLS

Size 18 x 3½ inches. Oblong, square ends, white ground, blue letters, lined & tipped.

Furnished Apartments. Smoking Prohibited.
Please Shut the Door. Stick No Bills.

PUSH PULL

Oval, size 2 x 3 inches, white ground, blue letters, tipped, hollowed, lettered Push, Pull, as above.

Oblong, size 3 x 1½ inches, white ground, blue letters, tipped, lettered Push, Pull, as above.

Perpendicular, square ends, size 12 x 3 inches, white ground, blue letters, lined & tipped, lettered horizontally or perpendicularly, Push, Pull.

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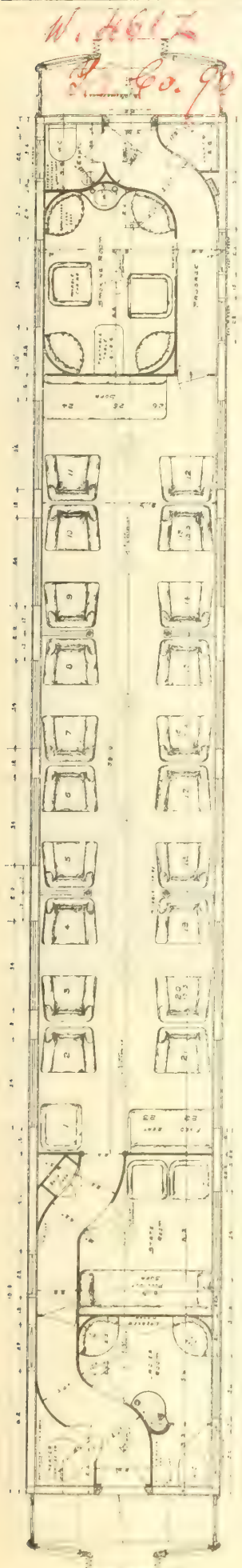
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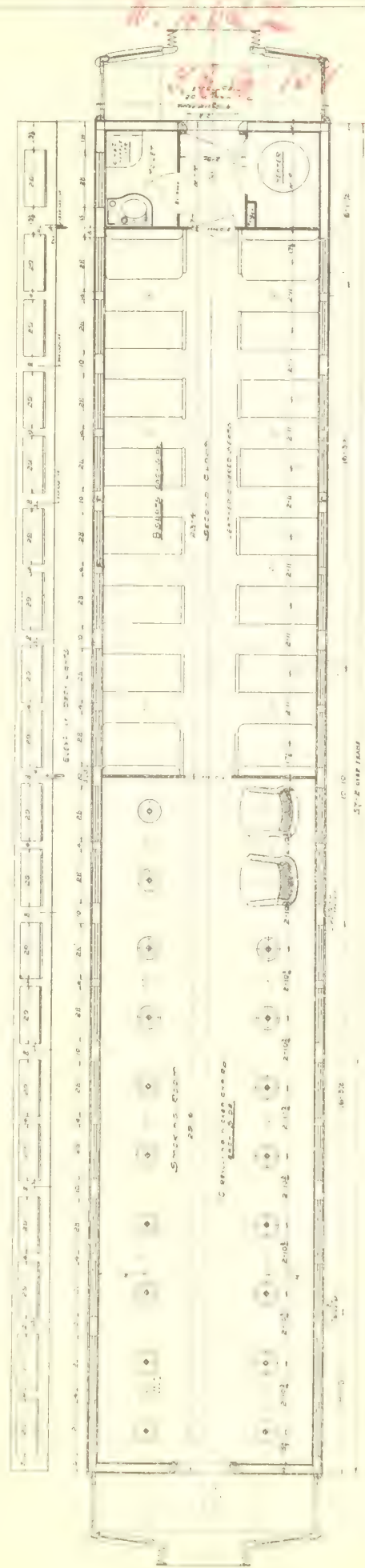


FLOOR PLAN CANADIAN PACIFIC RAILWAY PARLOR CARS, TENISKAMING AND LIEVRE.

draped curtains. The parlor is divided into 3 parts by 2 gracefully constructed arches, which, with artistic brass inserted grills, richly carved columns & draped silk curtains, give a very striking rich effect. The parlor is furnished with 1 settee, 1 sofa & 21 chairs, all being richly covered & upholstered in the Turkish style of upholstery, the carpet having been especially designed for these cars. The lines of the ceiling are in Empire, with a dark olive green ground, ornamented in gold. The whole treatment of the ceiling adds richness to the appearance of the room. The centre ceiling is ventilated by 12 long oval top sashes set with cathedral glass of intricate Empire design. The state room is similar in design to the main parlor, excepting that the wall panels, above the dado, are covered with rich old gold silk. This room also has a large window treated in the same manner as in the main parlor. Rich cathedral glass in the passage partition, a sofa & 2 upholstered wicker chairs complete it. This room is intended for a family or small party. The Co. has made a departure in these cars, as heretofore the male passengers only were considered as entitled to have their separate assembly room in the smoking room. In these cars the Co. has provided a ladies' room, which is as richly decorated as the main parlor, & has a nickelene washstand, drinking cooler, a large mirror, dressing cabinet & 2 cosy seats upholstered in gold bronze plush. This consideration on the part of the Co. will, no doubt, be fully appreciated by ladies. Special mention must be made of the commodious smoking room. On entering this room the attention is at once attracted to the wall panels. These are veneered with a specially selected San Domingo mahogany, the best that could be obtained in the country. The panels are trimmed with carved moulding, & divided by finely carved pilastres, which pass from the floor to the roof. The passage side is relieved by a cathedral window in soft tints of mottled glass. The entrance is draped with a portiere of olive green velours. The room is finished with 4 corner seats upholstered in olive green plush, 2 wicker chairs & a nickelene washstand.

Next in order are the 1st class or day coaches, of which there are 4, which have some new features contributing alike to comfort & elegance. The exterior is similar to the parlor cars, having wide vestibules, steel platforms, mahogany finish & 6 wheeled trucks. The length is 57 ft. 2 in., total length, 65 ft. The inside vestibules at each end are finished in carefully selected mahogany. The main room, when illuminated by the electric lights, has a very elegant appearance. This room is sub-divided by 2 arches across the car, each having 4 fluted columns surmounted with carved capitals supporting the arch, the base of column resting on the seat backs. The bulkheads & side finish are tastefully panelled & embellished with carved pilastres & molding. The ceiling is in the Empire style & richly ornamented in olive green on a gold ground. All the woodwork is beautifully handpolished. The window roller blinds are fitted up with patent fixtures. The seats are of a new pattern, & upholstered in rich terra cotta plush, & the aisle is carpeted with Wilton carpet imported especially for these cars. The seating capacity of each car is 68 passengers. Toilet rooms for ladies & men are located at either end of the car.

The combination 2nd class & smoking cars are in most respects similar to the 1st class, having wide vestibules, steel platforms, & 6 wheeled trucks. The inside is divided into 3 parts, comprised of an inner vestibule, 2nd class compartment, & smoking room. The general design of the inside is similar to the 1st class, the entire car being finished in mahogany & beautifully hand polished. The inside vestibule has a toilet room fitted with a nickelene washstand, a mirror, & flushing



FLOOR PLAN AND ELEVATION OF U.P.R. COMBINATION SECOND CLASS AND SMOKING CARS.

hopper. The 2nd class compartment is furnished with upholstered seats, upholstered in green and red leather. The smoking room is furnished with a wide chair, upholstered in plush. These are arranged along the side of the car, allowing the smoker, as he is enjoying his pipe, to view the scenery. As in the 1st class cars, the bulkheads & side finish is tastefully carved & ornamented with carved panels & mouldings. The lines of the ceiling are of the Empire design, the ornamentation being tastefully carried out in shaded gold on a ground of firm color.

The cars are lighted by electricity, each car generating its own current, steam heated, & equipped with the wide vestibules, standard steel platforms, 6 wheeled trucks, 40 in. steel tire wheels, & Westinghouse quick action high speed triple brakes & air signal. The interior finishings are in old gold mouldings & special design. The method of electric lighting is unique. For emergencies, & in addition to the regular dynamo, under each car is located an auxiliary battery sufficient to light a dozen or more lamps in each car. The battery is connected with the main switch box, & when the dynamo is running is continually being charged, & is therefore ready for instantaneous use. Beside this, there is a connection between each car for use, should the dynamo give out, or the battery on one car become exhausted, whereby power generated on other cars will furnish the necessary lights.

On page 355 we give floor plans of the parlor cars, & of the combination 2nd class & smoking cars.

The Co. has commenced to discard the use of oil lamps in the passenger cars, substituting electric light. Under the system adopted each car has a dynamo attached underneath the car body & ingeniously connected with a belt to the truck axles. Although the light thus furnished is steady & brilliant, it is still in the experimental stage. A large amount of work is being done remodelling & modernizing the older passenger & sleeping cars.

Over 200 standard 30 ton box cars were turned out of the Perth shops during Nov. & they are now being completed at the rate of 11 a day.

No new work is being done at the Farnham shops at present as they are being worked to their fullest capacity on passenger & freight car repair work.

The Minneapolis, St. Paul & Sault Ste. Marie Ry. has ordered 600 box cars of 60,000 lbs. capacity. It is officially stated that the Co. is not in the market for locomotives.

Railway Equipment Notes.

The Canada Atlantic is building 50 flat cars at its Ottawa shops.

The Esquimalt & Nanaimo Ry. is having 200 box cars built, of 60,000 lbs. capacity.

No special orders for equipment were completed in any of the G.T.R. shops during Nov. Many of the locomotives are being fitted with steel snowplows.

An official statement by the management of the Algoma Central Ry. gives the equipment as follows: locomotives 4, passenger cars 10, freight cars 390. This probably includes orders placed & not delivered.

The Great Northern (U.S.A.) passenger cars over the entire system are to be painted olive green. The sombre brown that since the beginning has been the prevailing color is to be done away with & a color in contrast to any other now in use is to take its place.

The White Pass & Yukon Ry. is building more cars than were mentioned in our last issue. The order comprises 50 box, 30 stock & 50 flat cars. Superintendent Rogers is credited by a press despatch as stating that 4 locomotives, 2 compound & 2 simple, have been ordered for Feb. delivery.

During Oct. the Baldwin Locomotive Works broke all records of the establishment in the number of finished locomotives turned out. The product of the works for that month was 104, & as there were 26 actual working days in the month the output represented an average of 4 locomotives a day. The best previous record of the works was 96 in one month some years ago. This was nearly equalled by the output for Nov., when 92 locomotives were turned out. The works are being run to their utmost capacity, & the firm is making strenuous efforts to turn out 100 engines during Dec. A crane with a span of 158 ft. has recently been installed in the erecting shop. It will lift a 196,000 lbs. locomotive 40 ft. in the air, carry it 336 ft. & set it down again in 3 minutes & 36 seconds.

Sydney & Louisburg Locomotives.

Last month we gave an illustration of a large consolidation double end locomotive, recently added to the Sydney & Louisburg Ry.'s equipment, & mentioned that a double end mogul had also been added. An illustration of the latter is given on pg. 357. Following are its general dimensions:

Weight in working order.....172,000 lbs.
" on drivers.....122,000 lbs.

Wheel base, driving.....	13 ft. 2 in.
" " rigid.....	13 ft. 2 in.
" " total.....	32 ft.
Diam. of cylinders.....	19 in.
Stroke of piston.....	26 in.
Outside diam. of first ring.....	62 in.
Working pressure.....	180 lbs.
Thickness of plates in barrel & outside of firebox.....	9-19 in., 1/2 in., 7-16 in. & 5-8 in.
Firebox, length.....	90 in.
" depth.....	Front, 66 1/2 in.; back, 56 1/2 in.
" crown staying.....	Radial stays, 1 in. diam.
" stay bolts.....	7-8 in. & 1 in. diam.
Tubes, number of.....	236
" length over tube sheets.....	12 ft.
Heating surface, tubes.....	1,472.49 sq. ft.
" " firebox.....	125.43 sq. ft.
" " total.....	1,597.92 sq. ft.
Grate.....	26.23 sq. ft.
Water capacity of tender.....	3,700 U.S. gallons
Coal.....	5 tons

RAILWAY APPOINTMENTS, Etc.

Algoma Central.—Following is the official organization of this line up to date: President, F. H. Clergue; Secretary, H. C. Hamilton; Treasurer, B. J. Clergue; General Manager & General Freight & Passenger Agent, E. V. Clergue; Auditor, C. P. Worthington; Purchasing Agent, A. M. Harnwell; Master Mechanic, W. H. Munro; Master Car Builder, Robert Lang; Master Car Painter, T. H. Baker; Foreman Repairs, H. Derrer; Chief Engineer, J. A. Wilde; offices, Sault Ste. Marie, Ont.

Central Vermont.—W. J. Robertson having resigned, Jas. Coleman has been appointed Master Car Builder; office at St. Albans, Vt.

J. A. Southard having resigned, the office of Division Freight & Passenger Agent at New London has been abolished. All reports & correspondence will hereafter be addressed to the undersigned, J. Pullen, General Freight Agent, and S. W. Cummings, General Passenger Agent.

F. W. Baldwin having resigned, C. E. Soule has been appointed Superintendent; office at St. Albans, Vt.

W. T. Sutphen, heretofore Chief Train Despatcher, has been appointed Assistant Superintendent of the Southern Division; office at New London, Conn.

S. B. Kramer has been appointed Chief Train Despatcher, vice W. T. Sutphen, promoted; office at St. Albans, Vt.

Grand Trunk.—G. F. Cotter, whose appointment as Chief Train Despatcher at Montreal we announced in our last issue, was formerly Chief Train Despatcher for the Illinois Central at Jackson, Tenn. B. D. Benson, heretofore with the Western New York & Pennsylvania at Buffalo, N.Y., has been appointed Assistant Chief Train Despatcher.

Early in Nov. Jos. Robb, for many years

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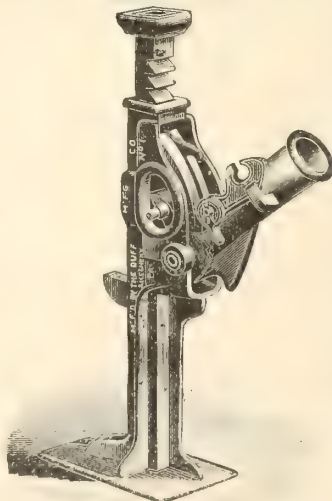
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foreman of the Brockville, Ont., shops, resigned, being succeeded by W. Marshall, of London, Ont., who was only able to hold the position a few days, owing to illness. J. McKay, of Stratford, has since been appointed.

Intercolonial & P.E.I.—J. B. Lambkin, District Passenger Agent, Halifax, & H. A. Price, District Passenger Agent, Montreal, have been appointed assistant general passenger agents, each with headquarters as at present. Mr. Lambkin will still attend to the duties of District Passenger Agent east of Dalhousie, N.B., & Mr. Price to the duties of District Passenger Agent west of Dalhousie, N.B., including Dalhousie.

W. H. Price, Chief Clerk in the General Passenger Department, has been appointed New England Agent, with headquarters at Boston, Mass., a new office. H. H. Melanson, Rate Clerk in the Department, has succeeded Mr. Price as Chief Clerk.

H. J. Scriver, who was mentioned in our last issue as having been succeeded as City Passenger Agent at Montreal by J. W. Bryson, has been retained as a clerk in that office.

Spokane Falls & Northern.—C. Shields, Vice-President & General Manager of this

Mainly About People.

Jas. Ross, of Montreal, has succeeded the late Hugh McLennan as a director of the Bank of Montreal.

Sir Rivers Wilson, President of the G.T.R., & Lady Wilson, are spending some weeks at Brighton, Eng.

R. A. Ross, Consulting Electrical Engineer for the C.P.R., has returned to Montreal after making a tour of the world.

The Duke of Cambridge was recently the guest of Lord & Lady Mount-Stephen at Brocket Hall, Hertfordshire, Eng.

J. A. Cuttle has been appointed Manager pro tem. of the Montreal Transportation Co., in place of the late D. G. Thomson.

N. Tomney, C.P.R. Store-keeper at Moose Jaw, Alta., was run over in the yard there recently by a car & instantly killed.

It is said the office of the General Freight Agent of the Dominion Atlantic Ry. is to be removed from Halifax to Kentville, N.S.

Mrs. J. T. Craig, daughter of D. Brown, Assistant General Freight Agent G.T.R., Chicago, died there Nov. 29, aged 31.

C. McGrath, of Lethbridge, Land Commissioner of the Alberta Ry. & Coal Co., is to be married in Montreal, Dec. 19, to Miss Mabel Galt, daughter of the late Sir A. T. Galt.

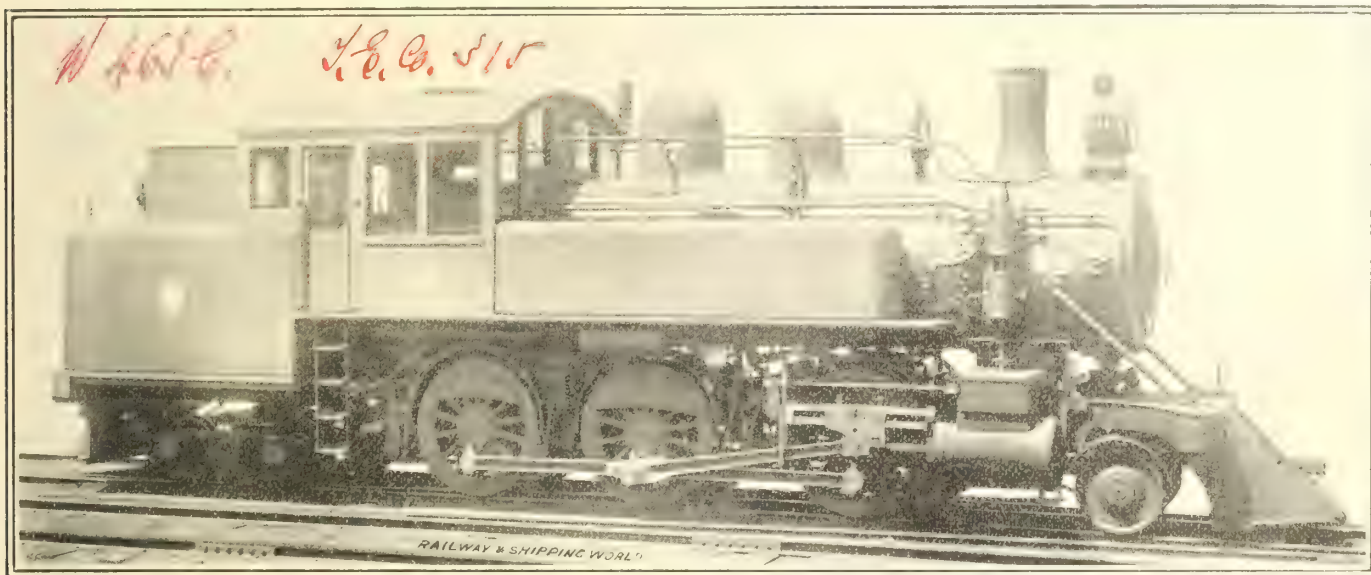
D. G. Sturrock has been appointed Manager of the Toronto office of the C.P.R. Co.'s Telegraphs, succeeding A. W. Barber, promoted to the Superintendency of the Ontario Division.

D. Budge, of Halifax, has been appointed General Superintendent on this side of the Atlantic of the Halifax & Bermuda Cable Co. & the Direct West India Cable Co., with quarters in Halifax.

Winnipeg Town Topics mentions a rumor that W. R. Baker, General Manager of the Manitoba & Northwestern Ry., & Mrs. Baker are contemplating a prolonged visit to the Southern States.

Just before the recent Manitoba elections, Hon. Hugh J. Macdonald resigned the solicitorship of the C.P.R. Land Department & retired from the firm of Macdonald, Tupper, Phippen & Tupper.

C. A. E. Huddart, midshipman on H.M.S. Doris, who was killed recently while fighting



DOUBLE-END MODEL LOCOMOTIVE FOR SYDNEY AND LOUISBURG RAILWAY.

line, & Assistant General Superintendent of the Great Northern (U.S.A.), has resigned. He was at one time on the Western Division of the C.P.R. P. T. Downs has succeeded him on the G.N., but we are not advised as to the filling of the S.F. & N. vacancy.

Wabash.—R. Doyle has been appointed Trainmaster of the Buffalo Division, with headquarters at St. Thomas, Ont., succeeding T. J. Costello, resigned.

White Pass & Yukon. The officers are: S. H. Graves, President, Chicago; E. C. Hawkins, General Manager; S. M. Irwin, Traffic Manager; E. B. Hussey, General Purchasing Agent; A. L. Berdoe, Auditor, all with offices at Seattle, Wash.; F. C. Elliott, Secretary; J. W. Probert, Treasurer, with offices at Chicago; J. H. Hislop, Assistant Chief Engineer; J. P. Rogers, Division Superintendent, with offices at Skagway, Alaska; F. P. Meyer, City Passenger & Freight Agent, Seattle; J. H. Greer, Commercial Agent, Victoria, B.C.; C. W. Cook, Agent, Tacoma, Wash.; C. W. Joynt, General Agent at Skagway; A. H. B. MacGowan, Agent, Vancouver, B.C.; S. P. Brown, General Agent, San Francisco; S. E. Adair, Agent, Dawson, Yukon.

Mrs. J. G. Hampton, wife of the Superintendent of the North American Telegraph Co., died at Deseronto, Ont., Nov. 20, aged 33.

A. Fairbairn, Paymaster of the Montreal St. Ry., has been appointed Comptroller of the West India Tramway Co. at Kingston, Jamaica.

W. Ellis, at one time Superintendent of the Welland Canal, died at St. Catharines, Ont., Dec. 15, aged 75. He was formerly a railway contractor.

The office of W. Kelly, Jr., General Passenger Agent of the Niagara Gorge R.R., has been removed from Buffalo, N.Y., to Niagara Falls, N.Y.

W. G. Ross, Comptroller of the Montreal Street Ry., has been elected Second Vice-President of the Street Railway Accountants Association.

It is said the General Passenger Agent & the General Freight Agent of the Intercolonial Ry. have each had their salaries "increased from \$2,100 to \$2,400.

D. S. McKenzie, night chief of the C.P.R. Co.'s telegraph office at Vancouver, has been appointed Manager of the Government telegraph office at Dawson, Yukon.

at Graspan, South Africa, was a son of Jas. Huddart, who is well known in Canada in connection with the Canadian-Australian steamship service.

Capt. T. H. Browne, of Montreal, died recently at Havana, where he went as engineer for the electric railway. He was at one time engaged on the construction of the Montreal & Ottawa Ry., & afterwards became Dominion Government architect for the Province of Quebec.

B. S. Jenkins, recently appointed General Superintendent of the C.P.R. Co.'s Telegraphs west of Fort William, has been Superintendent of the Western Division since 1883. Then the Winnipeg office staff consisted of the manager, 2 clerks, 4 operators, & 3 or 4 messengers. To day it has 15 clerks, 40 operators & 30 messengers.

E. V. Holcombe, Superintendent of Sleeping & Dining Cars, Great Northern Ry. (U.S.A.), died suddenly in the street in St. Paul, Minn., Nov. 26, of heart disease. He was born in Cincinnati, Ohio, in 1834, was at one time a steamboat captain on the Mississippi & was afterwards Manager of the Winnipeg & Western Transportation Co. at Winnipeg.

A. W. Barber, recently appointed Superintendent of the Ontario Division of the C.P.R. Co.'s Telegraphs, was born in Toronto 15 years ago, & has been in telegraph work all his life. He was with the Montreal Telegraph Co. as a boy, then with the Dominion, & later was Manager of the Canadian Mutual Telegraph Co. Fourteen years ago, on the organization of the C.P.R. Co.'s Telegraphs, he entered its service.

Sir Geo. Kirkpatrick, who died at Toronto Dec. 13, was a director of the C.P.R. Co. & President of the Dominion Express Co. The body was taken from Toronto to Kingston, Ont., by a special C.P.R. train & was buried at Cataract Cemetery. Among the pallbearers were Sir Wm. Van Horne, T. G. Shaughnessy, E. B. Osler & W. D. Matthews, of the C.P.R. directorate; J. Cassells, Secretary of the Dominion Express Co., & Nicol King.

W. J. Camp, recently appointed Superintendent of the Eastern Division of the C.P.R. Co.'s Telegraphs, was born in 1855, commencing his telegraph career with the Dominion Telegraph Co. in 1874, under C. R. Hosmer. He held various positions in the telegraph companies in Canada & the U.S. until 1886, when he entered the employ of the C.P.R. Co.'s Telegraphs as electrician, which position he held up to the time of his present appointment.

Jas. Kent, recently appointed Manager of the C.P.R. Co.'s Telegraphs, was born in Montreal, Jan. 15, 1854. He entered the service of the Montreal Telegraph Co. as messenger shortly after leaving school in 1868. He was promoted to the operating room as check boy, & after a short time became an operator. After working as such for five years, he was appointed night chief, & subsequently day chief for the same Company, which position he held until 1886, when he resigned to accept the position of chief operator of the C.P.R. Co.'s telegraphs at Montreal, which opened for business that year. In 1890 he was promoted to the superintendency of the eastern division of the system, & held this position up to the time of his present appointment.

James Guthrie Scott, whose portrait appears on pg. 345, of this issue, is the son of the late Hugh Erskine Scott, of Quebec, Manager of the Montreal & Quebec steamers. The ancestors of his mother, nee Margaret Chillas, who were of Scotch & Acadian stock, went to Quebec in 1759. He was born in Quebec City, Feb. 13, 1847, was educated at the High School there, & commenced his business life in the lumber trade, being con-

nected with the Montmorency & Three Rivers mills for a number of years. He entered railway service in 1875 as Secretary of the Quebec & Lake St. John Ry., of which he is now Secretary & Manager. In 1893 he became also Secretary & Manager of the Great Northern Ry. of Canada. He is a member of the Church of England, & politically is neutral. In 1863 he married Sophy Mary, daughter of the late Alfred Jackson, M.D. She died in 1892.

Hugh McLennan, President of the Montreal Transportation Co., died suddenly Nov. 21. He was born in Glengarry, Ont., in 1825, & received his education there. In 1842 he went to Montreal & entered the service of the line of steamers plying between Montreal & Kingston as purser. In 1850 he became wharfinger & freight agent for the company in Kingston, & in 1851 he removed to Montreal in the same capacity. In 1853 he & his brother John founded the firm of J. & H. McLennan, which carried on a grain & transportation business until John retired in 1867. The business was then enlarged, under the title of the Montreal Transportation Co., & Hugh McLennan was made its President, a position he held until his demise. He was also very largely engaged in the grain trade, & was one of the heaviest shippers from Montreal. He was at one time President of the Intercolonial Coal Co. & the Black Diamond Steamship Co., & was for some time the Board of Trade's representative on the Harbor Commission, besides holding other important offices.

Chicago & Grand Trunk Ry.—It was recently announced that the time for depositing the Co.'s 2nd mortgage 5% bonds with Glyn, Mills, Currie & Co., London, Eng., on behalf of the trustees, had been extended from Dec. 1 to 15.

Grand Trunk Betterments.—In addition to the work enumerated on pg. 348, a great many bridges have also been built, the number from Montreal to Island Pond being 35, with a total measurement of 2,966 ft., all of steel & masonry, & capable of carrying the very heaviest traffic that can possibly pass over the road. Between Montreal & Brockville, 1,071 ft. of bridging has been done, 206 ft. being double tracks at Ste. Anne, with 71 ft. at Suspension Bridge, N.Y. Masonry is also being completed for steel bridges at Ste. Anne, 1,330 ft.; Vaudreuil, 1,380 ft.; Isle Perrot, 142 ft.; and the Trent River at Trenton, 438 ft., making a total of 3,290 ft., all of which will be in position early in the new year. The G.T. has employed from 350 to 500 men in track laying during the last 3 months, & the force was

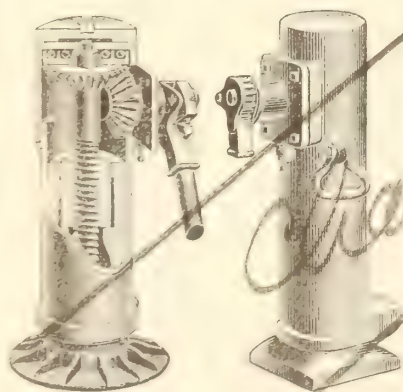
largely increased after the strike, to make up for the 5 weeks that had been lost. There have been from 4,000 to 4,500 men at work on maintenance of way, the line comprising 4,180 miles, 450 of which is double track.

Fire Fighting by Railway Employees.—The Ontario Deputy Commissioner of Crown Lands, as referee appointed by the High Court to decide a claim by O'Neil & Ferguson, railway contractors, against the St. Anthony Lumber Co., has handed out his decision. The contractors were constructing a section of the Ottawa, Arnprior & Parry Sound Ry. when a fire broke out in the St. Anthony Co.'s limits near Whitney. At the request of the Ontario bush rangers the railway men fought the fire, about 200 men being engaged on & off for a week. The contractors asked the St. Anthony Co. to pay the actual wages of the men for the time so employed. The request was refused, on the ground that the railway construction contributed to the fire, & that the bush rangers were not agents for the Co. There was a great bulk of evidence, & judgment was given against the St. Anthony Co. for \$653. Mr. White found that the rangers have power to call for assistance in the event of fire at the expense of the lessees. If his finding is sustained by the High Court, the decision will form a most important precedent.

Manitoba & Northwestern Ry. The selection of M. & N.W.R. lands, made jointly by the Manitoba Government & the Co., under an act passed last session of the legislature, has been completed. The arrangement was that the Co. should transfer to the Government 542,000 acres of its land in settlement of claims against it. This has been selected—213,000 acres in Manitoba & the balance in the Territories. The inspectors who made the selection state that they found extensive tracts of the very finest agricultural lands northwest of Yorkton, & that Manitoba will have a valuable asset in the lands.

The M. & N.W.R. Co. gives notice of application to the Dominion Parliament for an act authorizing it to complete within 7 years from the passing of the act an extension of the main line from Yorkton to Prince Albert, an extension of the Shell River branch from Russell to the northern or western boundary of Manitoba, a branch from the main line between Portage la Prairie & Arden running northerly eastward of the Riding Mountains to the northern or western boundary of Manitoba, & a branch from the main line between Westbourne & Beautiful Plains northwesterly in the direction of Lake Dauphin or Duck Mountains.

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RAILWAY PROJECTS.

Alaska & Northwestern.—Belcourt & Ritchie, solicitors, Ottawa, give notice of application to the Dominion Parliament, for the incorporation of a company to build & operate a railway from or near Pyramid Harbour, Lynn Canal or from or near the International Boundary in the vicinity of Lynn Canal, through the Chilkat Pass, & by the Dalton Trail to or near Fort Selkirk, Yukon, & with other powers.

Atlin to Discovery, Etc.—Langley & Martin, solicitors, Victoria, give notice of application to the B.C. Legislature to incorporate a company to build & operate a tramway from Atlin to Discovery, Cassiar District, & from either or both those places to any other places in Cassiar district, & with other powers.

C.P.R. Projects.—The C.P.R. will be very active at Ottawa next session. In addition to the applications enumerated in our last issue, pg. 325, & to applications for extension of time in connection with the completion of the Crow's Nest Pass, & Arrowhead & Kootenay lines, applications will be made as follows:—

For power to build, or acquire & operate a railway from or near Morden on its Pembina Mountain Branch, to or near Miami, thence to or near Carman, Man.; also a railway from between Hartney & Souris, on its Souris branch, to between Boissevain & Ninga on the Manitoba & South Western Colonization Ry.

For power to construct, or acquire & operate a railway from Osborne on its Pembina Mountain Branch, to between Manitou & Morden on the said branch; also from Osborne to Carman & thence westerly & south-westerly to the line of the Manitoba South-Western Colonization Ry. between Cartwright & Boissevain; also from a point on its Souris branch, between Lauder & Monteith, easterly & north-easterly to between Glenboro & Treesbank on the Glenboro extension of that branch; & also from West Selkirk northerly & north-westerly direction to a point on the west shore of Lake Winnipeg about 60 miles, thence north-westerly to the Little Saskatchewan River.

Cassiar Tramways.—E. A. Jenns, solicitor, New Westminster, gives notice of application to the B.C. Legislature to incorporate a company to build & operate tramways & telegraph & telephone lines in Cassiar district, & with other powers.

Fort Simpson, Teslin & Dawson Ry. Co.—D. Scott, solicitor, Ottawa, gives notice of application to the Dominion Parliament to incorporate a company under this name to build & operate a railway from or near Fort Simpson, B.C., to Dawson, Yukon, via Teslin Lake, & with other powers.

Grand Forks, B.C., to Republic, Wash.—There has been a lot of talk lately about building a line between these points. First, rumor said it was to be done by the C.P.R., then the Great Northern (U.S.A.) was spoken of. When both these companies denied the impeachment, J. P. Graves, of the Grand Forks smelter, said, "If nobody else undertakes it, we are prepared to build it next year. No doubt our smelter at Grand Forks would receive considerable tonnage from the Republic mines."

A little later C. J. McCuaig, the Montreal mining broker, who is largely interested in mines in B.C. & in Washington, said, "If President Hill, of the Great Northern, who has held a charter for two years, authorizing the building of a line from Republic to the Boundary line, will not give assurances at once that he intends to go ahead without delay, I will undertake with my associates to build the road next summer. Connection will be made at the Boundary with a five-mile railway from Grand Forks. In this relation I am considering a project for the establishment of

a matting plant at Grand Forks for the B.C. mine & the Republic mine. A large quantity of the higher grade ore of the Republic camp would naturally seek the smelter at Grand Forks. The route between the two places presents no difficulties from an engineering standpoint. The water-grade of the Kettle River can be followed nearly all the way."

Next Mackenzie, Mann & Co. were mentioned by a Grand Forks correspondent, who said that Hugh Sutherland had been over the line in their interest. In an interview at Republic he was credited with saying: "Prosperity would, of course, come more expeditiously if you had proper transportation facilities, & I can speak with all assurance that if a U.S. railroad is not built into Republic from the south in the near future, a line will be built from the north. Further than this I am not at liberty to speak on the question."

A St. Paul, Minn., despatch says: "The Great Northern will not build its Republic line this year. This information comes from a high official of the Co., who added that Mr. Hill says further that when he does build into Republic it will not be up the San Poil River, but from a line he intends to construct into the Okanagan country. A business man who has mining interests in Republic camp, recently sounded Mr. Hill on the matter of his proposed line into Republic, & quotes the Great Northern chief as saying: 'I shall not build in there at present. The tonnage will not justify the extension. The ores there yield to local treatment, & those fellows need not expect me to build a railway to haul out nothing but gold bullion.'"

The Grand Valley Ry. Co. gives notice of application to the Dominion Parliament for an act to empower it to acquire & operate a line of ferry boats running from Port Dover, Goderich & other points to all points on the Great Lakes; to build & operate a railway from Goderich through the counties of Huron & Perth, passing through or near Leadbury, Milverton & Heidelberg, to Berlin, thence southerly through or near Blair, Preston, Galt, Ayr, Paris, Brantford, Waterford & Simcoe, to Port Dover, also branches running from Berlin to Listowel, to Elora, & to Stratford; to empower the Co. to connect with & enter into running arrangements with railways situate within a distance of 3 miles from any portion of its line; to authorize the Co. to build & operate telephone & telegraph lines for commercial purposes, & to sell & lease electricity; to change the name of the Co. to the Port Dover, Grand Valley & Goderich Ry. Co.; to increase the capital stock to \$2,600,000; to ratify & confirm the Ontario statutes, 1895, chap. 97, & 1896, chap. 102; to authorize the Co. to enter into agreements with the Michigan Central Ry. Co., & the Wabash Ry. Co., for connections & traffic arrangements; to have it declared that the Co.'s railway is under & subject to The Railway Act of Canada.

Greenwood & Phoenix Tramway Co. C. R. Naden, D. Ross & G. H. Collins give notice of desire to form a company under this name, under the B.C. Tramway Company Incorporation Act, to build & operate a tramway running northerly & southerly through Greenwood, thence easterly to Phoenix; also from Greenwood westerly to Deadwood Camp; from Greenwood northerly to Long Lake Camp & from Greenwood to any point within a radius of 15 miles to which the Co. may wish to extend its tramway, also with power to build & operate telegraph or telephone lines in connection with the tramway, & with other powers.

Greenwood & Vicinity.—Leamy & Gray, solicitors, give notice of application to the B.C. Legislature for an act to enable the city corporation of Greenwood to build & operate a tramway from Greenwood to Phoenix Camp,

Deadwood Camp, Long Lake Camp, Central Camp, & any other point within 15 miles of Greenwood, & with other powers.

Guelph to Goderich.—At a meeting in Guelph, Ont., Dec. 14, there were 84 delegates representing Guelph, Goderich & the 23 municipalities through which the proposed line would pass. The extension of the C.P.R. westerly to Lake Huron seemed to be regarded as the most feasible scheme for supplying the desired railway facilities. The construction of this line would, it was estimated, involve an expenditure of about \$11,000 a mile, or a total of about \$1,000,000. There are no great engineering difficulties to be overcome. The Guelph Jct. Ry. Co.'s line from Guelph to Campbellville, 16 miles, would form the link from the main line. To the construction of this Guelph contributed \$200,000, & it now holds bonds of the Co. to that amount. At the time the building of the junction line was proposed, the intention was to go to Schaw, but the railway was carried to Campbellville, 5 or 6 miles further, on the strength of an alleged promise by Sir Wm. Van Horne, that eventually it would be extended to Goderich. The delegates were of opinion that in view of the large expenditure by the Dominion on Goderich harbor, the Dominion should be called upon to subsidize a project for giving that port more direct communication with the east. The views of the conference were embodied in a series of resolutions. One of these declared in favor of the extension of the Guelph Jct. Ry. to Goderich, in view of the great need of that section of Ontario for railway communication, & the fact that Goderich had been made a harbor of refuge, & was the natural outlet of that part of the province for trade with the Northwest. Another resolution requested Toronto's co-operation. A committee was appointed to further the scheme, Mayor Nelson, of Guelph, being Chairman, & W. E. Buckingham, of Guelph, Secretary.

Horseshoe Bay to Alberni Canal, Etc.—Bodwell & Duff, solicitors, Victoria, give notice of application to the B.C. Legislature to incorporate a company to build & operate a railway from Horseshoe Bay, Nanaimo district, Vancouver Island, north-westerly via Nanaimo Lakes, to the head of Alberni Canal, with a branch to the headquarters of Chemainus River, & with other powers.

Johnston Strait to Upper Campbell Lake.—Davis, Marshall & Macneill, Solicitors, Vancouver, give notice of application to the B.C. Legislature to incorporate a company to build & operate a railway from Johnston Strait, Vancouver Island, a short distance west of Chatham Point, to Upper Campbell Lake, with a line from the main line to Johnston Strait, a short distance east of Bear River; & a branch to the Salmon River, & with other powers.

Kootenay & Yale Tramways.—Macdonald & Johnson, solicitors, Nelson, give notice of application to the B.C. Legislature to incorporate a company to build & operate tramways, telegraph & telephone lines in Kootenay & Yale districts; to acquire the business, etc., of the Nelson Electric Tramway Co., & of the Rossland & Sophie Mountain Electric Ry. Co., & with other powers.

Lake St. John Ry.—There is a strong agitation in the northern part of Quebec for the extension of this line to James Bay.

The Lindsay, Bobcaygeon & Pontypool Ry. is projected to run from Bobcaygeon, via Lindsay, to the main line of the C.P.R. at or near Burketon, Ont. The promoters have been very active of late holding meetings in the towns & rural municipalities interested, & bonus by-laws are being submitted in several municipalities. The line, if built, will practically be an extension of the C.P.R. to Lindsay.

The Pontiac Pacific Jct. Ry. gives notice of application to the Dominion Parliament

for an act authorizing it to build & operate a railway from or near Quyon, or Shawville, Que., to Pembroke, Ont., & to construct a line of its railway not exceeding 30 miles. The C.P.R. runs from Ottawa 80 miles to Waltham, which is on the Quebec side of the Ottawa River, about opposite Pembroke. Quyon is 32 miles from Ottawa, & Shawville 40 miles, both being on the C. & S. line.

Pyramid Harbor to Dawson. Logan, Jenks & Outhit, Solicitors, Amherst, N.S., give notice of application to the Dominion Parliament to incorporate a company to build & operate a railway from or near Pyramid Harbor, on the Atlantic Inlet, near the head of the Foul Bay Canal, or from the International Boundary line at or near Kluckwan, to Dalton's Post on the Dalton Trail, following the Dalton Trail to Fort Selkirk, thence to Dawson City, & with other powers.

Vancouver & Lulu Island. Notice is given of application to the B.C. Legislature to extend the time for the completion of this line.

Vancouver Island & the Mainland.—The Victoria City Council has been presented with a largely signed petition, asking it to pass & submit to the ratepayers a by-law authorizing the city corporation to subscribe for stock not exceeding \$500,000 in any company incorporated for the purpose of acquiring & operating the Victoria & Sidney Ry., & of extending it into the business part of the city of Victoria, & to a convenient harbor north of Sidney; & for the purpose of establishing & operating a ferry system between such extension on the Saanich peninsula, & some convenient point on the mainland of B.C. south of the Fraser River, & also for building & operating a railway from such point on the mainland through Delta, Surrey, Langley, Matsqui, Sumas & Chilliwack, or such portion of the proposed undertaking or any alternative as may be deemed most in the public interest.

A. L. Belyea, Solicitor, has given notice of application to the B.C. Legislature to incorporate a company to carry out the scheme outlined in the above mentioned petition. (Nov., pg. 334.)

Victoria to Eastern Boundary of B.C. Dumbleton & Anderson give notice of application to the B.C. Legislature to incorporate a company to build & operate a railway, with telegraph & telephone lines, from Victoria to the eastern boundary of the province, with branch lines from the main line to mining camps or coastal points, & with other powers.

Kootenay Railway & Navigation Co.—We are advised that the shareholders' meeting this year will be of a purely formal character. The Co. assumed possession of the property on Jan. 1 last, & as the books are closed in Canada on Jan. 30 each year, there will be no report or accounts to submit to the shareholders until after June 30, 1900, when a period of 18 months will be covered.

Railway Committee of Privy Council.

Lake Erie & Detroit River Ry. & Michigan Central Ry.—When the Dominion Parliament last session voted a subsidy for the extension of the L.E. & D.R. from Ridgetown to St. Thomas, Ont., it was provided that it should be payable only in the event of adequate running rights over the Canada Southern Ry. between the points mentioned not being granted to the L.E. & D.R., on terms to be approved by the Railway Committee. The case came before the Committee Nov. 7, when Z. A. Lash for the L.E. & D.R. intimated that that Co. would pay to the M.C. interest on the expenditure necessary to build a line from Ridgetown to St. Thomas, with other alternatives. He held that no advantage in the way of precedence in running rights should be given the M.C., as in that event the concession would be of no avail. Local communities & customers would inevitably be disappointed in the freight service to be furnished by the L.E. & D.R. line. Nothing short of precedence of its trains would answer the requirements of the district.

Nicol Kingsmill, Q.C., for the M.C., stated that that Co. objected to the granting of a bonus for the extension of the L.E. & D.R. The object of asking the bonus was to fill the gap that would interfere with its going to the Niagara River. The country between St. Thomas & Ridgetown had been made by the Canada Southern, which had received no bonus from the Dominion Government. The M.C., nevertheless, was ready to meet the L.E. & D.R. Co. half way, or was prepared to have it construct a line, but the M.C. objected to the Government bonusing a line that would be in opposition to the non-bonused Canada Southern. The L.E. & D.R. Co., he held, wanted the bonus & not the running powers. The M.C. would be ready to give the through passenger trains of the M.C. precedence, then the L.E. & D.R. through passenger trains, next the local passenger trains of the two companies to have equal rights; next the through freight trains of the M.C. with live stock or perishable freight, & finally the similar trains of the L.E. & D.R. Local trains to have equal rights, & special arrangements to be made for special trains. The L.E. & D.R. not requiring the use of M.C. terminals, the former line would not be compelled to use them & pay therefor.

Mr. Lash thought the proposed arrangement in respect of precedence of trains would be unsatisfactory.

The L.E. & D.R. Co., Mr. Kingsmill asserted, had offered an inadequate sum for the annual lease of the line. The part of the line referred to was worth about \$1,000,000, & the M.C. would accept \$25,000 a year for running rights. The cost of maintenance of the L.E. & D.R.'s own line would be about \$30,000 a year. The Minister of Railways having enquired if the rental asked was agreed on would the M.C. put down a second track, Mr. Kingsmill said 19 miles of this stretch

of the line was double tracked already, & if the Government would give \$3,200 a mile for the remaining 25 miles, the M.C. would certainly double-track it.

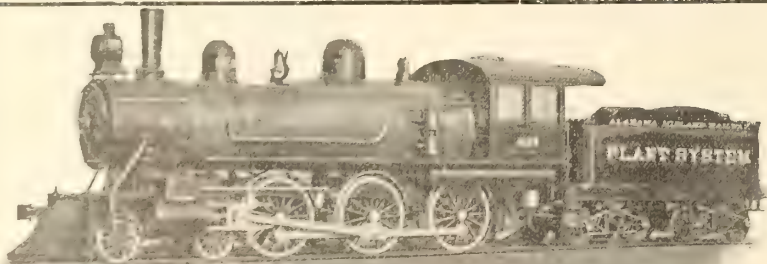
Judgment was reserved.

Metropolitan Ry. Co. & C.P.R.—An application to the M.R.Co., to connect its track with the C.P.R. by a switch on the west side of Yonge st., North Toronto, came before the Committee Nov. 7, B. B. Osler opposing for North Toronto & J. S. Fullerton for Toronto. Mr. Osler contended that the Committee had not jurisdiction to consider the application, sec. 173, defining the Committee's powers, not providing for the union of an electric railway with a steam road. Mr. Fullerton contended that the Committee had no power to direct the M.R. Co. to occupy any portion of Yonge st. without the consent of Toronto, W. Burwick, Q.C., for the M.R. Co., maintained that it was a railway within the meaning of the Act, the Co.'s charter including all the provisions of the Ontario Railway Act.

The matter was adjourned to Nov. 11, when a compromise was arrived at, Mr. Fullerton consenting for Toronto to an order being made without prejudice to the rights of other parties. Mr. Osler, for North Toronto, asked the Committee first to refer the case to the Supreme Court to settle the question of jurisdiction to unite the two railways, & suggested that if freight trains were to be permitted to pass over the M.Ry., it should be on a time schedule, so that the public might know at what hours Yonge st. would be safe for vehicular traffic.

After the Committee had consulted, it was announced by Mr. Blair that in the matter of jurisdiction the members were unanimously of opinion that they could act on the case. There did not appear to be sufficient reason why they should delay action or refuse to make an order in this case. It was therefore made as follows:

"The Metropolitan Ry. Co. having applied to the Railway Committee for permission to connect its tracks with the tracks of the C.P.R. by means of a switch in the city of Toronto, & the Committee having heard counsel for the applicant, the city of Toronto, the town of North Toronto, the County of York, & the C.P.R., respectively, & having duly considered the evidence submitted, & counsel on behalf of the city of Toronto consenting thereto, hereby approves of the applicant connecting its tracks with the tracks of the C.P.R. by means of a switch in the city of Toronto on the following conditions, that the connection is to be made on the east, not the west, side of Yonge st.; the applicant to pay all the cost of the change of location up to \$2,500. Should the cost exceed this amount the excess is to be borne by the applicant & the city of Toronto, so that the city shall not be liable for more than one-half of such excess. The point where the line of the applicant shall connect with the tracks of the C.P.R. to be on the property of the C.P.R., between its present northerly track & the southerly building north



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of said track. The applicant shall not run freight trains of more than 3 cars, exclusive of the motor, on Yonge st., & shall not run freight trains at a greater speed than 6 miles an hour through the towns, unincorporated villages, the unincorporated village of Thornhill, & that part of Yonge st. south of North Toronto, or on any other part of Yonge st., at a greater speed than 15 miles an hour. The applicant shall not operate its railway by any other power than electricity on Yonge st., & in its operation shall be subject to such agreements as may be or have heretofore been entered into between the County Council of York & the applicant. This order is subject to the reservation of the right by the Committee, & the recognition of said right by the applicant, to make such orders as may hereafter be deemed expedient respecting the time & mode of running freight cars & trains. Truck cars run in connection with a passenger car or cars shall not be considered freight cars within the meaning of the order."

Notwithstanding that this order was agreed

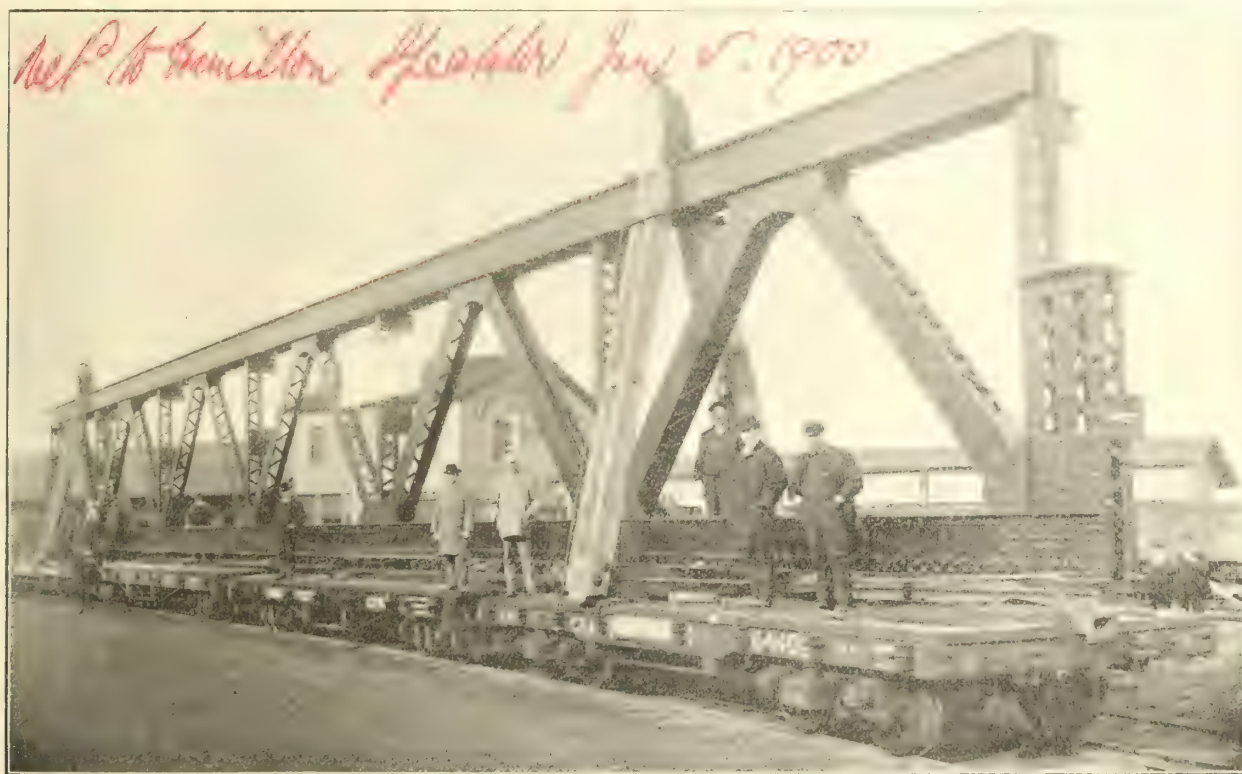
was made from the railway siding to within a couple of feet of the street line. The whole question is now before the courts. The M.R. Co. has applied for the order of the Railway Committee to be made an order of the court, & the Toronto Ry. Co., under fiat from the Attorney-General of Ontario, has entered suit to test the legality of the Railway Committee's order.

Lansdowne Avenue Crossing, Toronto.

The application of the City of Toronto for a crossing over the C.P.R. & G.T.R. tracks at Lansdowne Avenue, came before the committee Nov. 7, & a few days later an order was issued directing that the city "may have a temporary crossing at rail level, for foot passengers only" over the railway tracks, "up to & including Feb. 20, 1900, on condition that the city shall, at its own cost, provide & keep a watchman at the crossing day & night, & shall make the approaches & crossing safe for the travelling public before the crossing is used for traffic. The Committee further directs, that after Feb. 20, 1900, all crossing

of the Railway Committee to build a subway, that it could not build without first obtaining permission under the Ontario Government municipal act, & that the plans submitted by the City showed that the construction of a temporary crossing would be a work of much expense. The City based its power to build the crossing upon sec. 14 of the Railway Act, & upon sec. 11, sub-section Q, which provides that whenever the Railway Committee find it necessary that streets should be laid across the tracks of a railroad they shall apportion the costs. On Nov. 30 the Chancellor enlarged the case for two weeks, leaving it in statu quo until the G.T.R. brings its appeal against the decision of the Railway Committee before the Governor-in-Council. In the meantime there will be no level crossing.

The Brotherhood of Locomotive Engineers is said to have decided to select a site in Cleveland, Ohio, for permanent headquarters. The land & building will cost \$300,000.



THE LARGEST BRIDGE TRUSS THAT HAS BEEN.

to on behalf of Toronto by the corporation counsel, in the presence of a deputation of three aldermen, the arrangement was repudiated by the Mayor & Council, & Mr. Osler was retained to test the jurisdiction of the Railway Committee in the matter. North Toronto followed by applying for an injunction restraining the M.R. Co. from using Yonge St. as a branch railway for the passage of heavy freight cars & motors to & from the C.P.R., & to restrain the M.R. Co. from converting the highway into a railway right of way, notwithstanding any order to the contrary of the Railway Committee. On Nov. 25, acting on the authority of the Railway Committee's order, the M.R. Co. put a force of men at work with horses, scrapers, etc., to make the connection, but they were stopped by force by the Toronto police, & on the application of the city counsel the Chancellor granted an injunction stopping further work till after the hearing. The workmen were then set at work upon the C.P.R. property on the east side of the street, & the necessary excavation

at the said place shall be discontinued, unless the city shall prior to such date elect to construct a permanent subway in lieu of such crossing, & shall satisfy the Committee that bona fide & reasonable progress is being made in the construction of the subway; in which event the Committee will grant an extension of time for the continuance of the temporary crossing while the construction of the subway is being prosecuted with such despatch as shall be satisfactory to the Committee. The detail plans of subway & the works of construction thereof to be approved by the Chief Engineer of Government Railways, & the cost of subway, including all consequential damages, costs, charges, & expenses in connection therewith, to be borne one-half by the City & the other half by the two companies equally.

The G.T.R. at once entered suit to prevent the City from making a temporary crossing, basing it upon three grounds, that the City had no right to erect such a crossing while it was undecided whether to accept the order

A Large Truss for the C.P.R.—The illustration on this page shows one of two latticed trusses just used by the C.P.R. in the reconstruction of its bridge over the Credit River, near Streetsville, Ont., & which are said to be without doubt the largest single pieces of structural work ever shipped. Each measures 126 ft. in length over all, by 15 ft. deep, has 5½ panels, weighs 80,000 lbs., & stands when loaded on specially low & heavy cars, 19½ ft. from top of rail to top of truss. The trusses were hauled to the siding at Streetsville, where, after being connected by bracing into a complete span, the latter was loaded on cars & hauled about ¼ of a mile to the bridge site, where the span was lifted off the cars by 2 sets of the heaviest block & tackle ever used in Canada, hung from 2 high gantries. The cars were then run out from under the span & the old bridge, a single span deck Howe truss, was moved to one side, after which the iron span was let down into position. We are indebted to the Hamilton Spectator for the use of the illustration.

Railway Operating Notes.

All G.T.R. stations are being equipped with new standard clocks.

The Canada Atlantic will shortly put in effect the standard train rules of the American Ry. Association.

Increased pay is said to have been granted to a number of Intercolonial station agents, operators & dispatchers.

Arrangements are being made to install the electric train staff system on the C.P.R., between St. Anne's & Vaudreuil, Que., & it may also be put in on the freight track between Western Jct. & St. Luc Jct.

During Nov. a series of conferences were held in Montreal between the G.T.R. management & representatives of the conductors & trainmen, at which differences which had arisen were settled to the mutual satisfaction of both sides.

A recent press item stated that preparations were being made to use coke on the passenger locomotives of the I.C.R. This is probably a premature statement. We understand that experiments in the use of coke are being made on two locomotives, but it is too early to give results.

The Minneapolis, St. Paul & Sault Ste. Marie has abandoned the plan put in force several years ago, in which the locomotive drivers were allowed to hire their own firemen, & which created considerable comment at the time. Hereafter the Co. will hire the firemen & will assign them to duty wherever they are needed.

The G.T.R. has made a change in the numbering of its through trains. Hitherto, for instance, when a train left Chicago for the east it received a number as it left the station, but at different points it got another number. In future the number the train receives at the starting point will be retained until it gets to its destination. The numbers of local trains will remain the same.

The Canada Atlantic now operates the Pembroke Southern Ry. under the title of Pembroke Division. What was formerly

known as the Eastern Division of the Ottawa, Arnprior & Parry Sound Ry. is now operated as the Middle Division of the C.A.R., & what was formerly known as the Western Division of the O. A. & P. S. Ry. is now operated as the Western Division of the C. A. Ry.

The Ontario Court of Appeal has confirmed the judgment in the case of Barclay vs. the Lake Erie & Detroit River Ry., an action for damages for negligence which had been before a jury. The court upheld the finding of the jury that the Co. should have a man stationed at crossways to warn passengers. In this case shunting was done on the high-ways, & was dangerous to pedestrians, as citizens were not acquainted with the procedure of making up trains.

A number of very heavy engines, not heretofore used, of the consolidation compound class, are now in service on the Ontario & Quebec Division of the C.P.R. south of Montreal, giving most satisfactory results as to increase of tonnage, amounting to about 50% per train, & also as to better time. Improvements in through freight service from New England points to the west & northwest have been effected, whereby from 12 to 14 hours is gained in the through run, on account of the improved method of handling & better train service on the route south of Montreal.

It has been rumored lately that the C.P.R. dispatcher's office at Fort William will be removed to Rat Portage, but no definite conclusion has been arrived at. A local dispatching office has been established at Rat Portage for the Rat Portage section, the dispatchers who handle it having been removed from Rat Portage to Winnipeg. The headquarters of the Superintendent & dispatchers of the Medicine Hat, Crowfoot & Calgary sections & connecting branch lines, have been removed from Medicine Hat, Assa., on the Pacific Division; the dispatchers for the Kootenay lines have been moved from Trail to Nelson.

Rhodes, Curry & Co., Amherst, N.S., are reported to have contracts on hand for railway work amounting to over \$700,000.

Piece-work in Railway Shops.

Some months ago we published a circular issued by Mechanical Superintendent Joughins, in reference to the adoption of piece-work in the Moncton shops, its adoption or not being perfectly voluntary with the men. It is said that the men who have adopted it have, as a rule, done well, in proof of which the Moncton Transcript publishes the following details from pay-sheets. The names are withheld for obvious reasons, but the class of work is specified and the amount named was that received for the month in addition to the regular monthly wages:

Class of Work.	Profits.
Boiler-maker.....	\$ 8 95
Bushes & hose.....	6 90
Blacksmith (one man & helper).....	26 10
Foundry (one man & three helpers).....	21 56
Blacksmith (one man & helper).....	26 19
" " ".....	44 80
" " ".....	25 30
" " ".....	38 49
" " ".....	33 43
" " ".....	27 31
" (two men & three helpers).....	70 66
" (two men & two helpers).....	67 23
Pilots.....	8 82
Boxes, etc., etc., (two men).....	26 92
Leads.....	4 50
Nuts.....	9 95
Steam pipes.....	9 84
Curtains.....	5 37
Screwing bolts.....	13 95
Bolt makers (two men).....	30 20
Tinsmith.....	9 72
Cabs.....	9 28
Motion turning, etc.....	10 25
Turning wheels.....	18 22
Engine trucks.....	17 33
Cleaning trucks.....	4 01
Cleaning tenders.....	10 55
Coupling pins & piston rods.....	11 84
Blacksmith (one man & helper).....	32 73

Improving Northwest Stock.—Land Commissioner Hamilton, of the C.P.R., has notified the Northwest Government that as most of the thoroughbred stock which was recently sent from Ontario was distributed in Manitoba, eight car loads of thoroughbred bulls will be given free transportation from Ontario to the Territories. It is understood that the Territorial Government is arranging with breeders to send buyers to Ontario to pick up animals.

MANITOBA

Population..... 200,000.
Number of Farmers... 27,000.

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Before Going Elsewhere.

CROP OF 1895.	CROP OF 1896.
A Favorable Season.	An Unfavorable Season.
Average yield per acre.	Average yield per acre.
WHEAT..... 27.86 bushels	WHEAT..... 14.33 bushels
OATS..... 36.73 "	OATS..... 28.25 "
BARLEY..... 36.69 "	BARLEY..... 24.80 "
FLAX..... 16.08 "	FLAX..... 12.30 "

Over 1,000,000 acres in Manitoba that have never been cultivated. Price of land from \$2.50 to \$6.00 per acre. On easy terms.

Settlers coming to Manitoba should always

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Minister of Agriculture and Immigration.
WINNIPEG, MANITOBA.

Or

C. H. JEFFERYS,

Manitoba Immigration Agent.
30 York St., Toronto, Ontario

THE FAVORITE ROUTE

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Route of the "Black Diamond Express," handsomest train in the world.

Leaving **Toronto** daily (except Sunday) at 9 a.m., Hamilton 9.55 a.m., arrive New York 10.08 p.m.

Fast Night New York and Philadelphia Express, leaving Toronto 6 p.m. daily, arrive New York 9.13 a.m., Philadelphia 8.56 a.m.

Pullman Sleepers from Toronto, Hamilton and London to New York and Buffalo to Philadelphia.

Call on Grand Trunk Ticket Agents for tickets and further information, or address

Robt. S. Lewis

Canadian Passg'r Agent, 33 Yonge Street
Toronto.

Chas. S. Lee

Gen'l Passg'r Agt.
New York.

A. A. Heard

West'n Passg'r Agt.
Buffalo, N.Y.

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**MANITOBA,
ASSINIBOIA,
ALBERTA and
BRITISH COLUMBIA**

sell through tickets to the Old Country, cheaper than if passengers bought railway tickets to New York or Montreal, and then re-booked.

They also sell prepaid tickets to passengers coming from the old country, cheaper than the rate obtainable in Europe, and on favorable terms.

Apply to any agent Port Arthur and west, or to

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**C.P.R. Offices,
WINNIPEG.**

Lubrication of Cars.

At a recent meeting of the Central Railway Club the following report on lubrication of freight & passenger equipment was presented:

All boxes on passenger equipment cars should be re-packed at least once a year, the re-packing to commence about May 1 each year, using $\frac{1}{2}$ old & $\frac{1}{2}$ new packing, taking the better portion of the old & turning the balance over to freight car use if considered to be in fair condition. Cars should be suitably marked on the trucks, showing the date re-packed. All passenger equipment cars going through the shops for overhauling should be entirely re-packed, & where wheels & axles are renewed, new brasses should be used. Particular attention should be paid to the condition of the trucks, close attention being given to the equalizing bars & pedestals, also to the renewal of dust guards if defective. Oiling of cars to be done only at ends of road, unless cars are put in train at an intermediate station; no oiling to be done other than the above unless made necessary by reason of hot box or other cause of like nature. All boxes should, however, be opened at main line inspection points & examined as to their condition.

All freight cars should be re-packed whenever stopped for repairs, using the old packing turned over from passenger equipment with the addition of such new packing as may be necessary. Trucks should be put in proper condition, particularly dust guards & oil box covers, also boxes re-packed where wheels & axles have been renewed—new brasses to be used in such cases. Packing that is removed, if in good condition, should be put to soak for at least forty-eight hours, & may then be used again under freight cars. Oiling to be done similar to passenger. Close attention should be given to cars received in interchange, & such quantities of packing used as may be deemed necessary to put car in good condition to run safely over the line. In cases of hot box would suggest the use of saturated waste instead of oil. Great care should be taken in all cases of cars re-packed to see that it is done in a manner to insure the proper lubrication of the journals.

The Committee suggests the use of an oil equal in quality to the Galena car oils; the use of lighter oil in winter than in summer; that all packing be allowed to soak at least 48 hours before using; that all shops & inspection points be instructed as to a uniform manner of packing the boxes; that the use of cooling compounds or patented packing is unnecessary; that boxes be examined at least every 200-miles run; that the use of oil cans by train crews be abolished, crews to be supplied with saturated waste instead.

The Albert Southern Ry., which runs from Alma, on Chignecto Bay, to Derry's Corners, N.B., with a branch of 3 miles to Harvey, is reported in a press despatch to have been sold to the purchasers of the Salisbury & Harvey Ry., referred to on page 346. The A.S. connects with the S. & H. at Albert. The road was opened June 15, 1892, & was sold Dec. 6, 1892, at sheriff's sale, since which it has been operated by W. A. Trueman, as trustee, in the interest of the creditors. For the year ended June 30, 1898, its gross earnings were \$3,106.96, & its net earnings \$564.36.

Port Arthur, Duluth & Western Ry. The Master-in-Ordinary at Toronto on Dec. 18 dismissed the motion of D. F. Burk, of Port Arthur, by which he preferred a claim to \$155,000 bonds of this Co., which is in liquidation. The judgment was founded on the fact that the ownership of the bonds is now the issue of a suit in the higher court. The bonds are in the possession of the Toronto General Trusts Co., in trust for the estate of the late J. Lee, A. B. Lee, & the Canadian

Bank of Commerce. Mr. Burk's claim is on the grounds of money advanced & services rendered.

Superintendent.—“Were the sleeping cars on fire when you passed the wreck?”

Conductor.—“I did not see any sleeping cars, sir. When we got there they were all smoking cars.”

SHIPPING MATTERS.

Suspension of Coasting Laws.

So far the formal announcement of the Dominion Government's future policy in regard to the suspension of the coasting laws has not been made, & as a result there is a great deal of uncertainty & anxiety in shipping circles, which the Government should take steps to remove without further delay. In this connection it will be well to bear in mind Sir Wilfrid Laurier's reply to the deputation which waited upon him in Ottawa on Nov. 22, when he practically admitted that a mistake had been made, & that it would not be repeated, & that if the coasting laws were to be again suspended it would only be after parliamentary action. Sir Wilfrid said:

“The main question, I believe, is to keep our coasting laws for Canada & for Canadian shipping. We are anxious to do that, but it was represented to us that our Canadian upper lake fleet was inadequate for the increased trade, & there appeared to be some reason for so believing. The blue books show that in so far as Ontario is concerned her shipping is declining. Of course, Capt. Gaskin showed that a great deal of the Province's shipping is registered at Montreal. This weakens the statement that the blue books made. Another question is, is the shipping adequate? Can it take all the grain from Fort William in the autumn? It was represented to us that it could not. The Montreal Board of Trade said so two or three years ago, & passed a resolution asking us to allow U.S. ships to load there for export. The Winnipeg Corn Exchange asked the same thing, & we had reason to suppose that they were correct. You say that they were not. One thing that forcibly strikes me is that only one U.S. vessel was chartered, & it inclines me to think that your ideas are largely right. The Government will not lose sight of what Mr. Osler said in opening. If the new system be continued it will be by legislation, & I may say further that unless Parliament amends the coasting laws this Order-in-Council will not be repeated. It was not our intention to make it a permanent part of our policy. We believed that if what we heard was true it would have a stimulating effect on Canadian shipping. We believed that we would either have to build more or let the U.S. shipowners help us in moving our vast crop. We did it most reluctantly, & we believe that this action will convince everybody that we Canadians all want Canadian trade to be carried in Canadian bottoms.”

Unless a definite announcement is received from the Government at an early date, the Toronto Board of Trade, which has been especially active in connection with the matter, will do well to press for one, so that vessel owners may know just where they stand. Should an adverse decision be given, steps must be taken to thoroughly arouse the country on the question & to bring it before Parliament next session. The crisis in the shipping industry is such that a committee of the House of Commons, or failing that a committee of the Senate, should be appointed to consider the causes of the decadence & to secure testimony from all parts of the Dominion.

The Marine Review, of Cleveland, Ohio, ventures the opinion that “Canada's coasting regulations will probably hereafter be a dead letter on the lakes during the grain-shipping

season, though they will remain on the statute books & be enforced at other times.” It is of vital importance that no effort should be spared to prevent the fulfilment of this prediction.

The feeling of shipping men is indicated in a letter from J. H. G. Hagarty, Managing Director of the St. Lawrence & Chicago Steam Navigation Co., who, in referring to a report that the Conners syndicate, which has recently obtained concessions in the Montreal harbor, had secured options upon the Rosedale, Algonquin & other Canadian vessels, says: “To those who are acquainted with the marine business on the lakes, this may seem too absurd to require any reply, but as there are some who may not understand it, I would like to say that, while I know nothing of the Conners syndicate further than that it has not secured options upon the Rosedale or the Algonquin, I presume it is composed of business men, & is not likely to desire to do so. No one in his sane senses would purchase a Canadian steamer at the present time, or until the question of giving the coasting trade away to the Americans is finally settled.”

Montreal Elevators & the St. Lawrence Grain Trade.

The most important event of the month in transportation matters has been the agreement entered into between the Montreal Harbor Commissioners & what is known as the Conners syndicate. On Nov. 28 the Commissioners invited proposals to be sent in within two days from people willing to erect grain elevators at Montreal Harbor. W. J. Conners, Buffalo, N.Y.; Hon. R. Harcourt, Treasurer of Ontario; A. Brunet, Montreal, & Elias Rogers, Toronto, put in a definite proposition on Nov. 30. J. R. Booth, of the Canada Atlantic Ry., wrote that it was impossible to prepare a proposition in the short time allowed, that his Co. would require, at least, 1,500 by 100 ft., with additional space for extension, as sites for elevators & warehouse accommodation both in the west & east ends of the harbor, that the probable size of elevator to be erected would be of 1,500,000 bus. capacity. The Prescott Elevator Co., which a year ago offered to erect elevators if the same privileges were given it as asked for by the Conners syndicate, wrote that it had given up the idea when it seemed likely that the Government would furnish the funds to do the work. It considered the time allowed by the Commissioners too short for the matter to be taken into consideration. The Montreal Warehousing Co. wrote asking that nothing be done until it had a chance, H. & A. Allan asked for a lease of one of the new piers for 50 years in consideration of which they would erect an elevator for the common use of all the inland carriers, rates to be subject to the approval of the Harbor Board. The Montreal Transportation Co. wrote that it was ready to furnish the Board with a proposition for the erection of an elevator. The Montreal Terminal Railway Co. requested that the Board would not commit itself until the Co. had an opportunity to make a proposition.

The Commissioners promptly decided to deal with the Conners syndicate, & after a lot of negotiation & a number of meetings, entered into an agreement. The Commissioners' decision met with considerable opposition from a considerable section of the press, from members of the Montreal Corn Exchange & from one of the Commissioners, Jno. Torrance, who dissented from it. A member of the Corn Exchange applied for an injunction to prevent the Commissioners accepting the Conners' offer, but this was refused by the court. The agreement is summarized as follows:

The Commissioners allot to the syndicate for 40 years 1,170 ft. of the lower portion of Windmill Point pier lying between Windmill Point basin or slip, or the canal & canal basin;

& 1,500 by 27 1/2 ft. of the opposite southerly side of Windmill Point slip or basin, on the shore intended to be constructed. The syndicate agrees to erect on the 1st named site a 1st-class elevator, or a combination elevator of 1,000,000 bus. capacity & 1st class modern warehouses, so that the full space will be readily used in their operation, the cost of such improvements to be not less than \$1,350,000. & on the 2nd named site similar 1st class elevator or elevators & freight warehouses of not less than 3,000,000 bus. capacity, utilizing the whole space, & costing not less than \$1,350,000. The Commissioners also allot for 40 years space for at least one large elevator & freight warehouse on or in connection with one of the already constructed or proposed piers, or on shore, in the portion of the harbor below St. Mary's current, to cost at least \$1,350,000. Rights of way over the sites necessary for the trade of the port are reserved. Construction of the elevator & warehouses on the 1st named site is to be commenced forthwith, & on the other sites as soon as their condition permits, the work of construction to be prosecuted as fast as practically possible. Plans & specifications of structures to be subject to the approval of the Commissioners & of the Governor-in-Council. Every vessel or barge, by whomsoever owned, shall have its regular turn at the wharves or elevators, & equal privileges in the use of the facilities for handling freight shall be extended to all carriers. Rates for unloading, storing & loading grain & for handling at least the principal other commodities shall be reasonable & subject to the approval of the Commissioners & the Governor-in-Council.

In the 1st season after 18 or 20 ft. of water is provided at Port Colborne, on a sufficient area to allow large lake vessels to tranship cargoes, there will be transported to Montreal & handled through the elevators & facilities of the syndicate at least 25,000,000 bus. of wheat or the equivalent in weight of other grain, flour or meal, & in each season thereafter 35,000,000 bus. of wheat or the equivalent in weight of other grain, flour or meal, subject to the breakage of canals, act of God & public enemy, & causes beyond the control of the syndicate or its successors, & to the extent prevented thereby. Should the syndicate in any three consecutive years after the 1st year in which it is bound to handle through its elevators & facilities 35,000,000 bus. of wheat annually or its equivalent, fail to handle for three years an aggregate of 105,000,000 bus. of wheat or its equivalent, the agreement shall be null & void, & the sites, together with the elevators, warehouses & appurtenances thereunto belonging, shall revert & belong to the Commissioners without payment to the syndicate, & clear of all in-

cumbrances & adverse claims. The syndicate to have the preference of renewal of the allotment on terms to be agreed upon with the Commissioners, the Commissioners to have the right on giving one year's notice to have the right to take over the buildings, plant & business carried on at the various sites at their then actual values to be agreed on, or settled by arbitration. The syndicate to furnish the Commissioners \$50,000 security for the performance of the contract.

While the negotiations were pending in Montreal Mr. Connors was frequently interviewed by the daily papers, & made a number of important statements. He says the syndicate intend to build up a port at Montreal that will give employment on the wharves & piers to between 2,000 & 3,000 men, instead of about 700 as at present; that it will bring from 1,600 to 2,000 vessels to Montreal during the navigation season, instead of about 800 as at present. Now two-tenths of the grain of the Canadian West reaches Montreal; the rest goes to the railways & New York, Boston & other ports have the benefit of it. The syndicate hopes to take the other eight-tenths to Montreal. Traffic can be handled more cheaply in Montreal than in New York. The syndicate will have its own steamers to take the grain from the lakes to Montreal. Mr. Connors said: "Our object is not to compete with New York or any route; it is the railways that we mean to compete with. We believe that we can utilize the splendid waterways you have in such a way that we can beat the railways in competition for the grain traffic. We do not say, of course, that we will get it all, but we shall get a big share." At Chicago Mr. Connors stated that the steamships to be built by the syndicate will be employed in the winter both in the coast trade & in carrying grain to Liverpool. In another interview Mr. Connors said: "Some day in the future most of the grain of the continent will come down this Canadian waterway from the West, to one of the islands in the mouth of the St. Lawrence. Here an extensive system of elevators will be erected, within 1,800 miles of Europe. Long tows of barges will come to this grain depot all the way from Chicago. Huge ocean steamers will carry it quickly to the other side. This may take some time, but my prediction will some day be realized."

R. A. Waite, architect, Buffalo, has been appointed to take charge of the elevator & dock work at Montreal & Port Colborne, Ont., the syndicate proposing to build a 1,500,000 bush. elevator there, for transshipping purposes. Mr. Waite says he proposes that the Montreal elevators shall give a panoramic effect to the port, rather than be a series of eyesores, as is the case at Buffalo & other

grain centres. In outline they will be similar to a large office building. One will be a three-decker, measuring 230x600 ft., while the second will be a two-decker, 700x275 ft.

Mr. Connors states that the syndicate will build a fleet of about 15 steamships for the grain train, that they will be of the most modern type & superior to any now on the inland waters. They will be 245 ft. long, 42 ft. beam, 14 ft. draught, 80,000 bush. capacity, with a speed of about 14 miles. Each steamship will have two barges as tow, the barge capacity to be 100,000 bush. each. It is said orders have been placed for some of them already to be built in Toronto & on the Tyne & that it is possible some may be built at Collingwood.

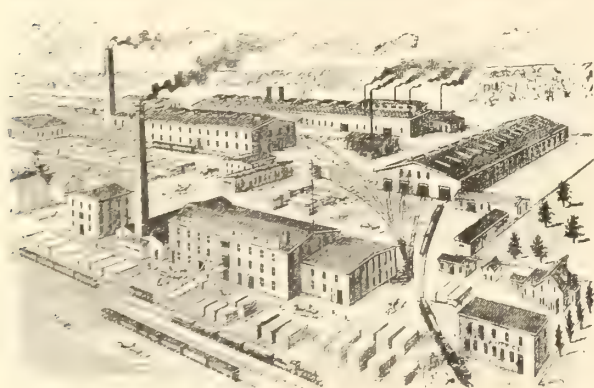
The attitude of the two principal railway companies towards the contract is shown in the following interviews, which were given early in Dec. President Shaughnessy said: "The C.P.R. Co. has not so far taken up any definite position with regard to the Connors elevator scheme. As a private citizen I may say that I should be delighted to see the large quantity of grain & the additional ships, which the syndicate has promised to bring to Montreal. The interests of the port, however, would need to be very carefully guarded in making a bargain with this Buffalo syndicate. The agreement would have to be very strictly supervised in order to see that it did not confer privileges on the syndicate not intended to be given by the Harbor Commissioners. Speaking for the Co., I may say that the C. P. R. will always expect a sufficiently extensive area for terminal facilities to enable it to

NOTICE: The Canadian Pacific Railway Company will apply to the Parliament of Canada at its next session for an Act authorizing the Company to construct or acquire, and to operate a railway from Osborne on the Pembina Mountain Branch of the Company's railway; south-westerly to a point between Manton and Morden on the said Branch; also a railway from Osborne westerly to Carman, and thence westerly and south-westerly to some point on the line of the Manitoba South Western Colonization Railway between Cartwright and Boissevain; also a railway from a point on the Souris Branch of the Company's railway between Laurier and Menteith easterly and northeasterly to a point between Glensboro and Treesbank on the Glenboro Extension of said Branch; and also a railway from West Selkirk in a northerly and north-westerly direction to some point on the west shore of Lake Winnipeg, about sixty miles, thence north-westerly to a point on the Little Saskatchewan River, with power to issue in aid of the construction and equipment of each of the said railways bonds which will be a first lien and charge thereon with the same effect as if it were being built by the Company as a branch line within the meaning of Section One, Chapter Fifty-one of the Statutes of 1888, or in lieu of such bonds Consolidated Debenture Stock conferring on its holders equal rights in all respects, and a rank *pari passu* with holders of such Consolidated Debenture Stock as the Company has been heretofore authorized to issue, and for other purposes.

By Order of the Board.

CHARLES DRINKWATER,

MONTREAL, 13th December, 1899. Secretary.



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Ltd.,

Railway and Street Cars

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Special Cars for Coal, Ore,
Lumber, &c., with Ball-
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Every Friday night, at 10.35 p.m., a through Tourist Car for Los Angeles and Southern California leaves the Chicago, Milwaukee & St. Paul Railway Union Passenger Station, Chicago, via Omaha, Colorado Springs and Salt Lake City, for all points in Colorado, Utah, Nevada and California.

In addition to the regular Pullman porter, each car is accompanied by an intelligent, competent and courteous "courier," who will attend to the wants of passengers en route. This is an entirely new feature of tourist car service and will be appreciated by families or by ladies travelling alone. Particular attention is paid to the care of children, who usually get weary on a long journey.

These tourist cars are sleeping cars supplied with all the accessories necessary to make the journey comfortable and pleasant, and the berth rate (each berth will accommodate two persons) is only \$6.00 from Chicago to California. Ask the nearest ticket agent for a tourist car folder, or address A. J. Taylor, Canadian Freight and Passenger Agent, 8 King Street East, Toronto, Ont.

All Cuts used in the RAILWAY AND SHIPPING WORLD, and owned by the Publishers, are
.....For Sale.

handle its business. When this is refused it will have to go elsewhere. The Harbor Commissioners propose to give immense concessions to this syndicate. About a quarter of a mile of harbor frontage is involved. The Connors syndicate, from the immense power which it will wield, might easily become extended into something in the future, which is not contemplated or apprehended at present. One thing which has struck me in connection with this Connors elevator scheme is that it may be the entering of the thin edge of the wedge to secure, by Americans, the abrogation of Canadian coasting laws. It is very possible that there are American interests behind this syndicate which control large numbers of American bottoms. These may see a chance to profitably engage in Canadian trade & run between Canadian ports. Of course this must be guarded against. No such thing should be permitted to happen unless through a reciprocal arrangement between the two countries. The C.P.R. will be delighted to see this huge grain traffic pass through Montreal if the interests of the port can be satisfactorily safeguarded. It will take, however, a very careful supervision of the contract to ensure this."

Traffic Manager Reeve said: "The G.T.R. supports the claims of the Montreal Warehousing Co. in the matter of supplying the port of Montreal with elevator facilities. This Co. has the requisite charter for engaging in operations of this kind. We also support the claims of the Canada Atlantic Ry. This road should be given one of the best sites in the harbour, instead of having its claims summarily disposed of in the manner in which they were treated by the Harbor Commissioners. The C.A. has shown more interest in the grain trade than any other factor in the trade. It could come in over our line & go right to the elevators. About the Connors elevator scheme, well, I'm suspicious of it myself. If the tendency of the syndicate is not to decrease the charges it will drive the C.A.R. to Quebec & the G.T.R. to Portland. Connors is acting for a combine of big American grain dealers; I do not care to give the names of those interested. If Connors has arranged the combine upon which he told me he was engaged, he will force every one of the Montreal grain dealers out of the business. They may give up and take a holiday to South Africa. The success of this Connors scheme would not, in my opinion, be a good thing for the port of Montreal. If the Harbor Commissioners are going to give away these valuable concessions, let them be given to interests bound up in the port of Montreal—to corporations locally interested. It is true that the Harbor Commissioners offered the C.A.R. a site for an elevator, but it was near coal shoots, where it would never do to handle grain. There would be too many claims for damages to pay."

Canadian Shipping Statistics.

An appendix to the annual report of the Department of Marine recently issued shows that the total number of vessels remaining on the register books of the Dominion on Dec. 31, 1898, including old & new vessels, sailing vessels, steamers & barges, was 6,643, measuring 693,782 tons register tonnage, being a decrease of 41 vessels & a decrease of 37,972 tons register, as compared with 1897. The number of steamers on the registry books on the same date was 1,909, with a gross tonnage of 267,237 tons. Assuming the average value to be \$30 a ton, the value of the registered tonnage of Canada, on Dec. 31 last would be \$20,813,460.

The number of new vessels built & registered in Canada during last year was 278, measuring 24,522 tons register tonnage. Estimating the value of the new tonnage at \$45

a ton, gives a total value of \$1,103,490 for new vessels.

Lindsay, Ont., & Dawson City, Yukon, were established ports of registry during last year.

No. of vessels & no. of tons on the registry books of Canada, Dec. 31, 1898:

	No. of Sailing Ships & Steamers	No. of Steamers	Gross Tonnage Steamers	Net Tonnage Sailing Ships & Steamers
New Brunswick	603	117	9,858	864,557
Nova Scotia	2,107	146	19,747	202,179
Quebec	1,377	322	75,349	144,447
Ontario	1,452	924	99,419	134,180
P.E. Island	178	21	4,043	1,897
British Columbia	444	299	52,129	19,394
Manitoba	121	80	6,692	7,439
Total	6,643	1,909	267,237	693,782

New sailing ships & steamers built & registered in Canada during 1898:

	Number	Net Tonnage
New Brunswick	31	799
Nova Scotia	57	4,692
Quebec	51	4,139
Ontario	46	1,872
Prince Edward Island	5	37
British Columbia	72	12,228
Manitoba	6	189
Yukon	—	—
Total	278	24,522

The tonnage of all the maritime states of the world for 1898-99 is:—steamers, no., 14,725; gross tonnage 19,379,361, net tonnage, 11,866,476; sailing vessels, no., 29,844, net tonnage, 8,731,613; total net tonnage, 20,598,089. Canada ranks seventh in order of net tonnage. The figures for the states having a net tonnage of over 100,000, are as follows:

	Steamers	Sailing Vessels	Total Net Tonnage
British, including Canada and the Colonies	7,054	8,220	6,700,043
United States	534	3,762	1,837,720
German	1,005	1,208	1,572,665
Norwegian	734	2,617	1,515,822
French	754	1,014	804,164
Italian	273	1,086	730,053
Canadian	—	—	693,782
Russian	453	2,113	676,540
Spanish	130	1,145	506,455
Swedish	589	1,308	502,557
Dutch	251	516	373,711
Danish	338	899	303,083
Grecian	118	1,152	290,041
Japanese	464	255	284,780
Turkish	87	6,349	299,445
Austrian	102	161	230,432
Brazilian	229	344	162,262
Chilian	48	155	100,674

Inland Marine Insurance.

The marine insurance companies doing a cargo & hull business on the inland waters have had a most successful year, & have all made money. Insurance on ordinary risks, that is, propellers & wooden craft, expired at noon Nov. 30, & the insurance companies absolutely refused to extend the policies, no matter what premium was offered. The craft affected by the expiration of the policies, which always expire on the last day of Nov., were those plying mostly on Lake Erie & Lake Ontario & the St. Lawrence River. The big steel boats running on Lake Superior to Buffalo, such as the big Toronto freighters, the Rosedale & Algonquin, had insurance up to Dec. 5, which meant that it was Dec. 10 before their insurance expired, for if they are out of port when the contracts expire the insurance companies carry them till they reach their port of destination. The present season is in direct contrast to last year, when some very heavy losses were made by the insurance companies, many of them just at the last of the season & due to having renewed contracts. On Nov. 30, this year, the marine insurance

companies knew they were away in pocket as a result of the season's operations, & they took no chances by extending the insurance. In fact, it is said that the three companies having offices in Toronto, have out of this season's profits, not only made up last year's losses, but are still a considerable amount to the good.—Globe.

Dominion Notices to Mariners.

The Department of Marine has issued the following notices:—

No. 85. Nov. 6, Quebec, new buoy placed at Three Rivers.

No. 86. Nov. 15, Quebec, Ste. Croix Bar range lights. Newfoundland, Flower Island light in operation.

No. 87. Nov. 16, British Columbia, buoy replacing beacon on Kelp Bar. Buoy off Virago Rock in Portier Pass. Uncharted rock in Portier Pass.

No. 88. Nov. 20, New Brunswick, changes at Little Belledune light station, U.S.A. Changes in fog signals on Maine coast.

No. 89. Nov. 28, British Columbia, lighthouse on Pointer Island. Lighthouse on Dryad Point, Campbell Island. Hydrographic notes, vicinity of Dryad Point lighthouse. Uncharted rock in Metlah-callah Bay. Removal & change in color of Hodgson reefs buoy, Erratum.

No. 90. Nov. 29, New Brunswick, buoys off Cape Tormentine. Improvements in Shipigan buoyage.

No. 91. Dec. 1, Nova Scotia, Sambro Harbor light.

No. 92. Nova Scotia, Whistling Buoy off Pennant.

Yukon & Northern Navigation Matters.

The C.P. Navigation Co. is making preparations to compete for next year's trade with the North. At the beginning of the year R. Hall, who has been for some time connected with the Bennett Lake & Klondike Navigation Co. at Victoria, leaves the service of that Co. to act as Skagway representative of the C.P. N., where he will have the oversight of its steadily increasing northern trade.

The American Transportation & Trading Co.'s str. Roanoke is for sale, & it is altogether probable that the Co. contemplates retiring from business as Alaskan passenger carriers. It has no idea, however, of abandoning its freight carrying & Yukon mercantile business. This sale of the Roanoke would mean also a disposal of the Co.'s fleet of river boats, which according to report have not been a money making investment. It would also necessitate the purchase by the Co. of one or more freight vessels with only such passenger carrying accommodations as are needed for the Co.'s employees.

A letter received early in Dec. from a Dawson correspondent, dated Oct. 13, said:—"A general feeling exists here that the Canadian Development Co. called in its boats earlier than the weather demanded, especially in view of the fact that its steamers carried the mail. It is reliably reported that this Co. has made a fortune out of its season's work. The freight blockade at the upper end of the river is causing considerable anxiety among business men in Dawson. The latest arrivals in town assert that it is impossible for anyone who has not seen it to conceive the amount of freight that lies along the route all the way from Skagway to White Horse. It is estimated that 2,000 tons at least have congested between these points, while every steamer up the coast is loaded heavily. The river steamship companies were aroused to a sense of the situation early in Sep., & have been making strenuous efforts to clear the blockade. But, owing to the advanced season, the futility of such an effort is apparent, & it is a fore-

the conclusion that between 1,000 & 2,000 tons must remain undelivered until spring. There is no fear of any actual shortage in any goods in Dawson during the winter, as the large trading companies are amply supplied, and prices will advance & essentials will be cornered. The real sufferers will be general merchants & miners. Many of the former have gone out to Skagway with the intention of disposing of perishable goods; the latter will in many instances lose a winter's work by reason of the non-arrival of necessary machinery. A long line of heavily laden scows & barges, built by steamboat companies & desperate shippers, stretches down the river from White Horse to Dawson, some making successful progress, others aground, others, mayhap, doomed to wreckage. If the weather remains fine they will continue to arrive at intervals during the next two weeks, it may be until the close of Oct. After that their fate is problematic.

"The last down-river boat left Dawson for St. Michael's two weeks ago. Within the last week several parties have left Dawson in open boats, & considerable anxiety is felt about them by their friends. Men who take such chances are playing with death, with all the odds in favor of the grim visitor. The Yukon River freezes first at its mouth, the cold weather beginning there a month earlier than it does in Dawson. About this time the river at St. Michael's must be closed with ice or else so choked up with floes as to make navigation, especially in an open boat, practically impossible. The chances of these people reaching St. Michael's this winter are very slender; while the life risk is proportionately great."—Globe.

Various correspondents have written us with reference to recent fluctuations in the shares of the Klondike Mining & Promotion Co. We believe it has had a fairly prosperous year. Possibly the results may not have been so good as last year, but until the accounts come to hand, shareholders will exercise judgment by again perusing the circular containing extracts from the managers' letters at Dawson City & Victoria. Under date of Sept. 6th, the directors are informed "we have now as much freight as we can handle, in fact the boats have to bring it down in scows, owing to the limited carrying capacity of the steamers. From reports I believe that the season will not be so long as it was last year, as the cold weather has even now commenced to set in." Thus it would appear as if the pressure of goods was so great that the Co. was unable to handle it all; indeed, corroboration of this promise is given in a later statement in which it was estimated "that between Skagway, Bennett & White Horse, there must be 12,000 tons, & it will be impossible for all the goods to get through this winter." Undoubtedly, the Co.'s boats upon the Yukon have all they can do, & at that time (Sept. 25th) were the

only ones then making headway with low water. The route into Klondike is still probably congested with freight, a fact which would induce owners to keep their goods at Skagway rather than at any other intermediate point. The White Pass Ry. is taxed to its utmost to take care of all the freight offering, yet it can handle 200 tons a day, & the steamers leaving Bennett together with scows from that point could, when running, take away 150 tons daily. Thus, with the river navigation closed for the season, there is every indication that the congestion at White Horse is of immense proportions, & the Manager, when writing towards the end of Sept., considered that "everything points to an enormous lot of goods, etc., going forward next spring. A man has just been in Victoria & offered me 20c. a pound if I will guarantee to get him 8,000 lbs. into Dawson. Sorry we cannot accommodate him." The White Pass Ry. is constructing an extension from Caribou. If the piece along Lake Bennett proves easy blasting it is possible it may be finished at the same time, if not, there will be 27 miles between the two sections of the railway, & if that distance proves to be so formidable that it cannot be completed for a year, the railway company purposes putting on mammoth scows to convey the cars from Bennett to Caribou. The outlook before the Co. appears, therefore, to be as favorable as in the past, for whatever irresponsible rumors there may be in circulation, these statements at least are genuine.—B.C. Review.

British Columbia Shipping.

The C.P.N. Co. has had an electric search-light put on the str. Tees, & one will also be put on the str. Danube.

The Victoria Board of Trade is trying to get the steamboat service improved between there & Puget Sound. Improvements to Victoria's inner harbor are also being urged.

There is said to be a possibility of a direct line of steamers being established between Vancouver & Vladivostok, when the trans-Siberian railway is completed in about a year.

The Department of Marine has sold to E. Winckelman, of Seattle, the old str. Sir Jas. Douglas, which went out of service in B.C. waters 3 years ago, being too slow. She was built at Victoria in 1884.

It is said that arrangements are in progress for the organization of another company to run steamers between Golden and Windermere. The project contemplates the building of a boat to run on the Columbia river on the lowest stages of water till the river freezes up.

Reports from Manila state that the C.P.R. steamers Athenian & the Tartar, which were employed by the U.S. Government carrying

troops, etc., to the Philippines, performed the work in a most satisfactory manner. The Athenian recently carried 180 men & 500 horses, while the Tartar took two batches of 1,500 men each. When these ships return to the Pacific Coast they will resume their usual work.

R. P. Rithet & Co., Victoria, report little change in grain & tonnage markets. Foreign markets for wheat continue weak & while the few vessels available for charter are holding for full rates, exporters are unwilling to pay prices demanded. Business has therefore been very limited. The lumber market is exceedingly active, & large orders have recently been placed with leading export mills. Tonnage, however, is almost unobtainable, & owners who have offered their vessels have found ready takers at high rates, even if 6 & 8 months distant.

President Shaughnessy's recent interview with the C.P.N. Co.'s management is bearing fruit. The str. Islander is undergoing extensive repairs & also alterations to her cabin accommodation to fit her for the promised daylight run. The improved service will probably begin in Feb. It is said the Islander will leave Victoria at 7 a.m., arriving at Vancouver at noon, & leaving on the arrival of the Pacific express. It is intended to run the str. Charmer daily as a freight and passenger boat if business warrants. She is to leave Victoria about 1 p.m., & arrive at Vancouver about 6 p.m., departing at midnight, arriving back at Victoria at 6.30.

Manitoba & Northwest Territories.

McDougall & Secord will build a steamboat at Athabasca Landing this winter to ply on the upper reaches of the Athabasca river & as far down as Grand Rapids.

Navigation on Lake Winnipeg lasted till unusually late this year. On Nov. 20 a steamer left Selkirk with a cargo for Norway House, & on Dec. 1 another one left to make calls at lake ports.

The screw st. Lady of the Lake, owned by Capt. W. Robinson, which was sunk in Lake Winnipeg recently, was built at Selkirk, Man., in 1897. Her dimensions were length 105 ft., breadth 18 ft. 5 ins., depth 8 ft. 9 ins., tonnage, gross 201, register 155.

The three steamboats on the Athabasca belonging to the Alaska Trading & Transportation Co. were recently sold by the sheriff, McDougall & Secord being the purchasers. The steamer at Athabasca Landing brought \$400, the one at Fort Smith \$300 & the one at Fort McMurray \$60.

Members of the Winnipeg City Council & Board of Trade made a trip the full length of Lake Winnipeg late this season & have presented a report stating that the development of the

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vast resources of the lake is at a standstill, owing to there being no direct steamboat connection with an established market, that this want has lost Manitoba at least \$100,000 a year for the last 10 years & that the City of Winnipeg should insist on the navigation of the Red River between Winnipeg & Lake Winnipeg being improved without further delay. Attention is also called to the total absence of Government protection for mariners on Lake Winnipeg, which has been traversed by Canadian steamers for more than 20 years. There is no Government chart of the lake, & very few lights or safeguards, & practically no money has been expended on wharves or landing places except at Gimli, where boats seldom have occasion to call.

Richelieu & Ontario Navigation Co.

The Montreal-Quebec boats ceased running Nov. 25.

It is expected that the construction of the Co.'s hotel at Murray Bay, Que., will be gone on with during the winter.

It is said the annual statement will show a large increase this year, the earnings being about \$960,000, against \$728,000 in 1898. Much of the increase is credited to the improvement in the service by the addition of the str. Toronto.

No tenders were sent in recently for the ferry service between Montreal & St. Helen's Island, but the Co. wrote saying it was willing to continue to operate the ferry on practically the same terms as the last agreement, under which nothing was paid to the City. The conditions laid down by the City were unacceptable to this Co. & everyone else.

Milloy & Co.'s lease of Yonge st. wharf, Toronto, having expired, the R. & O. N. Co. has leased it for 3 years. The Niagara Navigation Co., Lakeside Navigation Co., Toronto Ferry Co., & other owners of vessels using the wharf heretofore will continue to do so. Another pier is to be built from Scott st., 300 ft. long, to accommodate the str. Toronto.

Ontario & the Great Lakes.

The str. Maple Leaf was badly damaged in a collision with the str. Van Horne on the Lake of the Woods recently.

Tenders have been invited by the Dominion Department of Public Works for the extension of the breakwater at Port Elgin, Ont.

The C.P.R. Upper Lakes steamships are laid up at Owen Sound for the winter. The str. Rosedale & Algonquin are also wintering there.

The Rideau Canal locks closed for the season Nov. 30. The U.S. Canal at Sault Ste. Marie closed Dec. 11, the Canadian Canal remaining open until Dec. 20.

The slip dock at Erieau, Ont., having been completed, the Lake Erie & Detroit River Railway Co.'s large car ferry Shenango is calling there to land & take on passengers to & from points in Ohio.

The Myles Transportation Co., Ltd., has been incorporated to carry on a navigation & transportation business on the lakes. The provisional directors are: R. & J. T. Williamson, Niagara Falls, N.Y.; C. J. Myles, R. O. MacKay & Mrs. E. Dillon, Hamilton, Ont.

The str. Niagara, of St. Catharines, owned by J. & J. T. Mathews, Toronto, foundered Dec. 5, about 8 miles east of Long Point, Lake Erie, Captain McGlory & the 15 hands on board being lost. She was built at St. Catharines in 1875, length 135 ft. 6 ins., breadth 26 ft. 3 ins., depth 12 ft. 2 ins., tonnage gross 468, register 302.

The largest steamer which ever arrived in Montreal intact after passing through the

canals, is the Porto Rico, from Toledo, Ohio, which went through in Nov. She is 225 ft. long & 32 ft. beam, & has a gross tonnage of 1,257, net 840, & draws light, 10 ft. of water. She was bound for New York, to engage in passenger service to the island of Porto Rico.

The Dominion Minister of Public Works has before him plans for the improvements to be made at Port Colborne, sanctioned by Parliament last session. It is said a breakwater will first be built along with a few wharves suitable for the transfer of cargoes. An attempt will be made to get the work under way soon. The appropriation available is \$120,000.

The schooner Wave Crest, owned by J. J. Turner, of Peterboro', & chartered by the Toronto Electric Light Co. to carry coal from Charlotte to Toronto, when abreast of Thirty-Mile Point Dec. 7, encountered a heavy northern squall, & went ashore at Oak Orchard on the south side of the lake. A tug from Kingston was unable to get to her assistance owing to rough weather.

The str. Imperial, running between Windsor, Amherstburg & Pelee Island, & owned by the Kingsville & Pelee Island Navigation Co., caught fire Nov. 25, while lying at Amherstburg dock. The upper cabin was the only loss sustained by fire, but the cargo of potatoes & fish was partly destroyed by water. Insurance, \$7,500 on boat. Shippers lose the damaged cargo.

The str. Constance, owned by Homer & Co., Gravenhurst, which runs on the Muskoka Lakes, is having 16 ft. added amidships. The high pressure 30 h.p. engine & boiler are being replaced with a fore & aft compound condensing engine & boiler of 150 h.p. When altered she will have a speed of 12½ miles. She was built at Gravenhurst in 1898, her present dimensions being: length, 65 ft.; breadth, 13 ft.; depth, 5 ft.; gross tonnage, 42.

The Niagara Navigation Co.'s annual meeting was held in Toronto Dec. 12. The Manager's report for the past year was approved, directors were elected & a resolution was unanimously adopted expressing sympathy with Sir Frank Smith in his long illness. The officers now are: President, Sir Frank Smith; Vice-President, B. Cumberland; Manager, Jno. Foy; Auditor, R. H. McBride; other directors, J. J. Foy, E. B. Osler, W. Hendrie.

The Hamilton Steamboat Co.'s report, presented at the recent annual meeting showed that the past season was one of the most prosperous in the history of the Co. The directors were re-elected, as follows: President & Managing Director, M. A. Kerr; Vice-President, M. Legatt; Directors, G. E. Tuckett, F. W. Fearman, G. F. Tuckett, S. Jones & H. B. Witton; Manager, W. E. Bishop. The shareholders unanimously decided that in consideration of the very successful season Managing Director Kerr take a trip to Europe at the expense of the Co. in consideration of his valuable services.

The Rideau Navigation Co. is seeking incorporation with \$100,000 capital. It is said the C.P. & New York Central Rys. are interested, & that Capt. Noonan will be manager, the str. James Swift, which he now commands on the Kingston-Ottawa route, to be taken over by the new Co., also the steamer now being built at Kingston, & which is intended to make tri-weekly trips between Clayton, N.Y., & Ottawa. She will be 112 ft. long, 28 ft. beam, 7 ft. deep. The upper cabins will occupy a space of 84 ft. in length, with 32 state rooms. The engine will be triple expansion, 81" 13" 21" by 14" stroke; water tube boiler 8 ft. wide, 9 ft. long, 8½ ft. height, with 42 ft. grate surface & 1,400 ft. heating surface, steam pressure 200 lbs., h.p. 500, speed of piston, 600, speed of boat 12½ to 13 miles, draft 4 ft. 9 ins., cost \$20,000.

St. Lawrence canal construction, which was carried on to a considerable extent last winter in pursuance of the policy of having the 14-ft. system of navigation ready for 1899, will be practically at a standstill this winter. Such work as remains to be done on the enlargements between Prescott & Montreal cannot be done during winter. It consists mainly of finishing up contracts. Some work will be done before spring, however, upon the Trent Valley canal, several sections of which are under contract. Tenders have been asked for about 9 miles between Trenton & Frankford. Hon. J. R. Stratton announced at the recent annual meeting of the Peterboro-Trent Waterways Association, on the authority of the Dominion Government, that it was intended to complete the balance of the section between Balsam Lake & Lake Simcoe, which would require about \$900,000, & that prior to last session the Government had concluded to construct with reasonable despatch the section from Peterboro to Lake Ontario.

The ratepayers of Collingwood have almost unanimously voted a bonus of \$50,000 to the Dry Dock & Steel Ship Building Co., of Collingwood, Ltd., which is to take over the business of the Collingwood Dry Dock & Wrecking Co. The principal shareholders of the old company, T. & J. J. Long, C. Cameron & P. M. Campbell, are also in the new company & have associated with them Capt. Alex. McDougall, of West Superior, Minn., well known in connection with whaleback construction. Under the terms of the by-law the Co. agrees to establish a first-class steel ship building yard at Collingwood with plant & machinery capable of constructing at one time 4 of the largest class of steel vessels required in the navigation of the upper lakes, to maintain & operate the same for 30 years & to invest at least \$100,000 in the establishment of the industry. Half of the \$50,000 bonus is to be paid when the machinery is on the ground ready to operate & the balance when the keel of the first steel steamer is laid. The town grants the free use of the Hurontario st. slip for launching & for a dry dock when necessary. It is said a large portion of the plant will be in place by the end of Feb. & the whole by the end of May, & that the Co. will start work at once on a large steel freighter for the Northern Navigation Co., & on a passenger steamer for Brown's Windsor & Sault line.

During the season of navigation recently closed 42 vessels passed out of existence. Their total tonnage was 8,195, & they were worth \$226,200. Last year 58 vessels, with an aggregate tonnage of 29,194 tons & worth nearly \$500,000, were lost. Ships are now building at lake yards to carry over 100,000 tons in a single trip, & costing over \$8,000,000. There were 569 losses all told on the lake in 1898 & 386 this year, divided as follows: Ashore, 168; foundered, 15; burned, 28; waterlogged, 11; dismantled, 4; disabled, 81; ice, 5; collision, 73; capsized, 1. Lake Erie was the scene of the most losses, 92; Lake Michigan, 61; Lake Ontario, 10; Green Bay, 9; Lake Huron, 43; Detroit & St. Clair Rivers, 69; Soo River, 49; Georgian Bay, 2; Welland Canal, 1. Nearly 40% of all these losses was caused by disasters in the narrow connecting lake channels, such as the Detroit River & the Sault passages. Chief among the causes was overcrowding, with strandings & collisions resulting. Many vesselmen are of the opinion that as vessels have been increasing in size until they are too big for the waterways, there must be larger & deeper channels provided, particularly at the Sault, where the two blockades caused more loss than any direct disaster shipping ever experienced. Such accidents are always liable to occur, & Lake Superior shipping interests will never be safe until another channel is cut to avoid the danger.

The U. S. Deep Waterways Commission has reported in favor of a system of dams in the upper Niagara River to raise the lake levels. It is said the Dominion Government will object on the ground that the dams may not only maintain the lake levels, but may raise them. If they should do this, the lower lands in Essex & Kent counties might be submerged. It is claimed that a great deal has been expended in draining these lands. Speaking on the subject recently, the U. S. Secretary of War said: "The Deep Waterways Board informs me that the structure will not cost over \$1,000,000 at the most, & probably not more than \$800,000. Yet this dam will save the government over \$1,000,000 already appropriated for deepening harbors & channels in Lake Erie & Detroit River. The Board has informed me that by its plans & surveys it will recommend a dam that will raise the lower end of Lake Erie from 2½ to 3 ft. This will deepen all the harbors on that lake about that much & will add from 20 ins. to 2 ft. to the depth of the water at the Limekiln Crossing. It will even raise the water of St. Clair Flats & Lake St. Clair about 1 ft., & will tend to hold back any permanent lowering of the level of Lake Huron by the washing out of St. Clair River, a process which has already done much damage. The dam will do away with the necessity for appropriations for deepening channels & harbors which have been growing greater & greater from year to year. For the Detroit River alone an appropriation of over \$500,000 is now awaiting expenditure, & we are led to believe by recent publications that this is merely the beginning of an unending expenditure for dredging & blasting."

Province of Quebec Shipping.

The St. Lawrence channel between Montreal & Quebec is being dredged to a depth of 29 ft. in low water.

The str. Princess Louise, recently burned near St. John's, Que., was built at Wolfe Island, Ont., in 1879. Her dimensions were: Length, 94 ft.; breadth, 18 ft. 5 in.; depth, 4 ft. 9 in.; gross tonnage, 115.

The enlargement of the Lorne graving dock at Quebec will extend it to 600 ft. in length, which will make it capable of receiving any vessel entering the St. Lawrence. The pres-

ent dimensions are: Length, 445 ft.; width at coping level, 100 ft.; width at bottom, 73 ft.; width at entrance, 62 ft.; depth of water on sill at high-water spring tides, 26½ ft.; neap tides, 20½ ft. The cost was \$910,000. The extended dock will be large enough to accommodate such huge ocean liners as the Teutonic, which is 582 ft. long, or the New York, which is 580 ft. It could not, however, accommodate the Oceanic, which is 704 ft. over all.

During the season of navigation recently closed there has been a decrease, not only in the number of steamships making the port of Montreal, but also in the tonnage. The 801 seagoing vessels making the port this year had a tonnage of 1,517,611, as compared with 868 vessels last year, with a tonnage of 1,584,072. The decrease is accounted for very largely by the fact that in the spring of 1898 there was a very large influx of steamships which came to take out grain & lumber, particularly the former. This year the trade in this line, which was largely made up of foreign grains, has been lacking. Another factor which had a tendency to decrease the tonnage this year was the putting off of a number of steamers & engaging them transporting troops, etc., to South Africa.

Maritime Provinces & Newfoundland.

The Lunenburg, N.S., Marine Ry. Co.'s capital stock has been increased from \$25,000 to \$40,000.

The Reform Shipping Co., Ltd., has been incorporated by Dominion letters patent, with a capital of \$21,000, W. L. Lovitt, of Yarmouth, N.S., & others being the incorporators.

H. M. Whitney, of Boston, Mass., & A. J. Moxham, General Manager of the projected iron works at Sydney, N.S., are said to be making arrangements for locating a steel ship-building plant at North Sydney.

Incorporation has been secured for separate companies to own the ships Kings County, Kambira, Harvest Queen, Canada, Skoda & Conductor, a fleet managed & heretofore principally owned by R. Burgess, of Wolfville, N.S.

Between Halifax & Shelburne, N.S., there are 45 vessels, mostly schooners, being built,

the aggregate value being estimated at about \$225,000. A large number of Lunenburg schooners have recently been sold to St. Pierre parties, hence the demand for new ones.

In Prince Edward Island recently one of the leading Liberals hoisted a series of ships' flags to welcome Sir Louis Davies, who was visiting his town. The flags were signals, & they read "Alter your course." The foregoing may not be true, but it is a good story anyway.

The Dominion Atlantic Ry.'s str. Prince Arthur has taken the Prince Edward's place on the Boston-St. John, N.B., route for the winter. She was turned out of the Hull shipyards on June 10 last. She is 308 ft. long by 38 ft. beam. Her registered speed is 19 knots, but on her final trial trip she made a speed of 20¾ for 300 miles. She furnishes accommodation for 600 passengers—550 1st class & 50 steerage. She has 4 decks.

Arrangement has been made between the Plant Line & the Newfoundland Ry., which will give Halifax a new steamship service between Halifax & St. John's. It will be operated by the Plant Line in conjunction with its Boston & Halifax service. The steamer, which has been built to the order of R. G. Reid for the Newfoundland Ry. Steamship Line, has been named Glencoe. She has made a satisfactory trial trip on the Clyde & started for Canada Dec. 11. She is to perform a regular winter weekly service.

ELECTRIC RAILWAYS.

Pavements Between Street Railway Tracks.

By C. H. Rust, City Engineer, Toronto.

In 1891 the exclusive privilege of operating the street railways in the city of Toronto, for 30 years, was disposed of to a company now known as the Toronto Ry. Co. The clauses of the agreement, made between the city & the Co., that refer more particularly to this paper, read as follows:

"The purchaser shall maintain the ties, stringers, rails, turnouts, curves, etc., in a state of thorough efficiency & to the satisfaction of the city engineer, & shall remove, renew or replace the same as circumstances may require, & as the city engineer may direct.

This illustration represents a group of Boston & Maine Railway yardmen demonstrating the practical part of the

U. S. CAR PUSHER

by testing the device, which proved very satisfactory. Biggest part of those present are perfectly familiar with car moving by hand power, and this cut shows how many there were who said our pusher was all right. This device is manufactured by

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When a street upon which tracks are now laid is to be paved in a permanent manner, on concrete or other like foundation, then the purchaser shall remove present tracks & sub-structures, & replace the same, according to the best modern practice, by improved rails, points & sub-structures of such description as may be determined upon by the city engineer as most suitable for the purpose, & for the comfortable & safe use of the highway by those using vehicles thereon, & all changes in the present rails, tracks & roadbed, construction of new lines or additions to present ones, shall be done under the supervision of the city engineer and to his satisfaction.

"(A). In the event of the purchaser desiring to make any repairs or alterations to the ties, stringers, rails, turnouts, curves, etc., on paved streets, the purchaser shall repave the portion of the roadbed so torn up at his own expense.

"II. When the purchaser desires or is required to change any existing tracks or sub-structures for the purpose of operating by electric or other motive power, approved by the city engineer & confirmed by the council, the city will lay down a permanent pavement in conjunction therewith upon the track allowance (as herein defined) to be occupied by such new tracks & sub-structures. This shall first apply only to existing main lines & thereafter to branch lines or extensions of main lines & branches, as & when the city engineer may from time to time recommend & the city council may direct & require; but such tracks as are now laid on a permanently formed roadway must, when so required as aforesaid, be changed by the purchaser as hereinbefore provided, without any change of roadbed being made or any expense occasioned to the city thereby."

Under the terms of the agreement the Co. pays the city \$1,600 a year per mile of double track, & 8% of the gross receipts. When the receipts exceed \$1,000,000, 10% is to be paid. To raise the money for constructing these permanent pavements debentures were issued, payable in 10 years, & the revenue derived from the mileage and percentage of gross receipts is used to pay interest & sinking fund upon these, the total amount of bonds issued being \$1,210,776, & the annual payment to provide interest & sinking fund is \$149,136. This is at present very nearly the amount received from the Co., but as these pavements between the tracks will last for a much longer period than 10 years, in a few years there should be a considerable revenue derived from this source.

A great diversity of opinion has arisen as to the meaning of the word "permanent," used in connection with pavements. In 1888 this question was in the High Court of Justice before Judge Rose, in a case brought by the corporation of Toronto against the old Toronto St. Ry. Co., & after a considerable litigation it was finally settled, without, however, the judge giving his opinion as to the meaning of the word "permanent." When the present Co. obtained its franchise, the interpretation of the word was again subjected to a great deal of discussion, & in 1893 the continuation of the work of changing the rails by the Co., & the construction of the pavements were postponed from April until Aug., pending a settlement as to the meaning of this word. The writer has always taken the ground that in this case the word "permanent" refers to pavements with a concrete foundation, & this has since been taken as the meaning of the word as mentioned in these clauses. It is a great pity that this word should be so frequently used in connection with pavements. It would certainly be well in future cases to state explicitly what is a permanent pavement.

In compliance with the provisions contained in the previously mentioned clauses, in the spring of 1892 plans & specifications for paving

the track allowance on King, Queen, Yonge & other streets were prepared, & on June 28, 1892, the Co. laid down a temporary track on King St., west of Simcoe St., & the contractor for the pavements commenced work. The work of changing the tracks & constructing permanent pavements on the above streets was carried on continuously until winter set in (with the exception of a week's intermission during the time of the Industrial Exposition). The amount of track taken up & relaid this season was 29.9 miles. The rail adopted by the Co. & approved of by the city was a 6½ in. steel girder rail, weighing 70 pounds to the yard, & having a web three-eighths inch in thickness & a base of 4½ ins. wide. A slight alteration was afterward made in the size of the base, making it 5 ins. instead of 4½. The rail now weighs about 73 lbs. to the yard. From experience since gained a heavier section of rail should have been used. The following are the quantities required to build a mile of single track: 114,714 tons of 73 lbs. rails per mile; 5.85 tons of fish plates, 17 lbs. per pair; 1,800 cedar ties; 1 ton of spikes, ¾ lb. each; 1 ton of bolts & nuts, 1 lb. each.

The work of constructing these pavements & the laying of new rails was carried on continuously until the work was practically completed in 1894, there being only a few extensions constructed since. In constructing these new pavements the Co. took up the old rails, tamped the gravel under the ties, put down new rails & lined & leveled them & the paving contractor did the rest of the work. It may be of some interest to give the amount of work done in each year, the average cost per lineal foot (the width paved being 15 ft. for double track), the average rate of progress per day & the different classes of paving material:

1892—29.9 miles single track cost..\$322,555.00
1893—26.1 miles single track cost.. 392,030.00
1894— 9.8 miles single track cost.. 116,942.61

Average cost per lineal foot of double track for the different classes of pavement during these years was:

Asphalt.....	\$5 23
Granite.....	2 43
Brick.....	4 21
Cedar blocks.....	3 83

This covers the cost of stone or scoria tooting, but where granite was used the contractor was allowed to relay the blocks that were on the street. Average amount done per day was:

Asphalt—131 lineal feet of double track.
Granite—56 lineal feet of double track.
Brick—73 lineal feet of double track.
Cedar blocks—96 lineal feet of double track.

In 1894, on McCaul St., the method of construction was slightly altered as to the system of laying the granite or scoria tooting. It was found that when the blocks were laid as headers and stretchers that the water lodged next to the block & assisted in destroying the asphalt. To prevent this it was decided to lay scoria blocks, 4 x 5 x 9 ins., parallel to the rail, & then lay the asphalt. The practice had been to lay the first 6 ins. of concrete up to the bottom of the rail, then lay the scoria blocks in mortar, & finally put in the remainder of the concrete. On this street a change was also made in this respect. The whole of the concrete was put in at once & while still wet scoria blocks were pounded into it, & left to consolidate with the concrete before the asphalt was laid down. In any extension constructed since 1895, wooden ties have been dispensed with & steel tie bars, 2 x 3-8 ins., placed 6 ft. apart, are used, the rails being laid on a solid bed of concrete 8 ins. in depth by 20 ins. wide. This method of construction is much superior to the first type adopted, & is largely used in other cities. After an experience of 6 years of the different materials used, it is evident that with the conditions existing in Toronto, asphalt is

not a suitable paving material to be used between street railway tracks. After having been down only 4 years, the asphalt commenced to disintegrate. This was at first more noticeable where the asphalt joined the tooting, but it was not long before the rest of the material between the rails commenced to wear into holes. This was due probably to the following causes: The lack of proper foundation under the ties, which was shown by the settlement of the rails in several places, the impossibility of properly tamping the asphalt between the tooting, & the constant watering of the asphalt, rendered necessary by the dust caused by the passage of the cars, & also by climatic conditions. Upon King St., which was the only asphalt pavement laid without tooting, a rut was soon formed, rendering necessary constant repairs. The fact of the lip of the rail not being quite as high as the head, & the gauge of the track being 4 ft. 10⅞ ins. instead of 4 ft. 8½ in., probably had a great deal to do in forming this rut.

As previously mentioned, the first pavements were laid in 1892, & in 1897 it became necessary to commence tearing up the asphalt & replacing it with granite, scoria or brick, depending upon the amount of travel upon the street. By 1900 all the asphalt between the rails will have been replaced by a more permanent material. Up to the present 7½ miles of this work have been done. As these asphalt pavements were guaranteed for 5 years, arrangements were made with the contractors whereby they substituted brick for this asphalt, & were paid \$1.50 a square yard, but afterward, when the guarantee expired, the price paid for substituting scoria for asphalt averaged about \$2.40 a square yard. This includes taking up the old asphalt & also 4 ins. of concrete. The amount spent up to the present in substituting a more permanent material than asphalt is \$137,340.19. In putting in blocks in place of asphalt, the asphalt was first taken off & then the concrete had to be picked out so as to afford room for the blocks, which was bedded on a cushion of sand. Fortunately, on most of the streets the concrete was put in between the rails just to a depth of 4 ins., & it was not a very difficult operation to take this out. Granite is no doubt the most durable material to use between street railway tracks, but owing to the very strong opposition of the cyclists to this material not so much of it was used as the department would have liked, & scoria blocks, imported from England, were used instead. On streets where there was not a great deal of travel Canadian bricks were used. Cement grout was almost entirely used for this work, although some filling was done with paving pitch; but cement was found to be the most satisfactory. Owing, however, to the impossibility of stopping street car traffic while this work was in progress, it was very difficult for the filling to become properly set. On King St., during the past summer, where we were substituting scoria block for the asphalt, a portion of the pavement between the tracks was laid with concrete. It has been down now some two months, but not long enough to know the result.

Maritime Provinces & Newfoundland.

St. John Railway.—The case of Hesse vs. this Co. has recently been before the Supreme Court at Ottawa on the appeal of the plaintiff from an order of the Supreme Court of New Brunswick granting a new trial. The case is of considerable interest, especially on account of the heavy damages awarded at the trial. Jos. Hesse, the plaintiff, on July 17, 1898, with two companions, boarded an open car on King St., St. John. When the car had reached the foot of King St., which is a steep incline, the whole brake gear beneath the car went to pieces. This was known to the con-

motor & motorman of the car, but, having consulted, they allowed the passengers to remain on the car, & received others on board. They allege that they did this because they thought they could so use the electric energy itself as to supply the place of the disordered brake gear. In such an emergency there were two modes of applying the electric energy to control the car on a down grade, upon which they hoped to rely, viz., the application of the reversing power in the motor, & the application of the direct power from the power house. They started the car from the foot of King St. across Market Square, a level space, & ran it rapidly up Dock St. Hill. It passed quickly over the crest and began the descent of Mill St. Hill. There being no brakes, the motorman had recourse to the reversing power in the motor, to check the speed of the car, but there was no response; the apparatus was out of order; as a last resort he invoked the direct power from the power house; here, too, as the result of some accident just at that moment, in the power house, the direct power was shut off from the car, which, by its own momentum, went plunging down the steep grade. The plaintiff stood up in the car & laid hold of the iron bar that runs from the floor to the top, & put his left foot out upon the first step extending along the side of open cars, prepared, to be on top if the car should topple over when it would have reached the curve ahead. But, when the car reached the curve at the junction of Mill St. with Main, it jumped the track & went straight ahead across Main St. towards the sidewalk. When the front wheels of the car struck the curb-stone & leaped up on the sidewalk, the concussion broke plaintiff's hold on the iron bar in front of him & threw him violently to the pavement, breaking his left leg above the ankle, so that the bones pierced through his clothing. He was removed to the public hospital, where on July 24, 1898, blood poisoning being imminent, the foot was amputated above the ankle. The plaintiff, at the time of the accident, resided at Providence, R.I., & was a teacher of the organ & piano. He was engaged as organist & choir director in the Roman Catholic cathedral there, & had been for about 10 years prior to the injury complained of. The plaintiff alleged in his declaration & offered evidence to prove at the trial, that the loss of his left foot wholly incapacitated him from playing upon the organ or piano, & in consequence his power to earn money as a musical performer, as well as a teacher of instrumental music was wholly destroyed. The trial took place at the Circuit court in St. John in Mar. 1899, before Judge Van Wart & a jury, & a verdict was rendered in favor of plaintiff for \$25,000. The Co. moved before the Supreme Court of New Brunswick, in April, 1899, for a new trial, upon the grounds of improper reception & rejection of evidence, mis-direction by the trial judge, & excessive damages. The rule was made absolute for a new trial in June, 1899, by Tuck, C.J., & Hanington & McLeod, J.J.; Van Wart, J., the trial judge, dissenting. The appeal from the judgment ordering a new trial was argued at the Oct. sitting of the Supreme Court, the argument lasting three days. On the plaintiff's side it was mainly almost entirely devoted to the question of excessive damages, in connection with which evidence was given of the different services of the church at which plaintiff officiated as organist & the remuneration received. The result of the appeal, as decided by the Supreme Court, is that the rule for a new trial stands, but is restricted entirely to the amount of damages, & the plaintiff succeeds to the further extent that while his appeal is dismissed he has not to pay the costs. The Chief Justice & Judge Gwynne dissented from the judgment, holding that the rule for a new trial should be discharged & judgment entered for appellant according to the verdict.

Quebec Electric Railways.

Montreal St. Ry.—The gross earnings are :

	1899.	1898.	Increase.
Oct	\$145,877.20	\$133,619.63	\$12,257.57
Nov	133,489.12	125,125.09	8,364.03
	\$279,366.32	\$258,744.72	\$20,621.60

In the suit of Gareau vs. the Co., in which the plaintiff claimed that his property had been injured by the vibration, smoke & noise pro-

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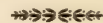
W. H. CODDINGTON,

Hamilton, Ontario.

NOTICE.—The Arrowhead & Kootenay Railway Company (incorporated by an Act of the Legislature of British Columbia, 61 Victoria, Chapter 47) will apply to the Parliament of Canada at its next session for an Act declaring the works which the Company is, by its Act of Incorporation, authorized to construct to be works for the general advantage of Canada, extending until the end of the year 1905, the period within which the Company may complete its works, & giving such powers to the Company as to the maintaining & operating or disposing of its railway & works as are usually given to Railway Companies incorporated by the Parliament of Canada.

By order of the Provisional Directors,
CHARLES DRINKWATER, Secretary.
Montreal, 20th November, 1899.

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ceeding from the Co.'s power house, situated between William & Barre streets, the Superior Court dismissed the action and the Court of Review has confirmed this judgment. (Nov., pg. 339.)

A correspondent of the Montreal Herald having asked why the Co. will not allow passengers to get on & off at the front end of cars, Superintendent McDonald has replied as follows: "The reason for not permitting passengers to get on & off the cars at the front end is simply a measure of precaution for the protection of passengers from the danger which attends getting up & down at the front end of the cars. Further, on account of the hills & heavy grades, which are much steeper & more frequent here than in any other city in Canada, it is necessary to prohibit passengers from riding on the front platform in order that the motorman may not be interfered with in the management of the car. The difficulty of controlling a car on the heavy grades in Montreal is not to be compared with the same duties in Toronto, where the roads are perfectly level & the conditions entirely different."

At a recent meeting of the city Finance Committee the question of keeping the streets clear of snow caused a lively discussion between the aldermen & the President & Manager of the Co. The contract between the city & the Co., which has been in force for the last 5 years, expired Nov. 1, & the question of making a new contract came up. By the old contract the Co. paid the city \$1,650 a mile & the city kept the streets clear of snow, & the Co. had to keep its own tracks clean. In the 5 years this cost the city \$101,328; & the Co. \$266,236. The Co. objected & said it was willing to pay half the cost, but could not pay two-thirds, as it had been doing. The aldermen tried to talk the Co.'s officials out of this position, but could not do so, & decided to approve of the Road Committee's action in reporting to Council to adhere to the by-law, which says:—

"The Co. shall, under instructions from the city, keep the track free from ice & snow, & the city may, at its option, remove the whole or such part of ice & snow from curb to curb, as it may see fit, from any street or part of street, in which cars are running, including the snow from the roofs of houses, thrown or falling into the streets, & that removed from the sidewalks into the streets, with the consent of the city, & the Co. shall be held to pay half the cost thereof."

In the interpretation of the by-law is where the dispute comes in. The Co. says it means that the cost of removing the snow from curb to curb is to be divided equally. The city says no. The Co. must first clear its tracks, & that not by throwing the snow on the streets, but by taking it away, & then pay half the cost of removing the rest of the snow. The Co. says it will go to Court about it, & the committee says go ahead.

E. W. Olds, Superintendent of Rolling Stock, & T. E. Mitten, General Superintendent of the Milwaukee Electric Ry. & Light Co., recently spent some days in Montreal to look into the M.S.R. Co.'s system. In an interview Mr. Mitten said:—"Our mission here is for educational purposes. We have had an electric system in Milwaukee for the past 7 years, & our mileage is over 165 miles of track, to accommodate a population of between 280,000 & 300,000. We have spent immense sums of money on equipment, etc., & believe ourselves thoroughly up-to-date, but we have had to come to Montreal to learn something more. Your street railway system here has the reputation in the U.S. of being the best conducted system there is in America. I mean by that, that you serve more people with greater satisfaction & in a more systematic fashion than in any other similar city on the continent. I speak as one who knows, when I say that. I have been on all routes, & the service every-

where is excellent. In Milwaukee our fares are 5c. straight & we sell 20 tickets for \$1. Our transfer system is similar to yours. We are allowed to travel between 8 & 15 miles an hour, averaging 8½ miles. The city ordinance compels us to have fenders on. They are similar in construction to yours, only they are below the platform instead of in front of it. We have an average of seven fatal accidents a year, & in only one instance since 1892, when the electric system was adopted, has a jury censured the Co. or held it responsible. The U.S. courts hold that before a company can be held responsible for accident the injured party must have proved that he exercised all due precaution. Thus, if a man walks across a street at an intersection & is knocked down by a car, he cannot justify a claim for damages unless he can prove that before crossing he 'stopped, looked & listened' to find out if there was any probability of danger. Our city charter gives us the right of way, & it is on this principle the courts act. I am a street railway man of considerable experience & I can assure you that I have never yet known of an accident for which the injured party was not to a great extent responsible. 'Stop, look & listen;' this ought to be taught in the public schools as a headline for copy, & if that were done accidents would be minimized."

Ontario Electric Railways.

Berlin to Port Dover.—It is said progress is being made with this project, the idea being to build from Berlin via Blair, Roseville, Ayr, Paris, Brantford, Waterford, & Simcoe to Port Dover. The promotion is being done by what is termed the Clarke-McNair Syndicate, & L. H. Green, a Montreal engineer, has been going over the route. An unconfirmed press report says the syndicate has bought the Grand Valley Ry. Charter, which gives power to build from Berlin to Galt, also that it has bought the Ayr toll road & that it has an option on the Cavan water-power, owned by the Grand River Electric Power Co. There is difficulty in securing a franchise in Paris. Promoter Clark says the road will go through; that prominent New York financiers are at his back, & that it is the intention of the Co. to apply for an amended charter for the Grand Valley Ry. Co. & to acquire the street railways of Berlin & Brantford. The President of the Brantford St. Ry. Co. informs us that no arrangement for its sale has been entered into.

Fort Erie to Chippawa.—It is announced that the Niagara Falls Park Commissioners have reached an agreement with the Fort Erie Electric Ry. Co., under which the latter will be allowed to extend its line for 13 miles along the bank of the Niagara River to Slater's Point. This extension will bring the line within 2 miles of Chippawa, but the ground between the two points is already occupied by the Niagara Falls Park & River Ry., which has not, however, been running cars between Slater's Point & Chippawa this season, & if it fails to do so much longer the Park Commissioners may cancel the agreement & transfer running rights to the Fort Erie Co. In return for the franchise from Fort Erie to Slater's Point the Fort Erie Co. has agreed to acquire a right of way, giving a width of 66 ft. over the land to be traversed, & to pay a yearly rental. The terms as to the rental have not been divulged, but it is stated that the amount will begin at about \$2,000, & increase every subsequent 5 years, until at the end of 15 years the maximum is reached. In considering the question of the right of way two courses were open to the Commissioners. They had either to purchase the land themselves at very considerable cost & then sell a portion of it to the railway company for the purposes of a track, or to require the company to obtain the land with the right to occupy 20 or 24 ft., setting apart the bal-

ance as a carriage way. The Commissioners adopted the latter course as being more in the public interest. The land in question forms part of the chain reserve extending along the bank of the river from Chippawa to Fort Erie. Farmers along the route are willing to afford a right of way to the railway & to move their fences back, but the bank for a considerable distance has been washed away through the erosion of ice or water, & there would hardly be sufficient width at some places for carriages to pass. The Park Commissioners, therefore, insist upon the railway company purchasing a width of land sufficient not only to lay its tracks, but to give a carriage way of 40 ft. The company will also be required to make good the bank at points where gaps exist, & strengthen it against further inroads. The acquisition of the necessary right of way will cost the company about \$50,000. The agreement between the Commissioners & the company will be submitted to the Ontario Government for ratification. (Nov., pg. 336.)

The foregoing appeared in the Toronto Globe. The Chairman of the Park Commissioners informs us that it is not altogether correct. Pending the Government's action he will not make any further statements.

The Hamilton Consolidations.—J. Moodie, Jr., followed up the legal proceedings mentioned in our last issue by issuing a writ against the Cataract Power Co. to set aside the letters patent recently issued granting the Co. enlarged powers. It is said that he is, however, being settled with, & that he will get \$143,000 for an actual expenditure of \$38,500 in the Co.'s stock. (Nov., pg. 337.)

The London St. Ry. Co. has gone to the Court of Appeal with its case against the city assessment of \$150,000 upon its rails, poles, wires, etc. The Co. seeks to have it declared that the material in question should have been assessed on the basis of scrap.

Metropolitan Electric Ry.—See under "Railway Committee of Privy Council," on an earlier page of this issue.

Niagara Falls & Wesley Park Tramway Co.—A press despatch says that the Sutherland Improvement & Development Co., of New York City, has secured a controlling interest in this Co., & proposes to change the line from a horse one to electricity by July 1, 1900, that a deposit of \$1,000 has been made with the Town Council, and that the line will be extended to Fall's View & out to Lundy's Lane.

Niagara, St. Catharines & Toronto Ry.—The following officers were recently elected: President, J. A. Power, Lansingburg, N.Y.; Secretary & Treasurer, A. P. Colvin, Glens Falls, N.Y.; other directors, J. W. Herbert, Helmetta, N.J.; J. W. Flavelle, Z. A. Leash, & A. Jarvis, Toronto, Ont.; J. L. Lees, Fonda, N.Y.; General Manager, F. A. Cheney; General Freight & Passenger Agent, W. N. Warburton.

The work of converting the line from steam to electricity is rapidly progressing, & it is expected to have passenger cars in operation between St. Catharines & Niagara Falls by Jan. 1. The cars will be of a special type, with heavy cross seats, electrically equipped with 4 motors of 50 h.p. each. (Nov., pg. 336.)

Ottawa Electric Ry. The line being built between Ottawa & Britannia will be a double track railway for the whole distance. It will connect with the city tracks at Holland Avenue, & will run through a most picturesque country, commanding a fine view of the Ottawa River, to a sandy beach at Britannia-on-the-Bay. The rails are 72 lbs. standard railway section, with long fishplates, each having 6 bolts. The ties are placed at 2 ft. centres. Bonding is done with 4.0 copper wire. The centre pole construction is used throughout. The trolley wire is of the figure 8 shape, & will entirely avoid the flashing at the supports which occurs in the use of the ordinary round wire. The poles will be painted for the whole distance, as well as the fence posts on either

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NOTICE. The Canadian Pacific Railway Company will apply to the Parliament of Canada, at its next session, for an Act authorizing the company to construct or acquire & to operate a railway from a point at or near Morden on its Pembina Mountain Branch; thence to a point at or near Miami, & thence to a point at or near Carman, all in Manitoba; & also a railway from a point between Hartney & Souris on the company's Souris Branch; thence to a point between Boisvein & Ninga on the Manitoba & South Western Colonization Railway, with power to issue in aid of the construction & equipment of each of the said railways, bonds which will be a first lien & charge thereon with the same effect as if it were being built by the company as a branch line within the meaning of section one, chapter fifty-one of the Statutes of 1888, or in lieu of such bonds consolidated debenture stock conferring on its holders equal rights in all respects & a rank pari passu with holders of such consolidated debenture stock as the company has been heretofore authorized to issue, & for other purposes.

By order of the Board,

CHARLES DRINKWATER,
Secretary C.P.R.

NOTICE. The British Columbia Southern Railway Company will apply to the Parliament of Canada at its next session for an Act authorizing the Company to complete at any time before the end of the year 1904, its western section as described in the Act of the said Parliament 1896-61 Victoria, Chapter 36) & a Branch line from a point on its main line at or near the Forks of Michel Creek, thence by way of Michel Creek to Morton Creek; & for other purposes.

By order of the Board,

H. CAMPBELL OSWALD, Secretary.
Montreal, 17th November, 1899.

NOTICE is hereby given that The Dominion Atlantic Railway Company will apply to the Parliament of Canada, at the next session thereof, for an Act confirming the company's issues of capital stocks, the conveyance to the company by the Windsor and Annapolis Railway Company, dated the thirty-first December, 1895, the Mortgage Trust Deeds made by the company, and the first and second debenture stocks, issued and to be issued, thereunder, to the amount of 940,000 pounds (sterling), and also to enable the company to increase the capital stock, borrow and secure money upon ships and other outside property of the company, to create reserves, and for other amendments to the Act incorporating the company.

CHRYSLER & BETHUNE.

Solicitors for the Company.

Dated the 7th November, 1899.



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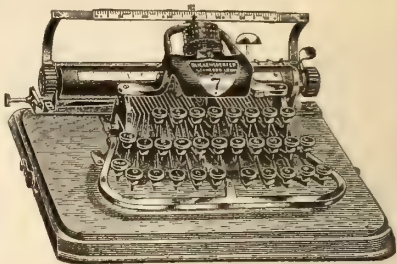
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side of the right of way. The rolling stock will consist of closed & open cars, each 50 ft. in length, mounted on double trucks. Each car will be equipped with four 50 h.p. latest type Westinghouse motors. The line is almost straight, & will permit of very high speed being attained. The cars will run into the city of Ottawa & round what is known as the Sandy Hill Loop. At the Britannia end they will also turn by going around a loop, thus avoiding the turning of the trolley at any portion of the line. (Nov., pg. 337.)

Queenston, St. Catharines & Port Dalhousie Electric Ry. Co. T. D. Cowper, solicitor, has given notice of application to the Ontario Legislature for an Act to incorporate a company under this name, with power to construct & operate an electric railway from Queenston through Niagara township to St. Catharines, & thence to Port Dalhousie, & with other powers.

The Sarnia St. Ry. Co. has issued a prospectus stating that having determined to electrify its road, it offers from \$30,000 to \$50,000 of its unsubscribed stock for subscription. The Co. has conducted its business as a horse-car railway since 1874, always at a profit; is now paying 5% dividend, & has a surplus of \$5,000 accumulated since 1892, as a cash asset; besides a large amount of plant & assets immediately available for use in electrifying the road, & also very considerable assets which can be turned into money as soon as the change is accomplished. The Co. has made a close estimate of the value of its plant & assets which can be properly used in the construction of the road & in its operation when electrified, & is reducing the present holdings of stock, \$38,600 to the amount of such estimated value, namely, \$28,950. The Co. proposes to construct its electric line from the Tunnel Station to the town over its present location, then northerly through the town over Front & Christina Streets, continuing the road to Point Edward, thence to & along the shore of Lake Huron; & to lay a branch line to the south part of the town near the proposed wire works; in all about 6 or 7 miles. The Co. expects to get power from the Electric Light Co. on advantageous terms. The Co. has procured an estimate of the cost of construction & earnings of the proposed new road by its engineer, J. H. Jones, who reports that the probable cost of the road, after having added a very considerable sum for unseen expenses, will be \$100,000. To provide for this the Co. proposes to utilize the present plant & assets so far as available for the construction of the road, to raise by subscription of stock from \$30,000 to \$50,000, & to borrow the balance on bonds of the Co. The engineer has further made what the Co. believes to be a conservative estimate of probable earnings, which shows that the same will be sufficient, after paying all the costs of operation & maintenance, & providing a fund for payment of interest & a sinking fund for the payment of its bonded debt, to pay a handsome dividend to the shareholders. The Co. proposes that after the stock has been subscribed, that the present directors shall withdraw, & that a new board shall be elected by the entire shareholders, who will then undertake the construction of the road. The Co. desires to bring before the attention of intending investors the fact of the present road having been run at a profit to its shareholders; the permanent advancement the town has made within the past two years, & the most encouraging existing indications of the future prosperity of the town & the community, the valuable charter the Co. has being such as cannot now be obtained, & that the Co. is composed almost entirely of residents of the town, who have the best interests of the town in view; & also desire to make special notice of the natural advantages of the locality for the operation of a success-

ful street railway, embracing the ordinary town services similar to other places, & in addition thereto the traffic to the Tunnel Station, & the ever increasing summer resort & excursion business to the lake shore.

We are informed that if the stock offered is taken up, the letting of contracts for rails, ties, motor cars, generators & overhead construction will be at once taken up. (Nov., pg. 337.)

Toronto Railway.—The gross earnings are:

	1899.	1898.	Increase.	Decrease.
Jan.	\$95,690.12	\$86,502.36	\$9,187.76	
Feb.	91,860.30	82,402.19	9,458.11	
Mar.	103,234.88	92,318.42	10,916.46	
April	95,212.37	86,898.83	8,313.54	
May	104,806.62	92,070.35	12,736.27	
June	109,063.18	94,119.32	14,943.86	
July	116,824.94	104,302.92	12,522.02	
Aug.	123,822.70	110,300.54	12,982.16	
Sept.	137,621.10	138,021.74		\$400.64
Oct.	111,465.37	99,650.16	11,815.21	
Nov.	102,502.78	99,734.91	2,767.87	

\$1,191,564.36 \$1,086,921.54 \$105,043.36 \$400.64
Increase, Jan. 1 to Nov. 30, \$104,642.72.

The Co. has commenced cast welding its rail joints on the same plan as adopted by the Montreal St. Ry.

Electric Lines in Western Canada.

British Columbia Electric Ry.—Work has commenced on the station building on Columbia St. west.

Earnings & expenses for October:

	1898.	1899.	Increase.
GROSS EARNINGS.			
Railway Vancouver division	\$5,723	\$7,914	\$2,191
Victoria	6,981	8,320	1,339
Westminster	10,394	11,733	1,339
Lighting—Vancouver	10,130	11,000	861
Victoria	5,085	6,107	1,022

Total gross earnings . . . \$38,322 \$45,074 \$6,752

Working expenses . . . \$21,600 \$22,951 \$1,351

Net earnings . . . \$16,722 \$22,123 \$5,401

Gross earnings April 1 to Oct. 31 . . . \$228,086 \$250,842 \$22,756

Net profit April 1 to Oct. 31, \$94,322 \$110,592 \$16,270

Nelson Electric Tramway.—The rolling stock will, to begin with, consist of 3 cars. The pole line to convey the electric power from Bonington Falls to Nelson has been completed. Six copper wires & 2 telephone wires have been strung. Good progress is being made with track laying. (Nov., pg. 339.)

Trail to Rossland.—Col. Topping, of Trail, B.C., who has for some time been urging the feasibility of an electric railway between there & Rossland, states that he is making progress & that it is very probable that a line will be built next year.

Hauling Freight by Electricity.—In the larger cities we may soon expect to see freight trains running on the electric street railway as a part of the regular traffic. Such action is contemplated in Toronto. There the Metropolitan Ry., which runs electric cars in the County of York on roads north of Toronto, has made arrangements to connect with the C.P.R. on Yonge St. The object is to deliver freight from the C.P.R. station throughout the city & suburbs. Already we have in the work being done by the Kingston St. Ry. Co. the initial step in that direction here. The plan has many advantages. It would prevent the wear & tear of streets which result from heavy drayage, & would lessen the cost of repairs. Farmers could avoid the necessity of long drives to the city, & as a result, provisions would probably be cheaper. The cars could stop at any number of points along the road & collect the freight, a thing impossible to the ordinary freight train on the regular railway lines. Then, too, the work of hauling the freight cars could be done more economically on an electric road. Altogether,

the scheme has many points in its favor.—Kingston, Ont., News.

Government Bonuses to Electric Railways.

—In referring to the application by the Cataract Power Co. to the city council of Hamilton, Ont., for aid in the construction of an electric railway from there to Guelph & to the probability of the Co. asking the city of Guelph for aid to extend the line to Mount Forest, the Guelph Mercury says: "If municipalities are to be expected to bonus electric lines, is there any reason why the legislature should not also be looked to for assistance? Many points, like Guelph, did not share proportionately in the advantages of the railway aid granted by the province a few years ago with Toronto & some other places. The Toronto, Grey & Bruce & both branches of the Credit Valley Ry., for example, were antagonistic to Guelph interests. They diverted to Toronto much trade which formerly came here. No doubt electric railways would enable us to get some of this trade back again, so that, from this city's point of view at least, provincial assistance to such lines should be favorably regarded. Probably a great many other parts of the province would take a similar view of the matter."

The Ontario Government's Policy.—In a recent speech Provincial Secretary Davis said that we are just on the verge of a wonderful electric railway development in this country. He explained the provision of the law by which a line running a short distance out of a city may be considered part of the city franchise, but there was springing up a new kind of railway extending for perhaps 30 miles, like the Metropolitan in York County. Owing to the decision of the Railway Committee in Ottawa a question of jurisdiction arose, & the Ontario Government wished it to be distinctly understood that they believed the jurisdiction over railways of this class rests with the Provincial Government & the municipalities through which they pass, & steps had already been taken to find out exactly what the power of the Local Government is. Whatever power they had under the B.N.A. Act they would fight for in the interests of the people of Ontario, no matter what Government was in power at Ottawa.

Dominion Government Telegraph Lines.

J. B. Charleson, of Ottawa, Ont., who superintended the construction of the line from Bennett, B.C., to Dawson, Yukon, stated in a recent interview, according to the Montreal Herald, that he left Ottawa with the construction party Mar. 10, & the line was opened on Sep. 28. He is reported to have stated the distance from Bennett to Dawson as being 740 miles, though possibly this is a mistake, as it has been understood to be only 593 miles. The principal points served by the line between the two terminal points above mentioned are Cariboo Crossing, Tagish, White Horse Canyon, Lake Laberge, Thirty Mile River, Teslin, Five Fingers, Selkirk, Pentlers, Selwyn, Ogilvie & Big Salmon. Mr. Charleson said: "I had 108 men engaged in construction, & the cost of the line will be about \$137,000, but besides constructing the line, I had to build 13 houses for operators, who are to work the line between Bennett & Dawson, as well as for the men who will be employed to look after its maintenance. Close beside these 13 houses we constructed small sheds, each provided with wooden bedsteads that may be required by belated travellers. At each of the stations I also left two men, one being the operator & the other in charge of the repairs. At each post provisions have been put in in sufficient quantities to last at least nine months." The cost above given is merely that of the line itself, & the other things mentioned by Mr. Charleson bring the total cost up to \$185,000, while what

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THE SPLENDID RECORD OF THE I. O. F.

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(For \$1,000 Mortuary Benefit.)

Initiation fee (minimum).....	\$1 00
Certificate fee.....	1 00
Registration fee.....	1 00
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Total minimum cost.....	\$4 50

(For more than \$1,000 Mort. Benefit.)

Cost to take \$2,000 Mort. Benefit..	\$6 00
" " \$3,000 " " "	7 00
" " \$4,000 " " "	9 00
" " \$5,000 " " "	10 00
Sick benefits, when required, cost extra.	

Benefits given by the I.O.F.

- 1.—**Social and Fraternal Privileges** of the Court Room.
- 2.—**Free Medical Attendance** by Court Physician where not dispensed with by Court by-law; also trained nurses in certain cases.
- 3.—**A Sick Benefit** of \$3 to \$5 per week, subject to provisions of the Constitution and Laws of the Order; optional, and when taken costs extra.
- 4.—**A Total and Permanent Disability Benefit** of one-half of face value of policy, with exemption from further payment of premiums or Court Dues.
- 5.—**An Old Age Benefit** consisting of exemption from payment of premiums and Court dues after age 70.
- 6.—**An Old Age Disability Benefit** of one-tenth of face value of policy payable yearly for ten years, on being declared totally and permanently disabled by infirmities of age after the seventieth birthday.
- 7.—**An Old Age Pension** payable during disability, which may be taken as a substitute for the Old Age Disability Benefit.
- 8.—**A Burial Benefit** of \$100 at death of a Pensioner.
- 9.—**A Funeral Benefit** of \$50 at death of a member enrolled in Sick and Funeral Benefit Department.
- 10.—**The Mortuary Benefit** of \$500, \$1,000, \$2,000, \$3,000 \$4,000 or \$5,000.

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Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300 00	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	12,058 86	2,967 93	2 61	11.00
1883	2,216	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	59,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	24,604	181,846 79	283,967 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.40
1892	43,024	344,748 82	580,597 85	13 49	6.25
1893	54,484	392,185 93	858,857 89	15 76	5.47
1894	70,055	511,162 30	1,187,225 11	16 94	5.47
1895	86,521	685,000 18	1,560,733 46	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.30
1897	124,685	992,225 60	2,558,832 78	20 52	5.56
1898	144,000	1,176,125 14	3,186,370 36	22 12	5.67

John A. McGillivray, Q.C., S.S., Toronto, Ont.

A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.

Or Any Officer or Member of the Order.

was evidently a typographical error made him say that it would average \$980 a mile. He says the C.P.R. Co.'s telegraph authorities estimated the cost of the line at \$350 a mile, & the G.N.W. telegraph manager thought it would cost \$400. Of course the use of scows on the river cheapened the cost considerably. Where the Big Salmon enters the Yukon, the former had to be crossed, the distance being 900 ft., the very rapid current preventing a cable being laid, so the wire was strung above the river at a height of 69 ft.

When Mr. Charleson arrived at Skagway last spring he found that neither wire nor insulators had arrived there. The White Pass & Yukon Ry. lent him sufficient for 40 miles, enabling the work to be started without delay. As it was evident that some of the figures given in the interview above quoted were erroneous, we communicated with Mr. Charleson with a view of obtaining correct information & received a reply reading as follows:—"I am not in a position to give you figures as to the cost of the line as I have not yet made my report to the Government & you will therefore see the delicate position in which I am placed. You say that I am credited with stating that the distance between Bennett & Dawson is 750 miles, & you further say that you understand it to be 593 miles. I am not yet in a position to say what the correct distance between these two points is. Further I wish to state that I never gave an interview to any newspaper man in the Dominion, & when they quote me they do so on their own responsibility & without my approval. You say that I am credited with giving the cost of the line itself at \$137,000, & the total cost, including buildings, at \$183,200. This also I am not yet in a position to state, but when I have submitted my report to the Minister he will be quite at liberty in his position to give out details. You also state that I am reported as stating that the line cost \$980 a mile, & you are kind enough to say that this is absurd. If I was speaking & not writing I might use a word more emphatic, because taking the statement which you say I am reported as having made, that the distance was 750 miles, and multiplying the same by \$980, would give you an amount difficult to cover with \$137,000. You are quite right when you call \$980 a mile absurd. At some future date, when I have submitted my report to the Minister, it will give me much pleasure to send you correct figures."

Mr. Charleson may be technically correct in saying that he never gave an interview to a newspaper man in Canada, but there is no doubt that he has done a lot of talking to reporters both at the Pacific coast & in the east.

During the first month the Bennett-Dawson line was in operation the receipts were \$13,000.

On Oct. 13 a correspondent at Dawson wrote that the line had been inoperative for two weeks.

A correspondent of the "Victoria Colonist" writes:—"Mr. Charleson arrived at Bennett on April 1, accompanied by a staff of assistants of all kinds, imported from the Eastern provinces at great expense for transportation & keep, although all the necessary help & better than that brought West could have been obtained in the district. The material & tools, many of which will never see use in the country, were hauled to Bennett at great expense, & the poles were purchased at Bennett & shipped down the river, although 20% could have been saved by cutting them along the line. The telegraph follows the windings of the river. The Government built a new trail, which, it is claimed, is 140 miles shorter than the one following the river. Why was not the line built along the new trail & 140 miles of wire saved?"

A Yukon paper says that at a dinner given Mr. Charleson, at Dawson, on the opening of the line, he stated that he had received in-

structions from the Department of Public Works to make immediate arrangements to extend the line south to Quesnelle. The distance in a direct line is about 600 miles, but the route which the telegraph line will have to follow will probably be in the neighborhood of 750 miles. The Western Union had a line at at one time for about one-third of the distance from Quesnelle. It was to have been extended to Europe, via Siberia, but the successful laying of an Atlantic cable led to the abandonment of the enterprise. If the same route is followed by the new line, this part of the distance will present no great difficulties. The Victoria Colonist thinks there must be about 400 miles of the route to be covered yet to be thoroughly examined before a final section is made, and the work will necessarily occupy some time, although work could be begun simultaneously from Atlin south, from Telegraph Creek north, from Telegraph Creek south, from the Naas north, from the Naas south, from the Skeena north, from the Skeena south, & from Quesnelle north. That is, eight construction parties might be put in the field simultaneously.

The telegraph line between Kamloops & Nicola, B.C., has been completed.

C.P.R. Company's Telegraph.

W. J. Camp having been appointed Superintendent of the Eastern division, the position of electrician, heretofore held by him, has been abolished. In future the electrical part of the work will be performed by the inspector of each division. Tariffs, etc., will be attended to in the manager's office.

A large amount of construction & improvement work has been done during the year. The only change in buildings on the Eastern Division has been the removal at Halifax, N.S., into the Government building, which the Co. occupies jointly with the Commercial Cable Co. & the Direct West India Co., & which is very handsomely fitted up. The floors outside the counter are tiled, all wood work is quarter cut oak. The ceilings & walls are handsomely decorated to conform with other parts of the office. One wire was strung from Carleton Place to Brockville. One single wire & one quadruplex wire was strung from Montreal to Smith's Falls, meeting two new Toronto wires at that point.

Ontario Division.—A no. 6 gauge wire has been built between Toronto & Buffalo; no. 6 gauge wire between Montreal & Toronto; no. 8 gauge wire between Toronto & Elora; taking in Streetsville Jct., Brampton, Cheltenham, Inglewood, Cataract, Alton, Erin, Belwood, Hillsburg, Fergus & Elora; new line between Harriston & Listowel via Palmers-ton; no. 8 gauge wire between Toronto & St. Thomas; no. 8 gauge wire between Toronto & London. The Co. is putting in 12 motor generators at Toronto to supply electric power for the working of the lines on this division. This plant, when completed, will, it is said, be the most up-to-date in Canada.

Western Division.—The pole line on the main line has been reconstructed for 329 miles between Winnipeg & Fort William & for 112 miles between Moose Jaw & Swift Current. This completes the reconstruction of the pole line between Fort William & Bowell, west of Medicine Hat. This new line is of the most substantial description. A no. 8 gauge wire has been strung between Rat Portage & Ignace, 145 miles. Telegraph lines have been constructed along the following branch railways: Snowflake branch, 16 miles; Deloraine-Waskada branch, 21 miles. On the Pipestone branch extension, about 48 miles will be constructed by the end of the year, weather permitting. On the Canadian Northern Ry. about 70 miles of new telegraph line will be constructed by the end of the year & about 70 miles on the Manitoba & Southeastern. About

23 miles have been constructed on the Great Northwest Central extensions at Rapid City & beyond Hamiota.

Pacific Division.—Two no. 8 wires have been constructed along the Columbia & Western Ry. from West Robson to Greenwood, 92 miles. A branch of 12 miles is being built from Eholt to Phoenix, & will be completed about Dec. 20. An additional wire has been strung between Robson & Rossland, 30 miles, & 2 additional wires between Robson & Nelson, 28 miles. The main line & branches have also been greatly strengthened by a general overhauling, & the erection of about 100 miles of new poles.

Along the Columbia & Western Ry. extension from West Robson, B.C., offices have been opened at Grand Forks, Greenwood, Midway Rock Creek & Camp McKinney. An office has also been opened at Lardeau, B.C.

Great North-Western Telegraph Co.

Reconstruction work has been going on over the entire system during the past season, & the Co. has had engaged in different parts of the country almost continually since the spring, 6 or 7 gangs of men.

A wire is under erection along the route of the Great Northern Ry. between Quebec & Hawksbury, Que. The line will be of the usual specifications, one wire being put up in the meantime on a 4-wire cross-arm.

Since the completion of the Victoria Jubilee Bridge at Montreal, the Co. has strung on the top of the structure some 40 wires, using hard-drawn copper & steel pins. This open work was considered to be more advantageous in every respect than the cables which had heretofore been in use.

The new offices in Montreal have attracted considerable attention. Besides giving the Co. thoroughly up-to-date quarters, a large part of the building has been rented to first-class tenants, such as steamship agencies, etc. An elevator was installed, & the interior of the building made thoroughly up-to-date in every particular.

The crowded condition of business over the G.T.R. wires between Montreal & Toronto & Montreal & Portland, has rendered necessary the erection of new wires over these parts of the system, which have just been completed.

The telegraph service at stations along the G.T.R. has recently been made a subject of rigid inquiry, & in order that this branch might be placed on a thoroughly satisfactory footing, General Manager Hays has issued a circular to all agents & operators along the road containing special instructions to the effect that all commercial business offered by the public at station offices should receive every possible attention.

The Co. has this fall completed the erection of a new wire over the Northern Pacific Ry. between Winnipeg & Brandon, including an extension over the Souris River branch to Hartney. The business along the route of the N.P.R. has greatly increased during the last year or two, & additional facilities were rendered necessary in consequence.

The Co.'s business between Eastern & Western Canada is reported as never having been better, & the business between Vancouver, Victoria & other B.C. points & the West, is steadily on the increase.

General Telegraph Matters.

The Spokane & Northern Telegraph Co. has opened an office at Cascade, B.C.

The G.T.R. is stringing a despatchers' wire between Toronto & Montreal.

Some information about the North American Telegraph Co. will be found under the head of "General Telephone Matters," on page 376.

A large telegram, of Nov. 23, said:—
By the use of a new automatic telegraph invention, 12,000 words an hour were sent yesterday from the Tribune office to Milwaukee & back again. The apparatus was invented in Buda Pest, Hungary, & this was the first exhibition of its working powers in this country. Nearly as many words were sent to Buffalo & return, but the experiment was not so successful. The instruments used were not adapted to such a long distance."

We have been unable to find any foundation for the report that telegraph communication is to be established between Port Arthur, Ont., & Duluth, Minn., via the Port Arthur, Duluth & Western Ry., though, of course, it may come later on. At present there is no telegraph line along the P.A., D. & W., but a wire has been strung from Port Arthur to Stanley, & is being continued along the Ontario & Rainy River Ry., now under construction. On the Minnesota side the telegraph wires now extend to the terminus of the Duluth & Iron Range Ry., at Ely.

The people in Prince Edward Island who are agitating for improved or competitive cable service with the mainland, allege that the Anglo-American Telegraph Co., the only company operating on the Island, only provides a 12 hours' service in the day, closing down from 7 p.m. to 7 a.m. daily, that the tolls from the Island to the mainland are double the tolls charged between points in the mainland provinces, & within 5c. of double the charges between New Brunswick & Nova Scotia, & Ontario & Quebec, & that press messages are charged double those of the mainland. Wireless telegraphy from the Island to the New Brunswick shore is suggested as a remedy.

General Telephone Matters.

A telephone line is projected between Skagway, Alaska, & Bennett, B.C.

Oyster Bay, B.C., has been connected with Alexandria & Extension Mines by telephone.

The Bell Telephone Co.'s Hamilton, Ont., office is to have an entirely new keyboard & fittings.

Telephone service has been established between St. George, Pennfield, Beaver Harbor, & Black's Harbor, N.B.

The Eastern Telephone Co., which operates in Cape Breton, has added over 50 subscribers this year, & has made a number of office improvements.

Thieves have found a new sphere of activity in copper telephone wires. The Delaware & Atlantic Co. recently lost about 2½ miles of wire by one night's operations.

The New Westminster & Burrard Inlet Telephone Co.'s new switchboard at Vancouver, referred to in our last issue, is to be put in by the Bell Telephone Co.

The people of Oaklands district, Man., to which the Northern Pacific Ry. has recently been extended, are trying to secure telephone connection with Portage la Prairie.

The North American Telegraph Co. has rebuilt its line between Belleville & Madoc, Ont., putting up a copper metallic circuit between those places for telephone purposes, & has connected Douglas, Ont., with its telephone system.

In reference to the issue of debenture stock & shares of the British Columbia Telephones, Ltd., referred to in our last issue, pg. 343, we were advised by the Secretary on Nov. 26 that he was in a position to say that the whole issue would be taken up.

The Roads Committee of Montreal City Council recently considered the application of B. R. Dodge, of Vermont, inventor of the Dodge system of telephones, to establish a new system of telephones in the city, a system which he claims is away ahead of anything so far invented, while the prices are practically nothing. He refrained, however, from giving any prices in his letter, which asked for the right to erect poles on the streets & carry on a system of telephones. The committee took the matter as a huge joke, the City Engineer saying there were already too

many poles on the streets. It was decided that there was not enough information given in the letter, & it was decided to reply, asking for capitalization of the company, what it would give for the franchise, charge for a telephone, & if it could put its wires underground.

Among the Express Companies.

The Great Northern Ex. Co. has opened an office at Salmo, B.C.

The Western Ex. Co.'s money orders are now payable at all offices of the Maritime Ex. Co.

The Canadian Ex. Co. has opened the following offices; Grand Mere Jct., Que.; Shawenegan Falls, Que.; Niagara Falls South (Drummondville), Ont.

At a recent meeting of the Great Northern Ex. Co. the following officers were elected: President, D. Miller; Vice-Pres. & General Manager, W. J. Footner; other directors, M. D. Groves, R. I. Farrington, J. N. Hill; Sec.-Treas., E. Sawyer. The new President is 2nd Vice-President of the Great Northern R.R.

It has been agreed that the charge on all business, except special traffic matter, from common points in the U.S. to all points in Canada, not reached by American or National Ex. Companies, shall be the local charge from the point of origin to the Canadian transfer point by which the lowest through rate can be obtained added to the Canadian or Dominion Ex. Co.'s charge from such transfer point to destination, excepting that from any common point in the U.S. reached by the American National or other Ex. Company to common points of such Company in Canada that are reached also by either the Canadian, Dominion or other Express Company, the through charge shall be that fixed by the company or companies reaching both the U. S. & Canadian common point; & it is further agreed that such companies will furnish to all other companies parties hereto, on application, their tariffs from common points in the U. S. to their common points in Canada.

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Accident Insurance Travelers' Insurance Co. Montreal	Gas & Gasoline Engines The Fairbanks Co. Montreal. Northey Manufacturing Co. Toronto.	Shafting Rice Lewis & Son. Toronto.
Aerated Waters E. L. Drewry. Winnipeg.	Gates Page Wire Fence Co. Walkerville, Ont.	Shipbuilders' Supplies Rice Lewis & Son. Toronto.
Air Brakes & Fittings Westinghouse Mfg. Co. Hamilton, Ont.	General Supplies The Hudson's Bay Company.	Ship Carpenters' Tools Rice Lewis & Son. Toronto.
Ales E. L. Drewry. Winnipeg.	Grain Elevators John S. Metcalfe & Co. Chicago, Ill.	Ships Polson Iron Works. Toronto.
Anchors Rice Lewis & Son. Toronto.	Groceries The Hudson's Bay Company.	Shovels The Fairbanks Co. Montreal. The Hudson's Bay Company. Rice Lewis & Son. Toronto.
Axles James Hutton & Co. Montreal. Rhodes, Curry & Co. Amherst, N.S.	Half Tones Acton Burrows Co. Toronto.	Signal House Numbers Acton Burrows Co. Toronto.
Babbitt Rice Lewis & Son. Toronto.	Hand & Push Cars F. E. Came. Montreal. The Fairbanks Co. Montreal.	Signals Noah L. Piper & Sons. Toronto.
Badges John Martin, Sons & Co. Montreal.	Hardware Rice Lewis & Son. Toronto. The Hudson's Bay Company.	Signs Acton Burrows Co. Toronto.
Beams Rice Lewis & Son. Toronto.	Headlights Noah L. Piper & Sons. Toronto.	Snow Ploughs Rhodes, Curry & Co. Amherst, N.S.
Bells Rice Lewis & Son. Toronto.	Hose Rice Lewis & Son. Toronto.	Speed Indicators Rice Lewis & Son. Toronto.
Belting Rice Lewis & Son. Toronto.	Illustrations Acton Burrows Co. Toronto.	Spikes Rice Lewis & Son. Toronto.
Blankets & Bedding The Hudson's Bay Company.	Iron Rice Lewis & Son. Toronto.	Station Name Signs Acton Burrows Co. Toronto.
Block & Tackle Rice Lewis & Son. Toronto.	Iron Signs Acton Burrows Co. Toronto.	Steamboats Polson Iron Works. Toronto.
Boat Fittings & Hardware Rice Lewis & Son. Toronto.	Japans McCaskill, Dougall & Co. Montreal.	Steamboat Signs Acton Burrows Co. Toronto.
Boiler Covering Mica Boiler Covering Co. Toronto.	Lager Beer, &c. E. L. Drewry. Winnipeg.	Steam Whistles Rice Lewis & Son. Toronto.
Boilers Polson Iron Works. Toronto.	Lamps Rice Lewis & Son. Toronto. Noah L. Piper & Sons. Toronto. The Hudson's Bay Company.	Steel W. G. Blyth. Toronto. James Hutton & Co. Montreal. Rice Lewis & Son. Toronto.
Boiler Tubes Rice Lewis & Son. Toronto.	Lanterns Rice Lewis & Son. Toronto.	Steel Castings F. E. Came. Montreal.
Bolts Rice Lewis & Son. Toronto.	Launches Polson Iron Works. Toronto.	Switch Targets Acton Burrows Co. Toronto.
Brake Shoes F. E. Came. Montreal.	Life Insurance Independent Order of Foresters. Toronto. Travelers' Insurance Co. Montreal.	Switches F. E. Came. Montreal.
Bridge Numbers Acton Burrows Co. Toronto.	Linoleum and Floor Coverings The Hudson's Bay Company.	Telegraph Office Signs Acton Burrows Co. Toronto.
Buckets Rice Lewis & Son. Toronto.	Locomotives Richmond Locomotive & Machine Works. Richmond, Va.	Telegraph Spoons Rice Lewis & Son. Toronto.
Bunting Rice Lewis & Son. Toronto. The Hudson's Bay Company.	Lubricators Rice Lewis & Son. Toronto.	Telephone Office Signs Acton Burrows Co. Toronto.
Carpets The Hudson's Bay Company.	Matches E. B. Eddy Co. Hull, Que. The Hudson's Bay Company.	Tires James Hutton & Co. Montreal.
Cars Rhodes, Curry & Co. Amherst, N.S.	Milepost Numbers Acton Burrows Co. Toronto.	Tobacco and Cigars The Hudson's Bay Company.
Car Wheels Rhodes, Curry & Co. Amherst, N.S.	Mohair The Hudson's Bay Company.	Toilet Paper The Hudson's Bay Company.
Castings Rhodes, Curry & Co. Amherst, N.S.	Numbers Acton Burrows Co. Toronto.	Tools Rice Lewis & Son. Toronto.
Chains Rice Lewis & Son. Toronto.	Oakum Rice Lewis & Son. Toronto. The Hudson's Bay Company.	Track Jacks Duff Manufacturing Co. Allegheny, Pa. A. O. Norton. Coaticook, Que.
Cross Arms, Top Pins & Side Blocks The Firstbrook Box Co. Toronto.	Oils Galena Oil Co. Franklin, Pa.	Track Tools F. E. Came. Montreal. Rice Lewis & Son. Toronto.
Curtains The Hudson's Bay Company.	Office Signs Acton Burrows Co. Toronto.	Trucks The Fairbanks Co. Montreal. Rice Lewis & Son. Toronto.
Cuts Acton Burrows Co. Toronto.	Packing The Fairbanks Co. Montreal.	Typewriters Creelman Bros. Typewriter Co. Georgetown. Creelman Bros. Typewriter Co. Toronto.
Door Signs Acton Burrows Co. Toronto.	Pipe Rice Lewis & Son. Toronto.	Uniforms John Martin, Sons & Co. Montreal.
Drills The Fairbanks Co. Montreal.	Pipe Covering Mica Boiler Covering Co. Toronto.	Uniform Caps W. H. Coddington. Hamilton, Ont. John Martin, Sons & Co. Montreal.
Dry Goods The Hudson's Bay Company.	Plushes The Hudson's Bay Company.	Valves Rice Lewis & Son. Toronto.
Electric Car Route Signs Acton Burrows Co. Toronto.	Pneumatic Tools F. E. Came. Montreal.	Varnishes McCaskill, Dougall & Co. Montreal.
Emery Wheels The Fairbanks Co. Montreal.	Porter E. L. Drewry. Winnipeg.	Vessels Polson Iron Works. Toronto.
Enamelled Iron Signs Acton Burrows Co. Toronto. Rice Lewis & Son. Toronto.	Portland Cement Rice Lewis & Son. Toronto.	Waste Rice Lewis & Son. Toronto. Noah L. Piper & Sons. Toronto.
Engines, Stationary & Marine Polson Iron Works. Toronto.	Printing The Hunter, Rose Co. Toronto.	Water Meters Westinghouse Mfg. Co. Hamilton, Ont.
Engraving Acton Burrows Co. Toronto. Toronto Engraving Co. Toronto.	Pumps Rice Lewis & Son. Toronto.	Water Tanks The Fairbanks Co. Montreal.
Express Office Signs Acton Burrows Co. Toronto.	Rails Rice Lewis & Son. Toronto.	Wheelbarrows The Fairbanks Co. Montreal. Rice Lewis & Son. Toronto.
Fencing Page Wire Fence Co. Walkerville, Ont.	Rail Saws F. E. Came. Montreal.	Window Blinds The Hudson's Bay Company.
Ferry Signs Acton Burrows Co. Toronto.	Rivets Rice Lewis & Son. Toronto.	Wines and Liquors The Hudson's Bay Company.
Flags Rice Lewis & Son. Toronto. The Hudson's Bay Company.	Rope Rice Lewis & Son. Toronto. The Hudson's Bay Company.	Wire & Wire Rope Rice Lewis & Son. Toronto.
Foghorns Rice Lewis & Son. Toronto.	Scales The Fairbanks Co. Montreal.	Yachts Polson Iron Works. Toronto.
	Semaphore Arms Acton Burrows Co. Toronto.	

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